Indicative changes to the National Electricity Rules

Indicative mark up of changes made by Schedules 1-9 of the *National Electricity Amendment (Improving security frameworks for the energy transition) Rule 2024.*

Note:

This is an indicative version of the changes to the National Electricity Rules to be made by Schedules 1 - 9 of the National Electricity Amendment *(Improving security frameworks for the energy transition) Rule 2024.* The mark up is against NER v 205 but also includes relevant amendments made by the *Integrating energy storage systems into the NEM Rule 2021 No.13* which commences on 3 June 2024. These provisions, and associated definitions, are included in this mark up to the extent necessary for this Rule.

This document is provided for information purposes only. The actual amendments are set out in the National Electricity Amendment *(Improving security frameworks for the energy transition)* Rule 2024.

The Australian Energy Market Commission does not guarantee the accuracy, reliability or completeness of this indicative mark-up of the National Electricity Rules.

CHAPTER 3

3. Market Rules

…

3.9.7 Pricing for constrained-on units

(a) In the event that a *network constraint* causes a *scheduled generating unit* or a *wholesale demand response unit* to be *constrained-on* in any *trading interval*, that *scheduled generating unit* or *wholesale demand response unit* must comply with *dispatch instructions* from *AEMO* in accordance with its availability as specified in its *dispatch offer* or *dispatch bid* as applicable but may not be taken into account in the determination of the *spot price* in that *trading interval*.

Note

This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(b) A *Scheduled Generator* or *Demand Response Service Provider* that is *constrained-on* in accordance with paragraph (a) is not entitled to receive from *AEMO* any compensation due to its *spot price* being less than its *dispatch offer price*.

(c) In the event that:

(1) an *inertia network service* under an *inertia services agreement* is *enabled* such that an *inertia unit* is *constrained on* in any *trading interval* to provide *inertia*; ~~or~~

(2) a *system strength service* under a *system strength services agreement* is *enabled* such that a *system strength production unit* is *constrained on* in any *trading interval* to provide a *system strength service*~~,~~;

(3) a *transitional service* under an *ancillary services agreement* is *enabled* such that a *production unit* is *constrained on* in any *trading interval* to provide a *transitional service*;

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

(4) a *NSCAS* under a *network support agreement* is *enabled* such that a *production unit* is *constrained on* in any *trading interval* to provide *NSCAS*; or

(5) a *NSCAS* under an *ancillary services agreement* is *enabled* such that a *production unit* is *constrained on* in any *trading interval* to provide *NSCAS*,

the relevant ~~*inertia unit* or *system strength production unit*~~ *production unit* must comply with *dispatch instructions* from *AEMO* in accordance with its availability as specified in its *dispatch offer* but may not be taken into account in the determination of the *spot price* in that *trading interval* except to the extent that the relevant ~~*inertia unit* or *system strength production unit*~~*production unit* is *dispatched* at a level above its minimum *loading level*.

Note

This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(d) A *Scheduled Generator* that is *constrained on* in accordance with paragraph (c) is not entitled to receive from *AEMO* any compensation due to its *spot price* being less than its *dispatch offer price*.

…

3.11 Ancillary Services

3.11.1 Introduction

(a) *Ancillary services* are services that are essential to the management of *power system security*, facilitate orderly trading in electricity and ensure that electricity supplies are of acceptable quality.

(b) *Market ancillary services* are *ancillary services* acquired by *AEMO* as part of the *spot market* in accordance with this Chapter 3. The prices for *market ancillary services* are determined using the *dispatch algorithm*.

(c) *Non-market ancillary services* are *ancillary services* not acquired by *AEMO* as part of the spot market, but acquired:

(1) in the case of *SRAS*, by *AEMO* under *ancillary services agreements*, with the prices for *SRAS* being determined in accordance with the relevant *ancillary services agreements*; and

(2) in the case of *NSCAS*:

(i) by *Transmission Network Service Providers* under *connection agreements* or *network support agreements* to meet an *NSCAS need*; and

(ii) in the circumstances contemplated in clause 3.11.3(c), by *AEMO* under *ancillary services agreements* entered into following a call for offers made in accordance with clause 3.11.5 to meet a *NSCAS gap* only for *power system security* and reliability of *supply* of the *transmission network* in accordance with the *power system security standards* and the *reliability standard*,

with the prices for *NSCAS* being determined in accordance with the relevant agreements;

(3) in the case of *NMAS*, other than *SRAS* ~~and~~, *NSCAS* and *transitional services*, by *Transmission Network Service Providers* under *connection agreements* or *network support agreements* to meet the service standards in accordance with the technical requirements of schedule 5.1 or in *applicable regulatory instruments*, with the prices for those services being determined in accordance with the relevant agreements; ~~.~~ and

(4) in the case of *transitional services*, by *AEMO* under *ancillary services agreements*, with the prices for *transitional services* being determined in accordance with the relevant agreement.

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

(d) *AEMO* may instruct a person to provide a *non-market ancillary service* under an *ancillary services agreement* or otherwise in accordance with the relevant *performance standards*, and any person so instructed must use reasonable endeavours to comply with that instruction.

(e) *AEMO* is not responsible for payment to a person for *non-market ancillary services* provided by that person under a *connection agreement* or a *network support agreement*.

…

3.11.3 Acquisition of Network Support and Control Ancillary Service

(a) Where a *NSCAS report* identifies an *NSCAS gap*, *AEMO* may request the relevant *Transmission Network Service Provider* to advise when the *Transmission Network Service Provider* will have arrangements in place to meet that *NSCAS gap*, or provide reasons why the *NSCAS gap* will not be met.

(b) Within 30 days of *AEMO's* request under paragraph (a), the *Transmission Network Service Provider* must provide a response to *AEMO*. If the *Transmission Network Service Provider* proposes to put in place arrangements to meet the relevant *NSCAS gap*, it must include in its response full details of those arrangements.

(b1) Where a *Transmission Network Service Provider* procures a *system strength service* or an *inertia network service* from a *Generator* or *Integrated Resource*

Provider under a *network support agreement* to meet a *NSCAS gap* described in paragraph (b) or (c) of that definition, the *Transmission Network Service Provider* (in its capacity as a *System Strength Service Provider* or *Inertia Service Provider*) must register the *production unit* with *AEMO* as a *system strength production unit* or as an *inertia unit* and specify that the *production unit* may be periodically used to provide *system strength services* or *inertia network services* and will not be eligible to set *spot prices* when *constrained on* to provide *inertia* or a *system strength service* in accordance with clause 3.9.7(c).

Note

The AEMC recommends that this paragraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(b2) A *Transmission Network Service Provider* who procures a *system strength service* or an *inertia network service* under a *network support agreement* to meet a *NSCAS gap* described in paragraph (b) or (c) of that definition must establish arrangements for each *system strength service* or *inertia network service* (as the case may be) it makes available to *AEMO* under the *Rules* to ensure:

(1) that *system strength service* or *inertia network service* is capable of being *enabled* by *AEMO* under clause 4.4A.1 on and from 2 December 2025; and

(2) that *system strength service* or *inertia network service* is only capable of being *enabled* by *AEMO*, unless otherwise agreed by *AEMO*.

Note

Clause 4.4A.1 commences on 1 December 2025.

(c) If, after considering any response made under paragraph (b), *AEMO*:

(1) considers that the relevant *NSCAS gap* will remain; and

(2) considers it is necessary to acquire *NSCAS* to meet the relevant *NSCAS gap* to prevent an adverse impact on *power system security* and reliability of *supply* of the *transmission network* in accordance with the *power system security standards* and the *reliability standard*,

AEMO:

(3) must *publish* details of why it considers that the relevant *NSCAS gap* will remain; and

(4) must use reasonable endeavours to acquire *NSCAS* to meet the relevant *NSCAS gap* in accordance with clause 3.11.5.

3.11.4 [Not used]

3.11.5 Tender process for network support and control ancillary services

(a) In this clause 3.11.5:

NSCAS tender guidelines means the guidelines developed and *published* by *AEMO* in accordance with paragraph (b) as in force from time to time, and includes amendments made in accordance with paragraphs (c) and (d).

(a1) If *AEMO* proposes to acquire an *NSCAS*, *AEMO* must call for offers from persons who are in a position to provide the *network support and control ancillary service* in accordance with the NSCAS tender guidelines.

(b) *AEMO* must determine and *publish* the NSCAS tender guidelines. The NSCAS tender guidelines must contain the following:

(1) a requirement for *AEMO* to call for *NSCAS* expressions of interest before issuing an *NSCAS* invitation to tender in relation to any required *NSCASs*;

(2) a requirement that a person who is to provide *NSCASs* under an *ancillary services agreement* has the *facility* tested in accordance with the NSCAS tender guidelines;

(3) a requirement for a *Network Service Provider* or other *Registered Participant* to assist a prospective tenderer in identifying and, if possible, resolving issues that would prevent the delivery of effective *NSCASs* proposed by a prospective tenderer;

(4) the timeframes over which *AEMO's* assessment of *NSCAS* expressions of interest, *NSCAS* tenders and physical testing of selected *NSCASs* will occur;

(5) a requirement for a tenderer to provide sufficient data, models and parameters of relevant *plant* in accordance with the requirements specified in the *Power System Model Guidelines*, the *Power System Design Data Sheet* and the *Power System Setting Data Sheet*, to facilitate a thorough assessment of the *network* impacts and *power station* impacts of the use of the relevant *NSCAS*;

(6) the terms and conditions of the *ancillary services agreement* that a successful tenderer would be expected to enter into with *AEMO*;

(7) the principles *AEMO* will apply in assessing *NSCAS* expressions of interest and *NSCAS* tenders; and

(8) any other matter considered appropriate by *AEMO*.

(c) *AEMO* may amend the NSCAS tender guidelines, subject to paragraph (d), and must comply with the *Rules consultation procedures* when making or amending the NSCAS tender guidelines.

(d) *AEMO* may make minor and administrative amendments to the NSCAS tender guidelines without complying with the *Rules consultation procedures*.

(e) *AEMO* is not under any obligation to accept the lowest priced *NSCAS* tender or any *NSCAS* tender in response to an *NSCAS* invitation to tender.

(f) A *Network Service Provider* must:

(1) negotiate in good faith with a prospective tenderer in respect of issues the NSCAS tender guidelines require a prospective tenderer to discuss and, if possible, resolve with a *Network Service Provider*; and

(2) participate in, or facilitate, testing of an *NSCAS* required by the NSCAS tender guidelines where it is reasonable and practicable to do so, and when participating in or facilitating such activities, the *Network Service Provider* will be entitled to recover from the relevant prospective tenderer all reasonable costs incurred by the *Network Service Provider* and for such purposes the activities of the *Network Service Provider* will be treated as *negotiable services*.

(g) Where a person submits an *NSCAS* tender in response to an *NSCAS* invitation to tender and *AEMO* wishes to negotiate an aspect of that *NSCAS* tender, *AEMO* and that person must negotiate in good faith concerning that aspect.

(h) In assessing any tenders submitted to meet a particular *NSCAS gap*, *AEMO* must first determine whether those tenders are competitive. The tenders submitted to meet a particular *NSCAS gap* will be deemed to be competitive if the quantity of *NSCAS* that *AEMO* is seeking can be supplied from the conforming tenders received by *AEMO* with any one conforming tender discarded or all conforming tenders from any one party discarded. If the tenders submitted to meet a particular *NSCAS gap* are not deemed to be competitive, *AEMO* and *NSCAS preferred tenderers,* must negotiate in good faith to agree reasonable terms and conditions for the supply of the relevant type of *NSCAS*, taking into account the need to:

(1) subject to subparagraph (h)(2), so far as practicable minimise the overall cost of supply of that service; and

(2) appropriately remunerate the providers of the relevant *NSCAS* for that service.

(i) If *AEMO* and a *NSCAS preferred tenderer* cannot agree on the terms and conditions for the supply of a *NSCAS* after 21 *business days* from delivery to the preferred tenderer of a written notice from *AEMO* to negotiate, either *AEMO* or the preferred tenderer may refer the matter to the *Adviser* for the determination of a dispute as to those terms and conditions in accordance with rule 8.2.

(j) If *AEMO* calls for offers under paragraph (a1), *AEMO* must give a notice to *Registered Participants* and *NSCAS providers* when the tender process is complete.

(k) Within 5 *business days* of *AEMO* giving a notice under paragraph (j), *AEMO* must *publish* the total estimated annual costs and quantities of each type of *NSCAS* acquired by *AEMO* under *ancillary services agreements* in respect of each *region* and in total and provide a breakdown of those costs and quantities relating to each *facility* contracted under those agreements.

(l) An *NSCAS provider* must comply with an *ancillary services agreement* under which they provide one or more *NSCASs*.

Note

This paragraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(m) *AEMO* may from time to time require an *NSCAS Provider* which provides an *NSCAS* under an *ancillary services agreement* to demonstrate the relevant *plant's* capability to provide the *NSCAS* to the satisfaction of *AEMO* according to standard test procedures. An *NSCAS Provider* must promptly comply with a request by *AEMO* under this clause.

3.11.6 Dispatch of network support and control ancillary services by AEMO

(0a) This clause does not apply to *NSCASs* acquired by *Transmission Network Service Providers* (in their capacity as a *System Strength Service Provider* or *Inertia Service Provider*) to address a *NSCAS gap* described in paragraph (b) or (c) of that definition.

Note

NSCAS to address a *NSCAS gap* relating to *system strength services* and *inertia network services* must be enabled under rule 4.4A. *AEMO* may enable other *NSCAS* under this clause or under rule 4.4A.

(a) For the avoidance of doubt, *AEMO* may *dispatch NSCAS* to:

(1) maintain *power system security* and reliability of *supply* of the *transmission network* in accordance with the *power system security standards* and the *reliability standard*; and

(2) maintain or increase the *power transfer capability* of that *transmission network* so as to maximise the present value of *net economic benefit*,

but *AEMO* may only call for offers to acquire *NSCAS* to maintain *power system security* and reliability of *supply* of the *transmission network* in accordance with the *power system security standards* and the *reliability standard*.

(a1) *AEMO* must develop procedures for:

(1) *dispatching NSCAS* under this clause; and

(2) reporting to *Registered Participants* and *NSCAS providers*, on a periodic basis, on the effectiveness of the *dispatch* of *NSCASs* using criteria related to the performance of the *power system* specified in the procedures developed under subparagraph (a1)(1).

(b) *AEMO* must *publish* the procedures developed under this clause 3.11.6.

(c) *AEMO* may amend a procedure developed under this clause 3.11.6, from time to time.

(d) *AEMO* must develop and *publish* guidelines for the *dispatch* of *NSCAS* to support the relevant procedure developed under subparagraph (a1)(1).

(e) Subject to paragraph (f), *AEMO* must comply with the *Rules consultation procedures* when making or amending the guidelines in paragraph (d).

(f) *AEMO* may make minor and administrative amendments to the guidelines in paragraph (d) without complying with the *Rules consultation procedures*.

3.11.11 Acquisition of transitional services by AEMO

Objectives of transitional services and transitional services procurement

(a) The objective of acquiring *transitional services* is to enable *AEMO* to maintain *power system security* in the transition to a low- or zero-emissions *power system* (***Transitional Services Objective***).

(b) *AEMO* must only acquire *transitional services* where:

(1) the services are required for *power system security* and cannot otherwise be provided by an *inertia network service*, a *system strength service*, a *market ancillary service* or a *NMAS*; or

(2) the services are acquired for the purpose of trialing new technologies, or a new application of existing technologies, for the management of *power system security* in a low- or zero-emissions *power system* where the particular application of the technology employed through the *transitional services* has not been used to provide services to manage *power system security* prior to 28 March 2024.

(c) If *AEMO* identifies a need to acquire *transitional services* of a type described in paragraph (b), *AEMO* must use reasonable endeavours to acquire *transitional services* to:

(1) contribute to achieving *emissions reductions targets*;

(2) achieve and maintain *power system security*;

(3) minimise the costs of *transitional services* to end users,

(the ***Transitional Services Procurement Objective***).

(d) *AEMO* may acquire *transitional services* by entering into an *ancillary services agreement* with a *Transitional Services Provider* following the completion of any procurement process specified in the *Transitional Services Guideline*.

Transitional Services Guideline

(e) *AEMO* must develop and publish, and may amend, the *Transitional Services Guideline* in accordance with the *Rules consultation procedures*.

(f) The *Transitional Services Guideline* must be designed to achieve the *Transitional Services Procurement Objective* and include:

(1) a competitive tender process to be used where practicable when acquiring *transitional services*;

(2) guidance on the factors that *AEMO* must take into account when making a decision to follow a particular type of procurement process to acquire *transitional services* to meet the *Transitional Services Procurement Objective*;

(3) guidance on how *AEMO* will achieve the *Transitional Services Procurement Objective*;

(4) a process for *AEMO* to follow for contacting a potential *Transitional Services Provider* to negotiate the provision of *transitional services* without a competitive tender process;

(5) a process for a potential *Transitional Services Provider* to contact *AEMO* to offer the provision of *transitional services* without a competitive tender process, which offer *AEMO* is not obliged to accept; and

(6) any requirements for a *Transitional Services Provider* to demonstrate the relevant *plant* or equipment's capability to provide the *transitional services*.

Negotiation for transitional services

(g) *AEMO* and a prospective *Transitional Services Provider* must negotiate in good faith as to the terms and conditions of the *ancillary services agreement*.

(h) In assessing any tenders submitted to provide *transitional services*, *AEMO* must first determine whether those tenders are competitive. The tenders submitted to provide *transitional services* will be deemed to be competitive if the *transitional services* that *AEMO* is seeking can be supplied from the conforming tenders received by *AEMO* with any one conforming tender discarded, or all conforming tenders from any one party discarded. If the tenders submitted to provide *transitional services* are not deemed to be competitive, *AEMO* and the preferred tenderers, must negotiate in good faith to agree reasonable terms and conditions for the provision of the *transitional services*, taking into account the need to:

(1) subject to subparagraph (2), so far as practicable minimise the overall cost of supply of that service; and

(2) appropriately remunerate the providers of the relevant *transitional services* for that service.

(i) A dispute concerning:

(1) any aspect (other than the aspect of price) of services being negotiated pursuant to paragraph (h) that are not deemed to be competitive; or

(2) a tender conducted by *AEMO* for the acquisition of *transitional services*,

must be dealt with in accordance with rule 8.2.

(j) *AEMO* is not required to accept the lowest priced offer received in response to any tender conducted by *AEMO* for the acquisition of *transitional services*.

(k) A prospective *Transitional Services Provider* who:

(1) wants to offer *transitional services* of the type described in paragraph (b)(2); and

(2) reasonably believes that its proposed *transitional services* meet the technical priorities specified by *AEMO* in accordance with clause 5.20.8(c)(8),

may submit an offer for *transitional services* directly to *AEMO* in accordance with the process specified pursuant to paragraph (f)(5).

Requirements for ancillary service agreements

(l) *AEMO* may require *transitional services* procured under an *ancillary services agreement* to be:

(1) capable of being *enabled* under clause 4.4A.1 on and from 2 December 2025;

(2) capable of being *enabled* through a process other than under clause 4.4A.1; and

(3) only capable of being *enabled* by *AEMO*, unless otherwise agreed by *AEMO*.

Note

Clause 4.4A.1 commences on 2 December 2025.

(m) An *ancillary services agreement* for *transitional services*:

(1) described in paragraph (b)(1), must not:

(i) have a term that exceeds three years; and

(ii) have a term that continues past 1 December 2029;

(2) described in paragraph (b)(2), must not:

(i) have a term that exceeds ten years; and

(ii) have a term that continues past 1 December 2039.

(n) Where *AEMO* procures *transitional services* from a *Generator* or *Integrated Resource Provider* provided by means of a *production unit* under an *ancillary services agreement*, *AEMO* must register the *production unit* as a *transitional services unit* and specify that the *production unit* may be periodically used to provide *transitional services* and will not be eligible to set *spot prices* when *constrained on* to provide *transitional services* in accordance with clause 3.9.7(c).

(o) A *Transitional Services Provider* must comply with an *ancillary services agreement* under which it provides one or more *transitional services*.

Note

The AEMC proposes to recommend that this paragraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

3.11.12 Statement and reporting for transitional services

(a) Prior to acquiring *transitional services* under clause 3.11.11, *AEMO* must publish a statement describing:

(1) how the *transitional services* satisfy the *Transitional Services Objective*;

(2) where the *transitional services* are provided under an *ancillary services agreement* of the type described in clause 3.11.11(b)(1):

(i) the *power system security* need necessitating the *transitional services* and the expected duration of the need;

(ii) why *AEMO* considers the *transitional services* may not be provided by any of the other services specified in clause 3.11.11(b)(1); and

(3) *AEMO's* intended procurement process and its reasons for choosing that process, including for any direct procurement, its reasons for not using a competitive process.

(b) At least once each calendar year, *AEMO* must prepare and publish a report setting out:

(1) the total annual cost for the provision of *transitional services*, broken down to the costs incurred for each *facility* providing *transitional services*;

(2) a description of the *transitional services* provided by each *facility* and the reasons for acquiring services from that *facility*;

(3) the procurement process followed by *AEMO* to acquire *transitional services* for each *facility* in that year;

(4) how it has applied the *Transitional Services Procurement Objective* when procuring *transitional services*; and

(5) if applicable, the reasons why *AEMO* did not accept an offer received in accordance with clause 3.11.11(f)(5).

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

3.12 Market Intervention by AEMO

…

3.12.3 Role of the Independent Expert in calculating payments in relation to intervention by AEMO and market suspension pricing schedule periods

(a) Subject to paragraph (a1), if a matter is to be referred to an independent expert pursuant to clauses 3.12.2(l), 3.12.2(m), 3.14.5B(f), 3.14.5B(g), 3.15.7A or 3.15.7B, *AEMO* must in accordance with the *intervention settlement timetable publish* a notice of its proposed nominee as independent expert and appoint such nominee.

(a1) If within 3 *business days* of *publication* of *AEMO's* nominee pursuant to paragraph (a) more than 25% of the *Referred Participants*, *Referred Market Suspension Compensation Claimants* and *Referred Directed Participants* in relation to the relevant *AEMO intervention event* or *market suspension pricing schedule period* (as the case may be) object in writing to *AEMO's* nominee *AEMO* must, as soon as reasonably practicable thereafter, request the *AEMC* to nominate an independent expert.

(a2) If a valid objection pursuant to clause 3.12.3(a1) is made, the *AEMC* must, within 3 *business days* of a written request from *AEMO*, nominate an independent expert to be appointed by *AEMO* for the purposes of this clause 3.12.3.

(b) *AEMO* must provide to the independent expert a copy of all written submissions made by *Referred Participants*, *Referred Market Suspension Compensation Claimants* or *Referred Directed Participants* under clause 3.12.2(f), 3.14.5B(a), 3.15.7A(f) or 3.15.7B(a).

(b1) To the extent reasonably practicable, all claims arising out of a single *AEMO intervention event* or *market suspension pricing schedule period* (as the case may be), or arising out of, in *AEMO's* reasonable opinion, a series of related *AEMO intervention events* or *market suspension pricing schedule periods* (as the case may be), should be determined by the same independent expert as part of the same process.

(c) *AEMO* must include as part of the independent expert's terms of appointment the following requirements:

(1) In accordance with the *intervention settlement timetable* the independent expert must:

(i) determine and *publish* a draft report setting out:

(A) as appropriate, the total compensation payable by, or receivable by, *Referred Affected Participants* and *Referred Market Customers* under clause 3.12.2(a) pursuant to claims referred to the independent expert in respect of the *AEMO intervention event*;

(A1) the amount of compensation payable to each *Referred Market Suspension Compensation Claimant* pursuant to clause 3.14.5B;

(B) the total amount of compensation payable to *Referred Directed Participants* pursuant to either clause 3.15.7A or clause 3.15.7B, as the case may be; and

(C) the methodology and assumptions, if any, used by the independent expert in making the determination in subparagraphs (c)(1)(ii), (c)(1)(iii) and (c)(1)(iv);

(ii) notify individual assessments by delivery to each *Referred Participant* and to *AEMO* of a draft assessment detailing the amount payable or receivable by that party, as the case may be, pursuant to clause 3.12.2(a);

(iii) deliver to each *Referred Directed Participant* and to *AEMO* a draft assessment detailing the calculation of the amount of compensation receivable by that party pursuant to clause 3.15.7A or 3.15.7B as the case may be; and

(iv) deliver to each *Referred Market Suspension Compensation Claimant* and to *AEMO* a draft assessment detailing the calculation of the amount of compensation receivable by that party pursuant to clause 3.14.5B.

(2) The independent expert must call for submissions from all relevant *Referred Participant*, *Referred Market Suspension Compensation Claimants* and *Referred Directed Participants* after *publishing* the draft report and delivering the draft assessment under subparagraph (c)(1).

(3) Before the *publication* of the final report and delivery of the final assessment pursuant to subparagraph (c)(4), the independent expert must:

(i) if requested to do so by a *Referred Participant*, *Referred Market Suspension Compensation Claimant* or *Referred Directed Participant*, within 15 *business days* of the *publication* of the draft report and draft assessment, meet with *representatives* of the *Referred Participant*, *Referred Market Suspension Compensation Claimant* or *Directed Participant* to discuss any queries it has in relation to the draft report or draft assessment as appropriate; and

(ii) take into consideration, any further written submissions made by a *Referred Participant*, *Referred Market Suspension Compensation Claimant* or *Referred Directed Participant* in relation to the draft report or draft assessment, as the case may be, if the independent expert receives those submissions within 15 *business days* of the *publication* of the draft report and draft assessment.

(4) The independent expert must in accordance with the *intervention settlement timetable*:

(i) prepare and *publish* a final report;

(ii) prepare and deliver his or her final assessment of the amounts payable or receivable by the relevant party pursuant to clause 3.12.2(a), 3.14.5B, 3.15.7A or 3.15.7B, as the case may be; and

(iii) deliver to *AEMO* a final tax invoice for the services rendered by the independent expert and a copy of all final assessments issued pursuant to subparagraph (c)(4)(ii).

(5) A report prepared under subparagraphs (c)(1)(i) and (c)(4)(i) must not disclose *confidential information*.

(6) If the independent expert requires further information than that contained in a written submission made by the *Referred Participant*, *Referred Market Suspension Compensation Claimant* or *Referred Directed Participant* under clause 3.12.2(f), 3.14.5B(a), 3.15.7A(f) or 3.15.7B(a), the independent expert may advise the relevant party in writing of the information required.

(7) If the relevant party has not provided that information to the independent expert within 10 *business days* of the date of the request for further information, then the independent expert, acting reasonably, is entitled to make such assumptions concerning that information as he or she thinks appropriate.

(8) The independent expert must enter into, and deliver, a confidentiality deed for the benefit of each *Referred Participant*, *Referred Market Suspension Compensation Claimant* and *Referred Directed Participant* in a form developed by *AEMO* pursuant to paragraph (e).

(d) A final report and a final assessment of an independent expert prepared in accordance with subparagraph (c)(4) is final and binding.

(e) *AEMO* must in accordance with the *Rules consultation procedures* prepare and *publish* a confidentiality deed for the purposes of this clause 3.12.3.

…

3.13.6A Reporting by AEMO on directions

(a) *AEMO* must, ~~as soon as reasonably practicable~~within 40 calendar weeks of a *direction* being revoked in accordance with clause 4.8.9(b)(2), or the *direction* otherwise ending, ~~after issuing a *direction*, *publish*~~ publish a report outlining:

(1) the circumstances giving rise to the need for the *direction*;

(2) the basis on which it determined the latest time for that *direction* and on what basis that it determined that a *market* response would not have avoided the need for the *direction*;

(3) details of the changes in *dispatch* outcomes due to the *direction*;

(4) the processes implemented by *AEMO* to issue the *direction*;

(5) if applicable, the basis upon which *AEMO* did not follow any or all of the processes set out in rule 4.8 either in whole or in part prior to the issuance of the *direction*;

(6) the basis upon which *AEMO* determined its approach to setting *spot prices* and *ancillary service prices* in accordance with clause 3.9.3;

(7) details of the adequacy and effectiveness of responses to inquiries made by *AEMO* under clause 4.8.5A(d);

(8) information regarding any notification by a *Registered Participant* that it will not be able to comply with a *direction* under clause 4.8.9(d); ~~and~~

(9) if applicable, the information required under clause 3.8.14A(c);~~.~~ and

(10) the identity of the *Directed Participant* and the type of *directed resource*.

(b) As soon as reasonably practicable after *AEMO* has, in accordance with clause 3.15.10C, included the amounts arising from a *direction* in a settlement statement provided under clause 3.15.15, *AEMO* must *publish* ~~details of~~:

(1) the *compensation recovery amount* arising from the *direction* as calculated under clause 3.15.8(a) for the period of the *direction*;

(2) details of the calculation of the regional benefit determined under clause 3.15.8(b1); and

(3) a breakdown of the *compensation recovery amount* by each category of *Registered Participant*, as determined by *AEMO*, in each *region*.

(c) *AEMO* must publish and maintain a single source for the following information:

(1) a breakdown of the total amount of compensation paid to each *Directed Participant* and *Affected Participant* in accordance with clauses 3.15.7, 3.15.7A or 3.15.7B (as the case may be) and clause 3.12.2;

(2) for each *direction*:

(i) the date and time the *direction* was issued and the date and time it was revoked in accordance with clause 4.8.9(b)(2), or otherwise ended;

(ii) the type of *directed resource* subject to the *direction*;

(iii) the identity of the *Directed Participant*;

(iv) the *region* in which the *directed resource* is located; and

(v) the required actions to be taken by the *Directed Participant*.

(d) *AEMO* is not required to update the information under paragraph (c) until 40 calendar weeks after the *direction* is revoked in accordance with clause 4.8.9(b)(2), or the *direction* otherwise ends.

…

3.15 Settlements

…

3.15.6A Ancillary service transactions

Definitions

(a0) In this clause 3.15.6A:

customer energy in respect of a *Market Customer* for a *trading interval* means the sum of the *adjusted gross energy* figures calculated for that *trading interval* in respect of that *Market Customer's* relevant *connection points*, provided that, if the sum of those figures is positive, then the *Market Customer's customer energy* for that *trading interval* is zero;

a *connection point* is a relevant *connection point* of a *Market Customer* if:

(1) the *Market Customer* is *financially responsible* for the *connection point*; and

(2) the *load* at that *connection point* has been classified (or is deemed to be classified) as a *market load*.

generator energy in respect of a *Market Generator* for a *trading interval* means the sum of the *adjusted gross energy* figures calculated for that *trading interval* in respect of that *Market Generator's* applicable *connection points*, provided that, if the sum of those figures is negative, then the *Market Generator's generator energy* for that *trading interval* is zero;

a *connection point* is an applicable *connection point* of a *Market Generator* if:

(1) the *Market Generator* is *financially responsible* for the *connection point*; and

(2) the *connection point connects* a *market generating unit* to the *national grid*.

regional benefit ancillary services procedures means the procedures to determine the relative benefit that each *region* is estimated to receive from the provision of *NMAS.*

regional benefit factors means the factors to allocate, between *regions*, the costs associated with the provision of *NMAS* under each *ancillary services agreement* in accordance with the regional benefit ancillary services procedures.

Scheduled Participant has the meaning given to it by clause 3.15.6A(k)(5).

small generator energy in respect of a *Market Small Generation Aggregator* for a *trading interval* means the sum of the *adjusted gross energy* figures calculated for that *trading interval* in respect of that *Market Small Generation Aggregator's* applicable *connection points*, provided that, if the sum of those

figures is negative, then the *Market Small Generation Aggregator's small generator energy* for that *trading interval* is zero; and

a *connection point* is an applicable *connection point* of a *Market Small Generation Aggregator* if:

(1) the *Market Small Generation Aggregator* is *financially responsible* for the *connection point*; and

(2) the *connection point* connects a *small generating unit* classified as a *market generating unit* to the *national grid*.

(a) In each *trading interval*, in relation to each *enabled ancillary service generating unit* or *enabled ancillary service load*, an *ancillary services transaction* occurs, which results in a *trading amount* for the relevant *Market Participant* determined in accordance with the following formula:

$$TA = \text{the aggregate of } \frac{EA \times ASP}{(12)} \text{ for each } \textit{trading interval}$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a positive number);
EA (in MW)	=	the amount of the relevant *market ancillary service* which the *ancillary service generating unit* or *ancillary service load* has been *enabled* to provide in the *trading interval*; and
ASP (in $ per MW per hour)	=	the *ancillary service price* for the *market ancillary service* for the *trading interval* for the *region* in which the *ancillary service generating unit* or *ancillary service load* has been *enabled*.

(b) In relation to each *NMAS provider* who provides *non-market ancillary services* under an *ancillary services agreement*, an *ancillary services transaction* occurs, which results in an amount payable by *AEMO* to the *NMAS provider* determined in accordance with that agreement.

(b1) Where an amount is payable by *AEMO*:

(1) under clause 4.3.6(o); or

(2) under paragraph (b) where it is not determined on a *trading interval basis*,

that amount is recovered in accordance with the relevant paragraphs (c8), (c9), (d) and (e), except that a reference to *trading interval* in the calculation of RBF, AGE, AAGE, TGE, ATGE, TSGE, ATSGE, TCE, ATCE is to be

read as "the relevant period", and any other reference to *trading interval* in those paragraphs is to be read as the "relevant *billing period*".

(c) **[Deleted]**

(c1) **[Deleted]**

(c2) Subject to paragraph (b1), *AEMO* must recover its liabilities under *ancillary services agreements* for the provision of:

(1) *NSCAS* and *transitional services* from *Market Customers* in each *region* in accordance with paragraphs (c8) and (c9); and

(2) *SRASs*, from:

(i) *Market Generators* and *Market Small Generation Aggregators* in each *region* in accordance with paragraph (d); and

(ii) *Market Customers* in each *region* in accordance with paragraph (e).

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

(c3) In the statements to be provided under clauses 3.15.14 and 3.15.15 to a *Market Customer*, *AEMO* must separately identify the portion of the total amount payable by *AEMO* in respect of the relevant *billing period* under *ancillary services agreements* for the provision of *NSCAS* and *transitional services* that:

(1) benefits specific *regions* in which there is a *connection point* for which the *Market Customer* is *financially responsible* (being the *regional* amounts given by the first summated term in the paragraph (c8) formula); and

(2) does not benefit specific *regions* (being the amount TNSCASp in the paragraph (c9) formula).

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

(c4) *AEMO* must develop and *publish* the regional benefit ancillary services procedures in accordance with the *Rules consultation procedures*. Without limiting the matters to be included in the regional benefit ancillary services procedures, they must require *AEMO* to take into account:

(1) for a~~n~~ *NSCAS* and *transitional service*, the estimated increase for each *region* of the gross economic benefit from increased *power transfer capability*; and

(2) for an *SRAS*, that can be used to restart *generating units* in two or more *regions*, the relative benefit provided by that service to each *region*.

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

(c5) Subject to paragraph (c6), *AEMO* may amend the regional benefit ancillary services procedures from time to time in accordance with the *Rules consultation procedures*.

(c6) *AEMO* may make minor and administrative amendments to the regional benefit ancillary services procedures without complying with the *Rules consultation procedures*.

(c7) From time to time, *AEMO* must determine the regional benefit factors.

(c8) In each *trading interval*, in relation to each *Market Customer* for each *region*, an *ancillary services transaction* occurs, which results in a *trading amount* for the *Market Customer* determined in accordance with the following formula:

$$TA_{P,R} = \left(\sum_{\text{for all 'S'}} (TNSCAS_{S,P} \times RBF_{S,P,R})\right) \times \frac{AGE_{P,R}}{AAGE_{P,R}} \times -1$$

Where

Subscript 'P' is the relevant period;

Subscript 'R' is the relevant *region*;

Subscript 'S' is the relevant *NSCAS* or *transitional service* (as the case may be);

TAp,r (in $) =*trading amount* payable by the *Market Customer* in respect of the relevant *region* and *trading interval*;

TNSCASs,p the total amount payable by *AEMO* for the provision of the relevant *NSCAS* or *transitional services* (as the case may be) under an *ancillary services agreement* in respect of the relevant *trading interval*;

RBFs,p,r (number) = the latest regional benefit factor assigned to the provision of the relevant *NSCAS* or *transitional services* (as the case may be) under an *ancillary services agreement* in respect of the relevant *region* and *trading interval*, as determined by *AEMO* under paragraph (c7);

AGEp,r (in MWh) = the sum of the *adjusted gross energy* figures in respect of the *Market Customer's* relevant *connection points* located in the *region* for the relevant *trading interval*; and

AAGEp,r (in MWh) = the aggregate AGEp,r figures for all *Market Customers* in respect of the relevant *region* and *trading interval*.

Note

The values of $AGE_{P,R}$ and $AAGE_{P,R}$ are subject to substitution in accordance with clause 3.15.6AA.

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

(c9) In each *trading interval*, in relation to each *Market Customer*, an *ancillary services transaction* occurs, which results in a *trading amount* for the *Market Customer* determined in accordance with the following formula:

$$TA_P = TNSCAS_P \times \frac{AGE_P}{AAGE_P} \times -1$$

Where

Subscript 'P' is the relevant period;

TAp(in $) = the *trading amount* payable by the *Market Customer* in respect of the relevant *trading interval*;

TNSCASp (in $) = the sum of all amounts payable by *AEMO* for the provision of *NSCAS* and *transitional services* under *ancillary services agreements* in respect of the relevant *trading interval* minus the sum of the *trading amounts* calculated for all *Market Customers* in respect of all of the relevant *trading interval* under paragraph (c8);

AGEp (in MWh) = the sum of the *adjusted gross energy* figures in respect of all the *Market Customer's* relevant *connection points* for the relevant *trading interval*; and

AAGEp (in MWh) = the aggregate AGEp figures for all *Market Customers* in respect of the relevant *trading interval*.

Note

The values of AGE_P and $AAGE_P$ are subject to substitution in accordance with clause 3.15.6AA.

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

(c10) *AEMO* must *publish* the regional benefit factors determined under paragraph (c7);

(d) In each *trading interval*, in relation to each *Market Generator* and each *Market Small Generation Aggregator* for each *region*, an *ancillary services transaction* occurs, which results in a *trading amount* for the *Market Generator* or the *Market Small Generation Aggregator* determined in accordance with the following formula:

$$TA = \sum \left(\left(\frac{SRP_i \times RBF_{Ri}}{2} \right) \times \left(\frac{TGE_R + TSGE_R}{ATGE_R + ATSGE_R} \right) \right) \times -1$$

Where

TA (in $) = the *trading amount* to be determined in respect of the relevant region and *trading interval* (which is a negative number);

SRP_i (in $) = the amount payable by *AEMO* in respect of the *trading interval* under an individual *ancillary services agreement* in respect of the provision of a specific *SRAS* or, for the purposes of clause 4.3.6(q), the compensation payable by *AEMO* under clause 4.3.6(o) for the relevant *billing period*;

RBF_{Ri} (number) = the latest regional benefit factor assigned to the provision of the relevant *SRAS* under an individual *ancillary services agreement* in respect of the relevant *region* and *trading interval*, as determined by *AEMO* under paragraph (c7);

TGE_R (in MWh) = the *generator energy* for the *Market Generator* for the *trading interval* in that *region*;

$TSGE_R$ (in MWh) = the *small generator energy* for the *Market Small Generation Aggregator* for the *trading interval* in that *region*;

$ATGE_R$ (in MWh) = the aggregate of the *generator energy* figures for all *Market Generators* for the *trading interval* in that *region*; and

$ATSGE_R$ (in MWh) = the aggregate of the *small generator energy* figures for all *Market Small Generation Aggregators* for the *trading interval* in that *region*.

(e) In each *trading interval*, in relation to each *Market Customer*, for each *region*, an *ancillary services transaction* occurs, which results in a *trading amount* for the *Market Customer* determined in accordance with the following formula:

$$TA = \sum \left(\left(\frac{SRP_i \times RBF_{Ri}}{2} \right) \times \frac{TCE_R}{ATCE_R} \right) \times -1$$

Where

TA (in $) = the *trading amount* to be determined in respect of the relevant *region* and *trading interval* (which is a negative number);

SRP_i (in $) = has the meaning given in clause 3.15.6A(d);

RBF_{Ri} (number) = the latest regional benefit factor assigned to the provision of the relevant *SRAS* under an individual *ancillary services agreement* in respect of the relevant *region* and *trading interval*, as determined by *AEMO* under paragraph (c7);

TCE_R (in MWh) = the *customer energy* for the *Market Customer* for the *trading interval* in that *region*; and

$ATCE_R$ (in MWh) = the aggregate of the *customer energy* figures for all *Market Customers* for the *trading interval* in that *region*.

Note

The values of TCE_R and $ATCE_R$ are subject to substitution in accordance with clause 3.15.6AA.

(f) The total amount calculated by *AEMO* under clause 3.15.6A(a) for each of the *fast raise service*, *slow raise service* or *delayed raise service* in respect of

each *trading interval* must be allocated to each *region* in accordance with the following procedure and the information provided under clause 3.9.2A(b). *AEMO* must:

(1) allocate for each *region* and for the relevant *trading interval* the proportion of the total amount calculated by *AEMO* under clause 3.15.6A(a) for each of the *fast raise service*, *slow raise service* or *delayed raise service* between *global market ancillary services requirements* and *local market ancillary service requirement* pro-rata to the respective marginal prices for each such service;

(2) calculate for the relevant *trading interval* the sum of the costs of acquiring the *global market ancillary service requirements* for all *regions* and the sum of the costs of acquiring each *local market ancillary service requirement* for all *regions*, as determined pursuant to clause 3.15.6A(f)(1); and

(3) allocate for the relevant *trading interval* the sum of the costs of the *global market ancillary service requirement* and each *local market ancillary service requirement* calculated in clause 3.15.6A(f)(2) to each *region* as relevant to that requirement pro-rata to the aggregate of the *generator energy* for the *Market Generators* and *small generator energy* for the *Market Small Generation Aggregators* in each *region* during the *trading interval*.

For the purpose of this clause 3.15.6A(f) **RTCRSP** is the sum of:

(i) the *global market ancillary service requirement* cost for that *region*, for the relevant *trading interval*, as determined pursuant to clause 3.15.6A(f)(3); and

(ii) all *local market ancillary service requirement* costs for that *region*, for the relevant *trading interval*, as determined pursuant to clause 3.15.6A(f)(3).

In each *trading interval*, in relation to each *Market Generator* and each *Market Small Generation Aggregator* in a given *region*, an *ancillary services transaction* occurs, which results in a *trading amount* for that *Market Generator* and that *Market Small Generation Aggregator* determined in accordance with the following formula:

$$TA = RTCRSP \times \frac{TGE + TSGE}{RATGE + RATSGE} \times -1$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
RTCRSP (in $)	=	the total of all amounts calculated by *AEMO* as appropriate to recover from the given *region* as calculated in this clause 3.15.6A(f)

		for the *fast raise service*, *slow raise service* or *delayed raise service* in respect of the *trading interval*;
TGE (in MWh)	=	the *generator energy* for the *Market Generator* in that *region* for the *trading interval*;
TSGE (in MWh)	=	the *small generator energy* for the *Market Small Generation Aggregator* in that *region* for the *trading interval*;
RATGE (in MWh)	=	the aggregate of the *generator energy* figures for all *Market Generators* in that *region* for the *trading interval*; and
RATSGE (in MWh)	=	the aggregate of the *small generator energy* figures for all *Market Small Generation Aggregators* in that *region* for the *trading interval*.

(g) The total amount calculated by *AEMO* under clause 3.15.6A(a) for each of the *fast lower service*, *slow lower service* or *delayed lower service* in respect of each *trading interval* must be allocated to each *region* in accordance with the following procedure and the information provided under clause 3.9.2A(b). *AEMO* must:

(1) allocate for each *region* and for the relevant *trading interval* the proportion of the total amount calculated by *AEMO* under clause 3.15.6A(a) for each of the *fast lower service*, *slow lower service* or *delayed lower service* between *global market ancillary service requirements* and *local market ancillary service requirement* pro rata to the respective marginal prices of each such service;

(2) calculate for the relevant *trading interval* the sum of the costs of acquiring the *global market ancillary service requirements* for all *regions* and the sum of the costs of acquiring each *local market ancillary service requirement* for all *regions*, as determined pursuant to clause 3.15.6A(g)(1); and

(3) allocate for the relevant *trading interval* the sum of the costs of the *global market ancillary service requirement* and each *local market ancillary service requirement* calculated in clause 3.15.6A(g)(2) to each *region* as relevant to that requirement pro-rata to the aggregate of the *customer energy* figures for all *Market Customers* in each *region* during the *trading interval*.

For the purpose of this clause 3.15.6A(g) **RTCLSP** is the sum of:

(i) the *global market ancillary service requirement* cost for that *region*, for the relevant *trading interval*, as determined pursuant to clause 3.15.6A(g)(3); and

(ii) all *local market ancillary service requirement* costs for that *region*, for the relevant *trading interval*, as determined pursuant to clause 3.15.6A(g)(3).

In each *trading interval*, in relation to each *Market Customer* in a given *region*, an *ancillary services transaction* occurs, which results in a *trading amount* for that *Market Customer* determined in accordance with the following formula:

$$TA = RTCLSP \times \frac{TCE}{RATCE} \times -1$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
RTCLSP (in $)	=	the total of all amounts calculated by *AEMO* as appropriate to recover from the given *region* as calculated in this clause 3.15.6A(g) for the *fast lower service*, *slow lower service* or *delayed lower service* in respect of the *trading interval*;
TCE (in MWh)	=	the *customer energy* for the *Market Customer* in that *region* for the *trading interval*; and
RATCE (in MWh)	=	the aggregate of the *customer energy* figures for all *Market Customers* in that *region* for the *trading interval*.

Note

The values of TCE and RATCE are subject to substitution in accordance with clause 3.15.6AA.

(h) The total amount calculated by *AEMO* under paragraph (a) for the *regulating raise service* or the *regulating lower service* in respect of each *trading interval* must be allocated by *AEMO* to each *region* in accordance with the following procedure and the information provided under clause 3.9.2A(b):

(1) allocate on a pro-rata basis for each *region* and for the relevant *trading interval* the proportion of the total amount calculated by *AEMO* under paragraph (a) for the *regulating raise service* and *regulating lower service* between *global market ancillary service requirements* and *local market ancillary service requirements* to the respective marginal prices for each such service; and

(2) calculate for the relevant *trading interval* the sum of the costs of acquiring the *global market ancillary service requirements* for all *regions* and the sum of the costs of acquiring *local market ancillary service requirements* for all *regions*, as determined under subparagraph (1).

(i) In each *trading interval* in relation to:

(1) each *Market Generator*, *Market Small Generation Aggregator* or *Market Customer* which has metering to allow their individual contribution to the aggregate deviation in *frequency* of the *power system* to be assessed, an *ancillary services transaction* occurs, which results in a *trading amount* for that *Market Generator*, *Market Small Generation Aggregator* or *Market Customer* determined in accordance with the following formula:

$TA = PTA \times -1$

and

$$PTA = \text{the aggregate of } \left(TSFCAS \times \frac{MPF}{AMPF} \right)$$

for each *trading interval* for *global market ancillary service requirements* and *local market ancillary service requirements* where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
TSFCAS (in $)	=	the total of all amounts calculated by *AEMO* under paragraph (h)(2) for the *regulating raise service* or the *regulating lower service* in respect of a *trading interval*;
MPF (a number)	=	the contribution factor last set by *AEMO* for the *Market Generator*, *Market Small Generation Aggregator* or *Market Customer*, as the case may be, under paragraph (j) for the *region* or *regions* relevant to the *regulating raise service* or *regulating lower service*; and
AMPF (a number)	=	the aggregate of the MPF figures for all *Market Participants* for the *trading interval* for the *region* or *regions* relevant to the *regulating raise service* or *regulating lower service*.

or

(2) in relation to each *Market Customer* for whom the *trading amount* is not calculated in accordance with the formula in subparagraph (1), an *ancillary services transaction* occurs, which results in a trading amount for that *Market Customer* determined in accordance with the following formula:

$TA = PTA \times -1$

and

$$PTA = \text{the aggregate of } \left(TSFCAS \times \frac{MPF}{AMPF} \times \frac{TCE}{ATCE} \right)$$

for each *trading interval* for *global market ancillary service requirements* and *local market ancillary service requirements* where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
TSFCAS (in $)	=	has the meaning given in subparagraph (1);
MPF (a number)	=	the aggregate of the contribution factor set by *AEMO* under paragraph (j) for *Market Customers*, for whom the *trading amount* is not calculated in accordance with the formula in subparagraph (1) for the *region* or *regions* relevant to the *regulating raise service* or the *regulating lower service*;
AMPF (a number)	=	the aggregate of the MPF figures for all *Market Participants* for the *trading interval* for the *region* or *regions* relevant to the *regulating raise service* or *regulating lower service*;
TCE (in MWh)	=	the *customer energy* for the *Market Customer* for the *trading interval* in the *region* or *regions* relevant to the *regulating raise service* or *regulating lower service*; and
ATCE (in MWh)	=	the aggregate of the *customer energy* figures for all *Market Customers*, for whom the *trading amount* is not calculated in accordance with the formula in subparagraph (1), for the *trading interval* for the *region* or

regions relevant to that *regulating raise service* or *regulating lower service*.

Note

The values of TCE and ATCE are subject to substitution in accordance with clause 3.15.6AA.

(j) *AEMO* must determine for the purpose of paragraph (i):

(1) a contribution factor for each *Market Participant*; and

(2) notwithstanding the estimate provided in paragraph (nb), if a *region* has or *regions* have operated asynchronously during the relevant *trading interval*, the contribution factors relevant to the allocation of *regulating raise service* or *regulating lower service* to that *region* or *regions*,

in accordance with the procedure prepared under paragraph (k).

(k) *AEMO* must prepare a procedure for determining contribution factors for use in paragraph (j) and, where *AEMO* considers it appropriate, for use in paragraph (nb), taking into account the following principles:

(1) the contribution factor for a *Market Participant* should reflect the extent to which the *Market Participant* contributed to the need for *regulation services*;

(2) the contribution factor for all *Market Customers* that do not have metering to allow their individual contribution to the aggregate need for *regulation services* to be assessed must be equal;

(3) for the purpose of paragraph (j)(2), the contribution factor determined for a group of *regions* for all *Market Customers* that do not have metering to allow the individual contribution of that *Market Customer* to the aggregate need for *regulation services* to be assessed, must be divided between *regions* in proportion to the total *customer energy* for the *regions*;

(4) the individual *Market Participant's* contribution to the aggregate need for *regulation services* will be determined over a period of time to be determined by *AEMO*;

(5) a *Registered Participant* which has classified a *scheduled generating unit*, *scheduled load*, *ancillary service generating unit* or *ancillary service load* (called a **Scheduled Participant**) will not be assessed as contributing to the deviation in the *frequency* of the *power system* if within a *trading interval*:

(i) subject to the provision of *primary frequency response* by that Scheduled Participant in accordance with the *Primary Frequency Response Requirements*, the Scheduled Participant achieves its *dispatch* target at a uniform rate;

(ii) the Scheduled Participant is *enabled* to provide a *market ancillary service* and responds to a control signal from *AEMO* to *AEMO's* satisfaction; or

(iii) the Scheduled Participant is not *enabled* to provide a *market ancillary service*, but responds to a need for *regulation services* in a way which tends to reduce the aggregate deviation;

(6) where contributions are aggregated for *regions* that are operating asynchronously during the calculation period under paragraph (i), the contribution factors should be normalised so that the total contributions from any non-synchronised *region* or *regions* is in the same proportion as the total *customer energy* for that *region* or *regions*; and

(7) a *Semi-Scheduled Generator* will not be assessed as contributing to the deviation in the *frequency* of the *power system* if within a *trading interval*, the *semi-scheduled generating unit*:

(i) subject to the provision of *primary frequency response* by that *semi-scheduled generating unit* in accordance with the *Primary Frequency Response Requirements*, achieves its *dispatch level* at a uniform rate;

(ii) is *enabled* to provide a *market ancillary service* and responds to a control signal from *AEMO* to *AEMO's* satisfaction; or

(iii) is not *enabled* to provide a *market ancillary service*, but responds to a need for *regulation services*.

(l) *AEMO* may amend the procedure referred to in clause 3.15.6A(j) from time to time.

(m) *AEMO* must comply with the *Rules consultation procedures* when making or amending the procedure referred to in clause 3.15.6A(k).

(n) *AEMO* must *publish*, in accordance with the *timetable*, the historical data used in determining a factor for each *Market Participant* for the purposes of clauses 3.15.6A(h) and (i) in accordance with the procedure contemplated by clause 3.15.6A(k).

(na) Notwithstanding any other provisions of the *Rules*, *AEMO* must *publish* the factors determined in accordance with clause 3.15.6A(j)(1) at least 10 *business days* prior to the application of those factors in accordance with clauses 3.15.6A(h) and 3.15.6A(i).

(nb) When a *region* is or *regions* are operating asynchronously, *AEMO* must *publish* (where appropriate in accordance with the procedure developed under paragraph (k)), an estimate of the contribution factors referred to in paragraph (j)(2) to be applied for information purposes only by *Market Participants* for the duration of the separation.

(o) **[Deleted]**

(p) When *AEMO* dispatches a quantity of *regulating raise service* or *regulating lower service* in addition to the quantity it determines in accordance with the *dispatch algorithm*, *AEMO* must:

(1) for the purposes of paragraphs (f) and (g), include the additional quantity in the cost of *delayed services*; and

(2) for the purposes of paragraphs (h) and (i), exclude the additional quantity in the cost of *regulation services*,

taking into account the requirements in clauses 3.8.1(a) and (b) to maximise the value of *spot market* trading.

...

CHAPTER 4

4. Power System Security

4.1 Introduction

4.1.1 Purpose

(a) This Chapter:

(1) provides the framework for achieving and maintaining a secure *power system*;

(2) provides the conditions under which *AEMO* can intervene in the processes of the *spot market* and issue *directions* to *Registered Participants* so as to maintain or re-establish a secure and reliable *power system*;

(3) has the following aims:

(i) to detail the principles and guidelines for achieving and maintaining *power system security*;

(ii) to establish the processes for the assessment of the adequacy of *power system* reserves;

(iii) to establish processes to enable *AEMO* to plan and conduct operations within the *power system* to achieve and maintain *power system security*; and

(iv) to establish processes for the actual *dispatch* of *scheduled generating units*, *semi-scheduled generating units*, *wholesale demand response units*, *scheduled loads*, *scheduled network services* and *ancillary services* by *AEMO* and for *AEMO* to *enable* ~~*inertia network services* or *system strength services*~~ *system security services*.

(b) By virtue of this Chapter and the *NEL*, *AEMO* has responsibility to maintain and improve *power system security*. This Chapter also requires the *Jurisdictional System Security Coordinator* for each *participating jurisdiction* to advise *AEMO* of the requirements of the *participating jurisdiction* regarding *sensitive loads* and priority of *load shedding* and requires *AEMO* to provide copies of the relevant *load shedding procedures* and *EFCS settings schedules* to the *Jurisdictional System Security Coordinator*.

…

4.2.5 Technical envelope

(a) The *technical envelope* means the technical boundary limits of the *power system* for achieving and maintaining the *secure operating state* of the *power system* for a given demand and *power system* scenario.

(b) *AEMO* must determine and revise the *technical envelope* (as may be necessary from time to time) by taking into account the prevailing *power system* and *plant* conditions as described in clause 4.2.5(c).

(c) In determining and revising the *technical envelope AEMO* must take into account matters such as:

(1) *AEMO's* forecast of total *power system load*;

(2) the provision of the applicable *contingency capacity reserves*;

(3) operation within all *plant* capabilities of *plant* on the *power system*;

(4) *contingency capacity reserves* available to handle any *credible contingency event*;

(5) advised *generation* minimum *load constraints*;

(6) *constraints* on *transmission networks*, including short term limitations;

(7) *ancillary service* requirements and ~~*inertia network service* and *system strength service*~~ *system security services* availability;

(8) **[Deleted]**

(9) the existence of proposals for any major equipment or *plant* testing, including the checking of, or possible changes in, *transmission plant* availability; and

(10) applicable *performance standards*.

(d) *AEMO* must, when determining the secure operating limits of the *power system*, assume that the applicable *performance standards* are being met, subject to:

(1) a *Registered Participant* notifying *AEMO*, in accordance with rule 4.15(f), that a *performance standard* is not being met; or

(2) *AEMO* otherwise becoming aware that a *performance standard* is not being met.

…

4.3.1 Responsibility of AEMO for power system security

The *AEMO power system security responsibilities* are:

(a) to maintain *power system security*;

(b) to monitor the operating status of the *power system*;

(c) to co-ordinate the *System Operators* in undertaking certain of its activities and operations and monitoring activities of the *power system*;

(d) to ensure that *high voltage* switching procedures and arrangements are utilised by *Network Service Providers* to provide adequate protection of the *power system*;

(e) to assess potential infringement of the *technical envelope* or *power system operating procedures* which could affect the security of the *power system*;

(f) to ensure that the *power system* is operated within the limits of the *technical envelope*;

(g) to ensure that all *plant* and equipment under its control or co-ordination is operated within the appropriate operational or emergency limits which are advised to *AEMO* by the respective *Network Service Providers* or *Registered Participants*;

(h) to assess the impacts of technical and any operational *plant* on the operation of the *power system*;

(i) to arrange the *dispatch* of *scheduled generating units*, *semi-scheduled generating units*, *wholesale demand response units*, *scheduled loads*, *scheduled network services* and *ancillary services* (including *dispatch* by remote control actions or specific directions) in accordance with the *Rules*, allowing for the dynamic nature of the *technical envelope*;

(j) to determine any potential *constraint* on the *dispatch* of *generating units*, *wholesale demand response units*, *loads*, *market network services* and *ancillary services* and to assess the effect of this *constraint* on the maintenance of *power system security*;

(k) to assess the availability and adequacy, including the dynamic response, of *contingency capacity reserves* and *reactive power reserves* in accordance with the *power system security standards* and to ensure that appropriate levels of *contingency capacity reserves* and *reactive power reserves* are available:

(1) to ensure the *power system* is, and is maintained, in a *satisfactory operating state*; and

(2) to arrest the impacts of a range of significant multiple *contingency events* (affecting up to 60% of the total *power system load*) or *protected events* to allow a prompt restoration or recovery of *power system security*, taking into account under-*frequency* initiated *load shedding* capability provided under *connection agreements*, by *emergency frequency control schemes* or otherwise;

(l) to monitor demand and *generation* capacity in accordance with the *reliability standard implementation guidelines* and, if necessary, initiate action in relation to a *relevant AEMO intervention event*;

(m) to publish as appropriate, information about the potential for, or the occurrence of, a situation which could significantly impact, or is significantly impacting, on *power system security*, and advise of any *low reserve* condition for the relevant periods determined in accordance with the *reliability standard implementation guidelines*;

(n) to refer to *Registered Participants*, as *AEMO* deems appropriate, information of which *AEMO* becomes aware in relation to significant risks to the *power system* where actions to achieve a resolution of those risks are outside the responsibility or control of *AEMO*;

(o) to utilise resources and services provided or procured as *ancillary services*~~,~~ or ~~*system strength services* or *inertia network services*~~*system security services* or otherwise to maintain or restore the *satisfactory operating state* of the *power system*;

(p) to manage activities reasonably required to effectively prepare for and coordinate a response to a *major supply disruption*, including (but not limited to):

(1) procuring adequate *SRASs* in accordance with clause 3.11.9 to enable *AEMO* to co-ordinate a response to a *major supply disruption*;

(2) developing the *system restart plan* and coordinating activities among *Registered Participants*, including the testing of *SRASs* or any other equipment, as reasonably necessary to prepare for the implementation of the *system restart plan*; and

(3) managing and coordinating the restoration of *supply* following a *major supply disruption*;

(p1) to coordinate the provision of *emergency frequency control schemes* by *Network Service Providers* and to determine the settings and intended sequence of response by those schemes;

(p2) to determine the boundaries of *inertia sub-networks* and the *inertia requirements* for each *inertia sub-network* and to *enable inertia network services*;

(p3) to determine the *system strength requirements* for each *region* and to *enable system strength services*;

(q) to interrupt, subject to clause 4.3.2(l), *Registered Participant connections* as necessary during emergency situations to facilitate the re-establishment of the *satisfactory operating state* of the *power system*;

(r) to issue a *direction* or *clause 4.8.9 instruction* (as necessary) to any *Registered Participant*;

(s) to co-ordinate and direct any rotation of widespread interruption of demand in the event of a major *supply* shortfall or disruption;

(t) to liaise with *participating jurisdictions* should there be a need to manage an extensive disruption, including the use of emergency services powers in a *participating jurisdiction*;

(u) to determine the extent to which the levels of *contingency capacity reserves* and *reactive power reserves* are or were appropriate through appropriate testing, auditing and simulation studies;

(v) to investigate and review all major *power system* operational incidents and to initiate action plans to manage any abnormal situations or significant deficiencies which could reasonably threaten *power system security*. Such situations or deficiencies include without limitation:

(1) *power system frequencies* outside those specified in the definition of *satisfactory operating state*;

(2) *power system voltages* outside those specified in the definition of *satisfactory operating state*;

(3) actual or potential *power system* instability; and

(4) unplanned/unexpected operation of major *power system* equipment; and

(w) to ensure that each *System Operator* satisfactorily interacts with *AEMO*, other *System Operators* and *Distribution System Operators* for both *transmission* and *distribution network* activities and operations, so that *power system security* is not jeopardised by operations on the *connected transmission networks* and *distribution networks*.

…

4.3.4 Network Service Providers

…

(j) Each *Transmission Network Service Provider* that is an *Inertia Service Provider* must make *inertia network services* available to *AEMO* in accordance with clause 5.20B.4~~(b)~~.

Note

This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

…

(l) Each *Transmission Network Service Provider* that is a *System Strength Service Provider* must make *system strength services* available to *AEMO* in accordance with clause 5.20C.3~~(b)~~.

Note

This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

…

4.4 Power System Frequency Control

4.4.4 [Deleted]~~Instructions to enable inertia network services~~

~~(a) Where a *contingency event* that would result in the *islanding* of an *inertia sub-network* has been classified as a *credible contingency event* or defined as a *protected event*:~~

~~(1) *AEMO* may require a range and quantity of *inertia network services* to be *enabled* that will provide *inertia* to the *inertia sub-network* to the level required under subparagraph (2) while the *conti(ii)ngency event* remains classified or defined in that way; and~~

~~(2) the level of *inertia* referred to in subparagraph (1) is:~~

~~(i) the *minimum threshold level of inertia* for the *inertia sub-network*; or~~

~~(ii) if the *minimum threshold level of inertia* for the *inertia sub-network* has been adjusted for *inertia support activities* under clause 5.20B.5(a), that adjusted level of *inertia*.~~

~~(b) Where an *inertia sub-network* is *islanded*:~~

~~(1) *AEMO* may *enable* a range and quantity of *inertia network services* that will provide *inertia* to the *inertia sub-network* to the level required under subparagraph (2) while the *inertia sub-network* remains *islanded*; and~~

~~(2) the level of *inertia* referred to in subparagraph (1) is:~~

~~(i) the *secure operating level of inertia* for the *inertia sub-network*; or~~

~~(ii) if the *secure operating level of inertia* for the *inertia sub-network* has been adjusted for *inertia support activities* under clause 5.20B.5(a), that adjusted level of *inertia*.~~

~~(c) In selecting the *inertia network services* to be *enabled* under paragraph (a) or (b), *AEMO* must use reasonable endeavours to select services in the order of priority specified by the *Inertia Service Provider* in its schedule of *inertia network services* given to *AEMO* under clause 5.20B.6(a).~~

~~(d) For the purposes of paragraphs (a) and (b), *AEMO* may at any time give an instruction to an *Inertia Service Provider* who is providing *inertia network services* or a *Registered Participant* who has agreed with an *Inertia Service Provider* to provide *inertia network services* stating that *AEMO* requires *inertia network services* to be *enabled*. Where *inertia network services* are provided by an *inertia generating unit*, the instruction must be given in accordance with the procedures for giving *dispatch instructions* under the *Rules*. Otherwise, the instruction must be given in accordance with the arrangements for giving instructions applicable to the *inertia network service* approved by *AEMO* under clause 5.20B.6(e).~~

(e) *AEMO* may at any time give an instruction stating that *AEMO* requires the provision of an *inertia network service* to cease. The instruction must be given in the manner provided for in paragraph (d).

(f) An instruction to *enable* or cease providing *inertia network services* must include:

(1) specific reference to the *inertia network service* to which the instruction applies;

(2) the time the instruction is issued; and

(3) the time at which the service is to be *enabled* or cease, if that is different from the time the instruction is issued.

(g) An *Inertia Service Provider* or *Registered Participant* providing *inertia network services* must comply with an instruction given under paragraph (d) or (e).

Note

This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(h) An *Inertia Service Provider* or *Registered Participant* providing *inertia network services* must ensure that appropriate personnel or electronic facilities are available at all times to receive and immediately act upon instructions issued by *AEMO* to *enable* the *inertia network service* or cease providing it.

Note

This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

4.4.5 [Deleted]Instructions to enable system strength services

(a) *AEMO* may at any time *enable* a range and quantity of *system strength services* to maintain the minimum *three phase fault level* at a *system strength node* when the *three phase fault level* at the *system strength node* would otherwise be below the minimum *three phase fault level* or when reasonably considered necessary by *AEMO* to maintain the *power system* in a *secure operating state*.

(b) In selecting the *system strength services* to be *enabled* under paragraph (a), *AEMO* must use reasonable endeavours to select services in the order of priority specified by the *System Strength Service Provider* in its schedule of *system strength services* given to *AEMO* under clause 5.20C.4(a).

(c) For the purposes of paragraph (a), *AEMO* may at any time give an instruction to a *System Strength Service Provider* who is providing *system strength services* or a *Registered Participant* who has agreed with a *System Strength*

~~*Service Provider* to provide *system strength services* stating that *AEMO* requires *system strength services* to be *enabled*. Where the *system strength services* are provided by a *system strength generating unit*, the instruction must be given in accordance with the procedures for giving *dispatch instructions* under the *Rules*. Otherwise, the instruction must be given in accordance with the arrangements for giving instructions applicable to the *system strength service* approved by *AEMO* under clause 5.20C.4(e).~~

~~(d) *AEMO* may at any time give an instruction stating that *AEMO* requires the provision of a *system strength service* to cease. The instruction must be given in the manner provided for in paragraph (c).~~

~~(e) An instruction to *enable* or cease providing *system strength services* must include:~~

~~(1) specific reference to the *system strength service* to which the instruction applies;~~

~~(2) the time the instruction is issued; and~~

~~(3) the time at which the service is to be *enabled* or cease, if that is different from the time the instruction is issued.~~

~~(f) A *System Strength Service Provider* or a *Registered Participant* providing *system strength services* must comply with an instruction given under paragraph (c) or (d).~~

~~**Note**~~

~~This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

~~(g) A *System Strength Service Provider* or a *Registered Participant* providing *system strength services* must ensure that appropriate personnel or electronic facilities are available at all times to receive and immediately act upon instructions issued by *AEMO* to enable the *system strength service* or cease providing it.~~

~~**Note**~~

~~This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

4.4A Enablement of system security services

4.4A.1 AEMO enablement of system security services

AEMO may, at any time, *enable*:

(a) any *system security services* to achieve and maintain the *minimum system security requirements*; and

(b) *system strength services* to achieve and maintain stable *voltage* waveforms for the level and type of *inverter based resources* and *market network service facilities* that *AEMO* forecasts would be *dispatched* in the relevant *trading interval* if this were not limited by *system strength services* (***stable voltage waveform requirements***),

in accordance with this rule 4.4A and the *Security Enablement Procedures*.

4.4A.2 System security services

Each of the following is a *system security service*:

(a) a *system strength service;*

(b) an *inertia network service;*

(c) a *NSCAS*; and

(d) a *transitional service*,

to the extent procured by *AEMO* or a *Transmission Network Service Provider* under an agreement for that service under the *Rules*.

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

4.4A.3 Minimum system security requirements

(a) *AEMO* must, from time to time, publish, in accordance with the *Security Enablement Procedures*, the *minimum system security requirements*.

(b) The *minimum system security requirements* are those necessary for the operation of the *power system* during the range of actual operating conditions encountered in the *power system* including:

(1) the *inertia sub-network allocation* for each *inertia sub-network*;

(2) where a *contingency event* that would result in an *inertia sub-network* becoming *islanded* has been classified as a *credible contingency event* or defined as a *protected event*, the level of *inertia* reasonably considered necessary by *AEMO* to operate the *inertia sub-network* so that it is and will remain in a *satisfactory operating state* when the *inertia sub-network* is *islanded*;

(3) where an *inertia sub-network* is *islanded*, the level of *inertia* reasonably considered necessary by *AEMO* to operate the *inertia sub-network* so that it is and will remain in a *secure operating state*;

(4) the minimum *three phase fault level* for each *system strength node* reasonably considered necessary by *AEMO* to maintain the *power system* in a *secure operating state*;

(5) a *NSCAS need* to the extent reasonably considered necessary by *AEMO* to maintain the *power system* in a *secure operating state*;

(6) the *power system security* needs and expected duration specified in the statement for *transitional services* published under clause 3.11.12(a)(2)(i) from time to time, where applicable; and

(7) any other *power system security* requirements that *AEMO* determines from time to time are necessary to maintain the *power system security standards*,

but does not include the *reliability standard* or the *system restart standard*.

(c) The *minimum system security requirements*:

(1) are not required to be consistent with the *binding inertia requirements* and *binding system strength requirements*;

(2) may exceed those requirements where reasonably necessary for *AEMO* to achieve the *minimum system security requirements*; and

(3) where they are different to those requirements, do not affect the relevant *Inertia Service Provider's* or *System Strength Service Provider's* obligation to make *inertia network services* or *system strength services* available in accordance with the *binding inertia requirements* and *binding system strength requirements*.

4.4A.4 Enablement principles

When electing the range and quantity of *system security services* to be *enabled* under clause 4.4A.1, *AEMO* must use reasonable endeavours to give effect to the following principles:

(a) the *system security services* that are *enabled* should be the lowest total cost combination required to achieve and maintain the *minimum system security requirements* and the *stable voltage waveform requirements*;

(b) a *system security service* should be *enabled* as close as practicable to the relevant *trading interval*, and in any case, *enabled* no more than 12 hours ahead of the *trading interval*;

(c) a *system security service* should only be *enabled* where, in *AEMO's* reasonable opinion, the *minimum system security requirements* or the *stable voltage waveform requirements* would not be met but for such *enablement*;

(d) when *enabling* a *system security service* to achieve the *stable voltage waveform requirements*, where such services are required in addition to those required to achieve the *minimum system security requirements*, *AEMO* should:

(1) only *enable* a quantity of *system strength services* that is reasonably necessary to achieve *stable voltage waveforms* for the level and type of

inverter based resources and *market network service facilities* that *AEMO* projects could be *dispatched* in the relevant *trading interval*; and

(2) not *enable* a *system strength production unit* if *enabling* that unit would result in significant adverse effects on *power system* efficiency or *power system* emissions.

4.4A.5 Instructions to enable system security services

(a) In selecting the *system security services* to be *enabled* under clause 4.4A.1, *AEMO* must use reasonable endeavours to select services in accordance with the *enablement* principles under clause 4.4A.4 and the *Security Enablement Procedures*.

(b) For the purposes of clause 4.4A.1, *AEMO* may at any time give an instruction to a *System Security Service Provider* who is providing *system security services*, or to a *Registered Participant* who has agreed with a *System Security Service Provider* to provide *system security services*, stating that *AEMO* requires *system security services* to be *enabled*. Where *system security services* are provided by an *inertia unit* or *system strength production unit*, the instruction must be given in accordance with the procedures for giving *dispatch instructions* under the *Rules*. Otherwise, the instruction must be given in accordance with the arrangements for giving instructions applicable to the *system security service* approved by *AEMO* under clause 4.3.4(d)(4), clause 5.20B.6(e), clause 5.20C.4(e), or as agreed with *AEMO* under a relevant *ancillary services agreement*.

(c) *AEMO* may at any time give an instruction stating that *AEMO* requires the provision of a *system security service* to cease. The instruction must be given in the manner provided for in paragraph (b).

(d) An instruction to *enable* or cease providing *system security services* must include:

(1) specific reference to the *system security service* to which the instruction applies;

(2) the time the instruction is issued; and

(3) the time at which the service is to be *enabled* or cease, if that is different from the time the instruction is issued.

(e) A *System Security Service Provider* or *Registered Participant* providing *system security services* must comply with an instruction given under paragraph (b) or (c).

Note

The AEMC proposes to recommend that this paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(f) A *System Security Service Provider* or *Registered Participant* providing *system security services* must ensure that appropriate personnel or electronic

facilities are available at all times to receive and immediately act upon instructions issued by *AEMO* to *enable* the *system security service* or cease providing it.

Note

The AEMC proposes to recommend that this paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(g) A *System Security Service Provider*, or a *Registered Participant* who has agreed with a *System Security Service Provider* to provide *system security services*, must ensure that it is able to *dispatch* a *facility* that is *enabled* pursuant to clause 4.4A.1 and is responsible for changing inputs to the *central dispatch* process, if necessary to achieve this, via the offer and bidding provisions under clauses 3.8.6 to 3.8.7B and the rebidding provisions under clause 3.8.22.

Note

The AEMC proposes to recommend that this paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

4.4A.6 Security Enablement Procedures

(a) *AEMO* must develop and publish procedures for the *enablement* of *system security services* (***Security Enablement Procedures***), which must include:

(1) a methodology for how *AEMO* will determine the *minimum system security requirements* in accordance with clause 4.4A.3;

(2) a methodology for the *enablement* of *system security services* in accordance with the enablement principles in clause 4.4A.4;

(3) any minimum or recommended requirements to be included in agreements for the provision of *system security services* entered into by *Transmission Network Service Providers*; and

(4) a description of how *AEMO* determines the level of *stable voltage waveform requirements* under clause 4.4A.1(b) and how it will *enable system strength services* under a *system strength services agreement* to support this level.

(b) *AEMO* must comply with the *Rules consultation procedures* when making or amending the *Security Enablement Procedures*.

4.4A.7 System security services reporting

(a) Each *day*, in accordance with the *timetable*, *AEMO* must publish details of each type of *system security service*, the relevant *facilities*, the quantity and *AEMO's* estimate of the cost of that service *enabled* in the previous day and the reasons for the *enablement*.

(b) By no later than 30 September each year, *AEMO* must prepare and publish a report setting out:

(1) an assessment of the extent to which *system security services* achieved the *minimum system security requirements* and *stable voltage waveform requirements* in the previous *financial year;*

(2) the total quantity and estimate of costs of each type of *system security service* that was *enabled* in the previous *financial year*;

(3) the relevant *facilities* that were *enabled* in the previous *financial year*;

(4) the reasons for *enablement* of the *system security services* that were *enabled* in the previous *financial year*; and

(5) any trends in the *enablement* of *system security services* compared with earlier *financial years*.

…

4.8.9 Power to issue directions and clause 4.8.9 instructions

(a) Notwithstanding any other provision of rule 4.8:

(1) *AEMO* may require a *Registered Participant* to do any act or thing if *AEMO* is satisfied that it is necessary to do so to maintain or re-establish the *power system* to a *secure operating state*, a *satisfactory operating state*, or a *reliable operating state*; and

(2) *AEMO* may authorise a person to do any of the things contemplated by section 116 of the *NEL* if *AEMO* is satisfied that it is necessary to do so for reasons of public safety or the security of the electricity system.

(a1) If *AEMO*, or a person authorised by *AEMO*, requires a *Registered Participant* to:

(1) take action as contemplated by clause 4.8.9(a) or section 116 of the *NEL* in relation to *scheduled plant* or a *market generating unit*, *AEMO* is taken to have issued a *direction*; or

(2) take some other action contemplated by clause 4.8.9(a) or section 116 of the *NEL*, *AEMO* is taken to have issued a *clause 4.8.9 instruction*.

(a2) *AEMO* must use reasonable endeavours to ensure that persons authorised by *AEMO* under clause 4.8.9(a)(2) follow all relevant processes in rule 4.8 prior to issuing a *direction*, unless it is not reasonably practical to do so.

(b) *AEMO* must develop, and may amend from time to time, in accordance with the *Rules consultation procedures*, procedures for the issuance of *directions*. Such procedures must reflect the following principles:

(1) *AEMO* must use its reasonable endeavours to minimise any cost related to *directions* and compensation to *Affected Participants*, *Market Customers* and *Ancillary Service Providers* pursuant to clause 3.12.2

and compensation to *Directed Participants* pursuant to clauses 3.15.7 and 3.15.7A;

(2) a *direction* should be revoked as soon as *AEMO* determines that the *direction* is no longer required;

(3) *AEMO* must take into account any applicable guidelines issued by the *Reliability Panel*;

(4) *AEMO* must observe its obligations under clause 4.3.2 concerning *sensitive loads*;

(5) *AEMO* must expressly notify a *Directed Participant* that *AEMO's* requirement or that of another person authorised by *AEMO* pursuant to clause 4.8.9(a) is a *direction*.

(c) A *Registered Participant* must use its reasonable endeavours to comply with a *direction* or *clause 4.8.9 instruction* unless to do so would, in the *Registered Participant's* reasonable opinion, be a hazard to public safety, or materially risk damaging equipment, or contravene any other law.

Note

This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(c1) Subject to clause 4.8.9(c) a *Registered Participant* must use its best endeavours to comply with a *direction* or *clause 4.8.9 instruction* in accordance with the timeframe specified by *AEMO* in the *direction* or *clause 4.8.9 instruction*.

(c2) A *Market Participant* must not by any act or omission, whether intentionally or recklessly, cause or significantly contribute to the circumstances causing a *direction* to be issued, without reasonable cause.

(d) A *Registered Participant* must immediately notify *AEMO* of its inability to comply or its intention not to comply with a *direction* or *clause 4.8.9 instruction*.

(e) If a *Registered Participant* does not comply with a *direction* or *clause 4.8.9 instruction*, it must within 2 *business days* of the *direction* or *clause 4.8.9 instruction* deliver to *AEMO* and the *AER* a report detailing the reasons for the non compliance together with all relevant facts.

(f) *AEMO* must *publish* a report in accordance with clause 3.13.6A.

(g) Any *Registered Participant* who is aware of a failure to comply with a *direction* or *clause 4.8.9 instruction* or who believes any such failure has taken place must notify *AEMO* and the *AER* in writing and as soon as practicable of that fact.

(h) If *AEMO* issues a *direction* or *clause 4.8.9 instruction*, *AEMO* may, to give effect to the *direction* or *clause 4.8.9 instruction*:

(1) submit, update or vary *dispatch bids*, *dispatch offers* or *rebids* in relation to the *plant* of *Directed Participants* and *Affected Participants*; or

(2) change other inputs to the *central dispatch* process.

(i) When issuing *clause 4.8.9 instructions* to implement *load shedding* across *interconnected regions*, *AEMO* must use reasonable endeavours to implement *load shedding* in an equitable manner as specified in the *power system security standards*, taking into account the *power transfer capability* of the relevant *networks*.

(j) When issuing *clause 4.8.9 instructions* to implement *load shedding*, *AEMO* must comply with its obligations under clauses 4.3.2(e) to (l) and Part 8 of the *NEL*.

(k) If *AEMO* has issued a *direction*, *AEMO* must, to the extent reasonably practicable, immediately *publish* a notice setting out:

(1) the *Directed Participant* and the type of *directed resource* subject to the *direction*;

(2) the required actions to be taken by the *Directed Participant*;

(3) for a *direction* pursuant to clause 3.15.7(a2)(4), the service or need that was provided (where it is reasonably practicable to identify the service or need); and

(4) details of the circumstances that necessitated the *direction*, including the 'act or thing' referred to in paragraph (a)(1).

4.8.9A System security directions

(a) Notwithstanding any other provision of the *Rules*, a *Registered Participant* must follow any *direction* issued by or on behalf of *AEMO* and with which that *Registered Participant* is required to comply under Chapter 4 or section 116 of the *NEL*.

(b) Any event or action required to be performed pursuant to a *direction* issued under Chapter 4 or section 116 of the *NEL* on or by a stipulated *day* is required by the *Rules* to occur on or by that *day*, whether or not a *business day*.

(c) Any failure to observe such a *direction* will be deemed to be a breach of the *Rules*.

(d) *AEMO* or any *Registered Participant* who is aware of any such failure must notify the *AER* in writing of the failure.

Note

This clause is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

...

4.11.1 Remote control and monitoring devices

(b) The provider of any *ancillary services*~~, system strength services or inertia network services~~ or *system security services* must arrange the installation and maintenance of all *remote control equipment* and *remote monitoring equipment* in accordance with the standards and protocols determined and advised by *AEMO* for use in the relevant *control centre*.

Note

This paragraph is classified as a tier 3 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

CHAPTER 5

5. Network Connection Access, Planning and Expansion

…

5.16.3 Investments subject to the regulatory investment test for transmission

(a) A *RIT-T proponent* must apply the *regulatory investment test for transmission* to a *RIT-T project* except in circumstances where:

(1) the *RIT-T project* is required to address an urgent and unforeseen *network* issue that would otherwise put at risk the *reliability* of the *transmission network* as described in paragraph (b);

(2) the estimated capital cost of the most expensive option to address the *identified need* which is technically and economically feasible is less than $5 million (as varied in accordance with a *cost threshold determination*);

(3) the proposed expenditure relates to maintenance and is not intended to *augment* the *transmission network* or replace *network* assets;

(4) [**Deleted**];

(5) the proposed relevant *network* investment is an investment undertaken by a *Transmission Network Service Provider* which:

(i) re-routes one or more paths of a *network* for the long term; and

(ii) has a substantial primary purpose other than the need to *augment* a *network*,

(a *reconfiguration investment*) and which the *RIT-T proponent* reasonably estimates to have an estimated capital cost of less than $5 million (as varied in accordance with a *cost threshold determination*) or which has, or is likely to have, no material impact on *network* users;

(6) the *identified need* can only be addressed by expenditure on a *connection asset* which provides services other than *prescribed transmission services* or *standard control services*;

(7) the cost of addressing the *identified need* is to be fully recovered through charges other than charges in respect of *prescribed transmission services* or *standard control services*;

(8) the proposed expenditure relates to *protected event EFCS investment* and is not intended to *augment* the *transmission network*; or

(9) the proposed expenditure is an *inertia service payment*; or

~~(10) the proposed expenditure is for *network* investment undertaken by the *Transmission Network Service Provider* to satisfy its obligation as an *Inertia Service Provider* under clause 5.20B.4 to make available *inertia network services* in relation to an *inertia shortfall* for an *inertia sub-network* and:~~

~~(i) immediately prior to the notice of the *inertia shortfall* being given by *AEMO* under clause 5.20B.3(c), the *Inertia Service Provider* is not under an obligation to provide *inertia network services* for that *inertia sub-network* (including under rule 11.100); and~~

~~(ii) the time by which the *Inertia Service Provider* must make the *inertia network services* available is less than 18 months after the notice is given by *AEMO* under clause 5.20B.3(c);~~

(10) the proposed expenditure is for *network* investment undertaken by the *Transmission Network Service Provider* to address a *NSCAS gap* as part of the arrangements provided to *AEMO* under clause 3.11.3(b) in response to a request under clause 3.11.3(a) and either:

(i) the time by which the *Transmission Network Service Provider* (as the *Inertia Service Provider*) must address the *NSCAS gap* is less than 18 months from the date *AEMO* declared the *NSCAS gap* in accordance with clause 5.20.3; or

(ii) the time by which the *Transmission Network Service Provider* (as the *System Strength Service Provider*) must address the *NSCAS gap* is less than 18 months from the date *AEMO* has declared the *NSCAS gap* in accordance with clause 5.20.3,

and, in each case, the proposed expenditure must only relate to that part of the *NSCAS gap* for which there is insufficient *inertia network services* or insufficient *system strength services*.

(b) For the purposes of paragraph (a)(1), a *RIT-T project* will be required to address an urgent and unforeseen *network* issue that would otherwise put at risk the *reliability* of the *transmission network* if:

(1) it is necessary that the assets or services to address the issue be operational within 6 months of the issue being identified;

(2) the event or circumstances causing the *identified need* was not reasonably foreseeable by, and was beyond the reasonable control of, the *Network Service Provider(s)* that identified the *identified need*;

(3) a failure to address the *identified need* is likely to materially adversely affect the *reliability* and *secure operating state* of the *transmission network*; and

(4) it is not a *contingent project*.

(c) If a proposed relevant *network* investment is determined to be required to address an urgent and unforeseen *network* issue as described in paragraph (b), and the *Network Service Provider* making the investment is a *Transmission Network Service Provider*, then the *Transmission Network Service Provider* must provide the following information in its next *Transmission Annual Planning Report* following the identification of the need for the relevant *network* investment:

(1) the date when the proposed relevant *network* investment became or will become operational;

(2) the purpose of the proposed relevant *network* investment; and

(3) the total cost of the proposed relevant *network* investment.

(d) With the exception of *funded augmentations*, for each *RIT-T project* to which the *regulatory investment test for transmission* does not apply in accordance with paragraph (a), the *Network Service Providers* affected by the *RIT-T project* must ensure, acting reasonably, that the investment required to address the *identified need* is planned and developed at least cost over the life of the investment.

(e) A *RIT-T proponent* must not treat different parts of an integrated solution to an *identified need* as distinct and separate options for the purposes of determining whether the *regulatory investment test for transmission* applies to each of those parts.

5.20 System security reports

5.20.1 Definitions

In this rule 5.20:

NSCAS description means a detailed description of each type of *network support and control ancillary service*.

NSCAS quantity procedure means a procedure that determines the location and quantity of each type of *network support and control ancillary service* required.

NSCAS trigger date means for any *NSCAS gap* identified in clause 5.20.3(b), the date that the *NSCAS gap* first arises.

NSCAS tender date means for any *NSCAS gap* identified in clause 5.20.3(c), the date or indicative date that *AEMO* would need to act so as to call for offers to acquire *NSCAS* to meet that *NSCAS gap* by the relevant NSCAS trigger date in accordance with clause 3.11.3(c)(4).

5.20.2 Publication of NSCAS methodology

(a) *AEMO* must develop and publish the NSCAS description and NSCAS quantity procedure in accordance with the *Rules consultation procedures*.

(b) *AEMO* may amend the NSCAS description and the NSCAS quantity procedure.

(c) *AEMO* must comply with the *Rules consultation procedures* when making or amending the NSCAS description or the NSCAS quantity procedure.

(d) *AEMO* may make minor and administrative amendments to the NSCAS description or the NSCAS quantity procedure without complying with the *Rules consultation procedures*.

5.20.3 Publication of NSCAS Report

AEMO must publish annually the *NSCAS Report* on its website for the following year which must include:

(a) an assessment that identifies any *NSCAS gap*;

(b) for any *NSCAS gap* identified in ~~sub~~paragraph (a) required to maintain *power system security* and reliability of *supply* of the *transmission network* in accordance with the *power system security standards* and the *reliability standard*, the relevant NSCAS trigger date;

(c) for any *NSCAS gap* identified in ~~sub~~paragraph (a) required to maintain *power system security* and reliability of *supply* of the *transmission network* in accordance with the *power system security standards* and the *reliability standard*, the relevant NSCAS tender date;

(c1) for any *NSCAS gap* identified in paragraph (a) required to address a *NSCAS need* described in paragraph (b) of that definition, the required date for the *NSCAS need* to be addressed (which must be within three years from the date of the report);

(c2) for any *NSCAS gap* identified in paragraph (a) required to address a *NSCAS need* described in paragraph (c) of that definition, the required date for the *NSCAS need* to be addressed (which must be within three years from the date of the report);

(d) a report on *NSCAS* acquired by *AEMO* under *ancillary services agreements* in the previous calendar year; and

(e) information on any other matter that *AEMO* considers relevant.

5.20.4 Inertia requirements methodology

(a) *AEMO* must develop and publish the *inertia requirements methodology* in accordance with the *Rules consultation procedures*.

(b) *AEMO* may amend the *inertia requirements methodology*.

(c) *AEMO* must comply with the *Rules consultation procedures* when making or amending the *inertia requirements methodology*.

(d) *AEMO* may make minor and administrative amendments to the *inertia requirements methodology* without complying with the *Rules consultation procedures*.

(d1) The *inertia requirements methodology* must provide for *AEMO* to take the following matters into account in determining the *system-wide inertia level*:

(1) the rate of change of *frequency* limit for the mainland following a *credible contingency event*, as specified in the *frequency operating standard*; and

(2) any other matters *AEMO* considers appropriate.

(d2) The *inertia requirements methodology* must describe how *AEMO* determines the likelihood of a *sub-network islanding risk*.

(e) The *inertia requirements methodology* determined by *AEMO* must provide for *AEMO* to take the following matters into account in determining the *secure inertia level*~~*secure operating level of inertia*~~:

(1) the capabilities and expected response times provided by *generating units* providing *market ancillary services* (other than the *regulating raise service* or *regulating lower service*) in the *inertia sub-network*;

(2) the maximum *load shedding* or *generation shedding* expected to occur on the occurrence of any *credible contingency event* affecting the *inertia sub-network* when the *inertia sub-network* is *islanded*;

(3) additional *inertia* needed to account for the possibility of a reduction in *inertia* if the *contingency event* that occurs is the loss or unavailability of a *synchronous generating unit*, *synchronous condenser* or any other *facility* or service that is material in determining *inertia requirements*;

(4) any *constraints* that could reasonably be applied to the *inertia sub-network* when *islanded* to achieve a *secure operating state* and any *unserved energy* that might result from the *constraints*; and

(5) any other matters as *AEMO* considers appropriate.

(f) The *inertia requirements methodology* must include a specification (***inertia network service specification***), which contains:

(1) a detailed description of each kind of *inertia network service*;

(2) the performance parameters and requirements which must be satisfied in order for a service to qualify as the relevant *inertia network service* and also when an *Inertia Service Provider* provides the relevant kind of *inertia network service*; and

(3) the process and requirements for *AEMO* to approve equipment under paragraph (g).

(g) For the purposes of paragraph (f), *AEMO* may, at the request of an *Inertia Service Provider*, approve equipment by means of which *inertia network services* are to be made available by, or to, the *Inertia Service Provider* where the equipment:

(1) is not a *synchronous production unit* or a *synchronous condenser*; and

(2) *AEMO* is satisfied the *inertia network services* provided by means of the equipment will contribute to the operation of the relevant *inertia sub-network* in a *satisfactory operating state* or *secure operating state*, in accordance with the circumstances described in clause 4.4A.3(b)(2) or (3), as applicable.

(h) An *Inertia Service Provider* making a request under paragraph (g) must give *AEMO*:

(1) details of the proposed equipment by means of which an *inertia network service* will be made available;

(2) information about how the *inertia network services* provided by means of the proposed equipment will contribute to the operation of the relevant *inertia sub-network* in a *satisfactory operating state* or *secure operating state* in accordance with the circumstances described in clause 4.4A.3(b)(2) or (3), as applicable; and

(3) any other information requested by *AEMO* in connection with the request.

(i) For the purposes of approving equipment in accordance with paragraph (g), *AEMO* may:

(1) give or withhold its approval under paragraph (g) in its discretion and subject to any conditions determined by *AEMO*;

(2) approve equipment of a specific type or a generic type; and

(3) approve equipment at the request of a particular *Inertia Service Provider* and determine that its approval also applies to the same type of equipment to be made available by, or to, another *Inertia Service Provider*,

provided that *AEMO* must have regard to the *inertia network service specification* in making its decision.

5.20.5 Publication of Inertia Report

(a) *AEMO* must publish annually by 1 December the *Inertia Report* on its website for the following *inertia year* which must include:

(1) the boundaries of the *inertia sub-networks* determined by *AEMO* under clause 5.20B.1; ~~and related *inertia requirements* determined by *AEMO* under rule 5.20B since the last *Inertia Report* and details of *AEMO*'s assessment of any *inertia shortfall* and *AEMO*'s forecast of any *inertia shortfall* arising at any time within a planning horizon of at least 5 years;~~

(2) a report on the *inertia requirements* determined by *AEMO* under clause 5.20B.2; ~~determined for each *inertia sub-network* together with the results of *AEMO*'s assessment under clause 5.20B.3;~~

(3) the assumptions, considerations and matters that *AEMO* has taken into account to determine the *inertia requirements*;

(4) the *binding inertia requirements*; and

(~~3~~5) information on any other matter that *AEMO* considers relevant.

5.20.6 Publication of system strength requirements methodologies

(a) *AEMO* must develop and publish the *system strength requirements methodology* in accordance with the *Rules consultation procedures*.

(b) *AEMO* may amend the *system strength requirements methodology*.

(c) *AEMO* must comply with the *Rules consultation procedures* when making or amending the *system strength requirements methodology*.

(d) *AEMO* may make minor and administrative amendments to the *system strength requirements methodology* without complying with the *Rules consultation procedures*.

(e) The *system strength requirements methodology* determined by *AEMO* must provide for *AEMO* to take the following matters into account in determining the *system strength requirements*:

(1) the combination of *three phase fault levels* at each *system strength node* in the *region* that could reasonably be considered to be sufficient for the *power system* to be in a *secure operating state*;

(2) the maximum *load shedding* or *generation shedding* expected to occur on the occurrence of any *credible contingency event* or *protected event* affecting the *region*;

(3) the stability of the *region* following any *credible contingency event* or *protected event*;

(4) the risk of *cascading outages* as a result of any *load shedding* or *generating system* or *market network service facility* tripping as a result of a *credible contingency event* or *protected event* in the *region*;

(5) additional contribution to the *three phase fault level* needed to account for the possibility of a reduction in the *three phase fault level* at a *system strength node* if the *contingency event* that occurs is the loss or unavailability of a *synchronous generating unit* or any other *facility* or service that is material in determining the *three phase fault level* at the *system strength node*;

(6) the stability of any equipment that is materially contributing to the *three phase fault level* or *inertia* within the *region*; and

(7) any other matters *AEMO* considers appropriate.

(f) The *system strength requirements methodology* determined by *AEMO* must:

(1) provide an overview of *system strength nodes* and the process to declare them;

(2) describe:

(i) how *AEMO* forecasts new *connections* and the information it takes into account;

(ii) how *AEMO* will determine the assumptions it will use about the size, type and operational profile of *facilities* or classes of *facilities* to be *connected* and their contribution to the matters taken into account in determining the *system strength requirements*; and

(iii) the modelling and analysis methodologies *AEMO* will use to determine *system strength nodes* and minimum *three phase fault levels* at the *system strength nodes* and the matters it will take into account;

(3) provide for *AEMO* to take the following matters into account in determining the *system strength requirements*:

(i) the *Integrated System Plan* and the *Electricity Statement of Opportunities*;

(ii) the matters in paragraphs (e)(1) to (7) for each year of the forecast period; and

(iii) any other matters *AEMO* considers appropriate; and

(4) provide a description of what is meant by stable *voltage* waveforms for the purposes of clause S5.1.14(b)(2) (in addition to that provided in clause S5.1.14(c)) including the matters that may be taken into account by *System Strength Service Providers* to assess, for the level and type

of *inverter based resources* projected by *AEMO* at *system strength nodes,* what may be required to achieve stable operation.

5.20.7 Publication of System Strength Report

AEMO must publish annually by 1 December the *System Strength Report* on its website for the following year which must include:

(a) a description of the *system strength requirements* determined by *AEMO* under rule 5.20C since the last *System Strength Report*;

(b) the *system strength requirements* determined for each *system strength node*;

(c) the system strength standard specification (as defined in clause S5.1.14(a)) applicable at each *system strength node* during the 12 months following publication of the *System Strength Report*;

(d) the assumptions used by *AEMO* to determine the *system strength requirements* including assumptions about the size, type and operational profile of *facilities* or classes of *facilities* to be *connected* and their contribution to the matters taken into account in determining the *system strength requirements*;

(e) information about new *system strength nodes* declared since the last *System Strength Report* and an indication of possible future *system strength nodes* and when *AEMO* considers the nodes may be declared; and

(f) information on any other matter that *AEMO* considers relevant.

5.20.8 Publication of Transition Plan for System Security

(a) *AEMO* must publish annually by 1 December the *Transition Plan for System Security* on its website.

(b) The purpose of the *Transition Plan for System Security* is to make available to *Market Participants* and other interested persons an analysis of:

(1) how *AEMO* is planning to maintain *power system security* through the transition to a low- or zero-emissions *power system*; and

(2) *AEMO's* current technical understanding of what is needed to achieve *power system security* in a low- or zero-emissions *power system* and the work *AEMO* is undertaking to improve this understanding and to specify the range of services that will be required in a low- or zero-emissions *power system*.

(c) The *Transition Plan for System Security* must include:

(1) an outline of *AEMO's* current understanding of *system security services* and any current or planned work towards refining the specifications for *system security services*;

(2) any operational metrics *AEMO* uses, or is developing, to manage *power system security*;

(3) a detailed description of *AEMO's* plan to manage *power system security* through the transition to a low- or zero-emissions *power system*, including the work *AEMO* is doing to address the challenges of transitioning to a low- or zero-emissions *power system*;

(4) the proposed number of *ancillary services agreements* that *AEMO* is likely to enter into for the following two year period in respect of the types of services referred to in clause 3.11.11(b)(1) and in clause 3.11.11(b)(2);

(5) information on how *AEMO* intends to move away from using *ancillary services agreements* for the type of *transitional services* described in clause 3.11.11(b)(1) to manage *power system security*;

(6) a description of known capabilities of any particular resources or equipment that could participate in managing *power system security*;

(7) the outcomes, actions and learnings from the trials conducted through *ancillary services agreements* procured for the types of *transitional services* referred to in clause 3.11.11(b)(2) and how the trials are contributing to maintaining and achieving *power system security*;

(8) the technical priorities *AEMO* seeks to investigate through *ancillary services agreements* procured for the types of *transitional services* referred to in clause 3.11.11(b)(2);

(9) any trends in the use of *directions*; and

(10) a copy of any written commentary provided by the *Reliability Panel* pursuant to paragraph (d) (whether or not the *Reliability Panel* has already published its response).

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5. Therefore, reporting on *transitional services* will not be included in the report after 1 December 2039.

(d) Within six months following the publication of the *Transition Plan for System Security*, the *Reliability Panel* may provide written commentary to *AEMO* in respect of the *Transition Plan for System Security*.

(e) When preparing the *Transition Plan for System Security*, *AEMO* must respond to any written commentary provided by the *Reliability Panel* under paragraph (d) in respect of the previous *Transition Plan for System Security*.

...

5.20B Inertia sub-networks and requirements

5.20B.1 Boundaries of inertia sub-networks

(a) For the purpose of determining the required levels of *inertia* in the *national grid*, the *connected transmission systems* forming part of the *national grid* are to be divided into *inertia sub-networks*.

(b) *AEMO* must determine the boundaries of *inertia sub-networks* and may from time to time adjust the boundaries, including adjustments that result in new *inertia sub-networks*.

(c) The boundaries of an *inertia sub-network* must be aligned with the boundaries of a *region* or wholly confined within a *region*.

(d) Subject to paragraph (c), in determining and adjusting the boundaries of *inertia sub-networks*, *AEMO* must take into account the following matters:

(1) synchronous *connections* between the proposed *inertia sub-network* and adjacent parts of the *national grid*; and

(2) ~~[Deleted]the likelihood of the proposed *inertia sub-network* being *islanded*; and~~

(3) the criticality and practicality of maintaining the proposed *inertia sub-network* in a *satisfactory operating state* if it is *islanded* and being able to return to a *secure operating state* while *islanded*.

(e) In determining and adjusting the boundaries of *inertia sub-networks*, *AEMO* must comply with the *Rules consultation procedures*.

(f) *AEMO* must publish the boundaries of the *inertia sub-networks* and any adjustments in the *Inertia Report*.

5.20B.2 Inertia requirements

~~(a) *AEMO* must from time to time determine the *inertia requirements* for *inertia sub-networks* applying the *inertia requirements methodology*. *AEMO* must make a determination under this paragraph:~~

~~(1) subject to subparagraph (2) and any other requirements under the *Rules*, for any *inertia sub-network*, no more than once in every 12 month period; and~~

~~(2) for each affected *inertia sub-network*, as soon as reasonably practical after becoming aware of a material change to the *power system* likely to affect the *inertia requirements* for the *inertia sub-network* where the timing, occurrence or impact of the change was unforeseen.~~

~~(b) The *inertia requirements* to be determined for each *inertia sub-network* are:,~~

~~(1) the *minimum threshold level of inertia*, being the minimum level of *inertia* required to operate the *inertia sub-network* in a *satisfactory operating state* when the *inertia sub-network* is *islanded*; and~~

~~(2) the *secure operating level of inertia*, being the minimum level of *inertia* required to operate the *inertia sub-network* in a *secure operating state* when the *inertia sub-network* is *islanded*.~~

~~(c) *AEMO* must *publish* the *inertia requirements* determined for each *inertia sub-network* together with the results of its assessment under clause 5.20B.3 in the *Inertia Report*.~~

(a) *AEMO* must, by 1 December each year, determine the *inertia requirements* by applying the *inertia requirements methodology*.

(b) The *inertia requirements* to be determined are *AEMO*'s forecast of the following matters for each of the following ten years (commencing 2 December):

(1) the minimum level of *inertia* required to continuously operate the *power system* (excluding the Tasmania *region*) in a *secure operating state* where no *inertia sub-network* is *islanded* (***system-wide inertia level***);

(2) for each *inertia sub-network*, the portion of the *system-wide inertia level* allocated to that *inertia sub-network*, as determined in accordance with paragraph (c) (***inertia sub-network allocation***);

(3) for each *inertia sub-network*, the minimum level of *inertia* required to operate that *inertia sub-network* in a *satisfactory operating state* when that *inertia sub-network* is *islanded* (***satisfactory inertia level***);

(4) for each *inertia sub-network*, the minimum level of *inertia* required to operate that *inertia sub-network* in a *secure operating state* when that *inertia sub-network* is *islanded* (***secure inertia level***); and

(5) for each *inertia sub-network*, the sub-network islanding risk, being:

(i) whether there is a risk of the *inertia sub-network* becoming *islanded*; and

(ii) whether there is, or is likely to be, insufficient *inertia* in the *inertia sub-network* if it became *islanded*,

as determined in accordance with paragraph (d) (***sub-network islanding risk***).

Inertia sub-network allocation

(c) For the purposes of paragraph (b)(2), the *inertia sub-network allocation* for each *inertia sub-network* must be based on:

(1) a balanced allocation of the *system-wide inertia level* across the *national grid* (excluding the Tasmania *region*); and

(2) any other matters *AEMO* considers appropriate,

provided that the sum of all portions allocated to all *inertia sub-networks* must not exceed the *system-wide inertia level*.

Sub-network islanding risk

(d) For the purposes of paragraph (b)(5), *AEMO* must take into account:

(1) the level of *inertia* typically provided in each *inertia sub-network* having regard to typical patterns of *dispatched generation* in *central dispatch*;

(2) over what time period and to what extent the *inertia* that is typically provided in the *inertia sub-network* is or is likely to be below the *secure inertia level*;

(3) the *inertia sub-network allocation* for that *inertia sub-network* and adjacent connected *inertia sub-networks*;

(4) the likelihood of the *inertia sub-network* becoming *islanded* on the occurrence of any *contingency event*; and

(5) any other matters that *AEMO* reasonably considers to be relevant in making its assessment.

Publishing inertia requirements

(e) *AEMO* must publish the *inertia requirements* in the *Inertia Report*.

(f) If *AEMO* becomes aware of a material change to the *power system* likely to affect the *inertia requirements*, where the timing, occurrence or impact of the change was unforeseen, *AEMO* must as soon as reasonably practicable, revise and publish its determination of the relevant forecast under paragraph (b).

Binding inertia requirements

(g) The *binding inertia requirements* are:

(1) the forecasted *inertia sub-network allocation* determined three years prior (that is, the *inertia sub-network allocation* specified in accordance with paragraph (b)(2) three years prior to the current *inertia year*) (***binding inertia sub-network allocation***);

(2) the forecasted *satisfactory inertia level* determined three years prior (that is, the *satisfactory inertia level* specified in accordance with paragraph (b)(3) three years prior to the current iner*tia year*) (***binding satisfactory inertia level***); and

(3) the forecasted *secure inertia level* determined three years prior (that is, the *secure inertia level* specified in accordance with paragraph (b)(4) three years prior to the current *inertia year*) (***binding secure inertia level***).

(h) If *AEMO* publishes a revision to one or more of the *inertia requirements* in accordance with paragraph (f) within three years of the commencement of the *inertia year* to which a *binding inertia requirement* relates, then the *Inertia Service Provider:*

(1) may make *inertia network services* available to meet the revised *inertia requirement*;

(2) is not required to make *inertia network services* available where the revised *inertia requirement* exceeds the *binding inertia requirement* for the relevant *inertia year*.

5.20B.3 ~~Inertia shortfalls~~[Deleted]

~~(a) *AEMO* must as soon as practicable following its determination of the *inertia requirements* for an *inertia sub-network* under clause 5.20B.2 assess:~~

~~(1) the level of *inertia* typically provided in the *inertia sub-network* having regard to typical patterns of *dispatched generation* in *central dispatch*;~~

~~(2) whether in *AEMO's* reasonable opinion, there is or is likely to be an *inertia shortfall* in the *inertia sub-network* and *AEMO's* forecast of the period over which the *inertia shortfall* will exist; and~~

~~(3) where *AEMO* has previously assessed that there was or was likely to be an *inertia shortfall*, whether in *AEMO's* reasonable opinion that *inertia shortfall* has been or will be remedied.~~

~~(b) In making its assessment under paragraph (a) for an *inertia sub-network*, *AEMO* must take into account:~~

~~(1) over what time period and to what extent the *inertia* that is typically provided in the *inertia sub-network* is or is likely to be below the *secure operating level of inertia*;~~

~~(2) the levels of *inertia* that are typically provided in adjacent *connected inertia sub-networks* and the likelihood of the *inertia sub-network* becoming *islanded*; and~~

~~(3) any other matters that *AEMO* reasonably considers to be relevant in making its assessment.~~

~~(c) If *AEMO* assesses that there is or is likely to be an *inertia shortfall* in any *inertia sub-network*, *AEMO* must *publish* and give to the *Inertia Service Provider* for the *inertia sub-network* a notice of that assessment that includes *AEMO's* specification of the date by which the *Inertia Service Provider* must ensure the availability of *inertia network services* in accordance with clause 5.20B.4(b), which must not be earlier than 12 months after the notice is *published* unless an earlier date is agreed with the *Inertia Service Provider*.~~

~~(d) If *AEMO* assesses that an *inertia shortfall* in an *inertia sub-network* has been or will be remedied, *AEMO* must *publish* and give to the *Inertia Service Provider* for the *inertia sub-network* a notice of that assessment that includes *AEMO's* specification of the date from which the obligation of the *Inertia Service Provider* under clause 5.20B.4(b) ceases, which must not be earlier than 12 months after the notice is *published* unless an earlier date is agreed with the *Inertia Service Provider*.~~

5.20B.4 Inertia Service Provider to make available inertia services

(a) The *Inertia Service Provider* for an *inertia sub-network* is:

(1) the *Transmission Network Service Provider* for the *inertia sub-network*; or

(2) if there is more than one *Transmission Network Service Provider* for the *inertia sub-network*, the *jurisdictional planning body* for the *participating jurisdiction* in which the *inertia sub-network* is located.

(a1) The *Inertia Service Provider* for each *inertia sub-network* must make *inertia network services* available in each *inertia year* in accordance with paragraph (a2) that when *enabled* will provide *inertia* to meet the *binding inertia sub-network allocation* for that *inertia sub-network* as adjusted for *inertia support activities*.

Note

The AEMC proposes this paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(a2) For the purposes of paragraph (a1), an *Inertia Service Provider* for an *inertia sub-network* must:

(1) use reasonable endeavours to make the *inertia network services* available by the commencement of the *inertia year* up to the *binding inertia sub-network allocation*;

(2) make a range and level of *inertia network services* available such that it is reasonably likely that *inertia network services* when *enabled* are continuously available, taking into account planned *outages* and the risk of unplanned *outages*; and

(3) ensure that the *inertia network services* when *enabled* provide *inertia* up to the *binding inertia sub-network allocation* for the *inertia year* (as adjusted for *inertia support activities* if applicable) are qualifying *inertia network services* as specified in paragraph (e).

(b) ~~If *AEMO* gives a notice under clause 5.20B.3(c) that *AEMO* has assessed that there is or is likely to be an *inertia shortfall* in an *inertia sub-*network~~If there is a *sub-network islanding risk* for an *inertia sub-network*, the relevant *Inertia Service Provider* ~~for the *inertia sub-network* must~~ use reasonable endeavours to make *inertia network services* available in accordance with paragraph (c) that when *enabled* will provide *inertia* to:

(1) the *binding secure inertia level* ~~*secure operating level of inertia*~~for the *inertia year*; or

(2) the *binding secure inertia level* ~~*secure operating level of inertia*~~ for the *inertia year* as adjusted for *inertia support activities*, but not less than the *binding satisfactory inertia level* ~~*minimum threshold level of inertia*~~ for the *inertia year* as adjusted for *inertia support activities*.

Note

This paragraph is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

~~(c)~~(c) For the purposes of paragraph (b), an *Inertia Service Provider* for an *inertia sub-network* must:

(1) **[Deleted]**~~use reasonable endeavours to make the *inertia network services* available by the date specified by *AEMO* in the notice under clause 5.20B.3(c);~~

(2) make a range and level of *inertia network services* available such that it is reasonably likely that *inertia network services* that provide the required level of *inertia* when *enabled* are continuously available, taking into account planned *outages* and the risk of unplanned *outages*;

(3) ensure that the *inertia network services* that when *enabled* provide *inertia* up to the *binding satisfactory inertia level* ~~*minimum threshold level of inertia*~~ for the relevant *inertia year* (as adjusted for *inertia support activities* if applicable) are qualifying *inertia network services* as specified in paragraph (d); and

(4) ensure that the *inertia network services* that when *enabled* provide *inertia* beyond the *binding satisfactory inertia level* ~~*minimum threshold level of inertia*~~ for the *inertia year* up to the *binding secure inertia level* ~~*secure operating level of inertia*~~for the *inertia year* (as adjusted for *inertia support activities* if applicable), are qualifying *inertia network services* as specified in paragraph ~~(e)~~(e).~~; and~~

(5) **[Deleted]**.~~maintain the availability of those *inertia network services* until the date the *Inertia Service Provider's* obligation ceases, as specified by *AEMO* under clause 5.20B.3(d).~~

(d) The *inertia network services* that qualify to provide *inertia* up to the *binding satisfactory inertia level* ~~*minimum threshold level of inertia*~~ are:

(1) *inertia network services* made available by the *Inertia Service Provider* investing in its *network* through the installation, commissioning and operation of:

(i) a *synchronous condenser*; or

(ii) other equipment approved by *AEMO* in accordance with clause 5.20.4(g); and

(2) *inertia network services* made available to the *Inertia Service Provider* by a *Registered Participant* and provided by means of:

(i) a *synchronous* ~~*generating*~~ *production unit* or a *synchronous condenser*; or

(ii) other equipment approved by *AEMO* in accordance with clause 5.20.4(g)),

in each case under an *inertia services agreement*.

~~(e)~~(e) The *inertia network services* that qualify to provide *inertia* beyond the *binding satisfactory inertia level* ~~*minimum threshold level of inertia*~~ up to the *binding* ~~*secure operating level of inertia*~~*secure inertia level* are:

(1) the *inertia network services* referred to in paragraph (d);

(2) *inertia network services* made available by the *Inertia Service Provider* investing in its *network* other than those referred to in paragraph (d); and

(3) *inertia network services* made available to the *Inertia Service Provider* by a *Registered Participant* under an *inertia services agreement* other than those referred to in paragraph (d).

(f) An *Inertia Service Provider* required to make *inertia network services* available under paragraph (a1) or (b) must make available the least cost option or combination of options that will satisfy its obligation ~~within the time referred to~~ in subparagraph (a2)(1) or (c)(~~1~~2) (as applicable)~~ and for so long as the obligation to make the *inertia network services* available continues~~.

(g) An *Inertia Service Provider* required to make *inertia network services* available under paragraph (a1) or (b) must prepare and *publish* information to enable potential providers of *inertia network services* to develop *non-network options* for consideration by the *Inertia Service Provider* including:

(1) a description of the requirement for *inertia network services* including timing;

(2) the technical characteristics that a *non-network option* would be required to deliver, such as the level of *inertia*, location, availability, response time and operating profile;

(3) a summary of potential options to make the *inertia network services* available identified by the *Inertia Service Provider*, including *network options* and *non-network options*; and

(4) information to assist providers of *non-network options* wishing to present proposals to the *Inertia Service Provider* including details of how to submit a proposal for consideration.

(h) An *Inertia Service Provider* must provide information in its *Transmission Annual Planning Report* about:

(1) the activities undertaken to satisfy its obligation to make *inertia network services* available under paragraph (a1) and (b); and

(2) *inertia support activities* undertaken to reduce the *binding inertia requirements* ~~*minimum threshold level of inertia* or the *secure operating level of inertia*~~.

(i) If the *Inertia Service Provider* proposes *network* investment for either of the purposes specified in paragraph (h), the *Inertia Service Provider* must provide the following information in its next *Transmission Annual Planning Report*:

(1) the date when the proposed relevant *network* investment became or will become operational;

(2) the purpose of the proposed relevant *network* investment;

(3) the total cost of the proposed relevant *network* investment; and

(4) the indicative total cost of any *non-network options* considered.

(j) An *Inertia Service Provider* may include the cost of *inertia service payments* in the calculation of *network support payments* in accordance with Chapter 6A.

5.20B.5 Inertia support activities

(a) *AEMO* may, at the request of an *Inertia Service Provider*, approve activities (*inertia support activities*) under this clause and agree corresponding adjustments to:

(1) the *binding satisfactory inertia level* or the *binding secure inertia level* for the purposes of clause 4.4A.3(b)(2) or (3) as applicable;

(2) the *binding inertia sub-network allocation* for the purposes of clause 5.20B.4(a1); or

(3) the *binding satisfactory inertia level* ~~*minimum threshold level of inertia*~~ or the *binding secure inertia level* ~~*secure operating level of inertia*~~ for the purposes of clause 5.20B.4(b)

where the activities:

(~~1~~4) are to be undertaken by the *Inertia Service Provider* or provided as a service to the *Inertia Service Provider*;

(~~2~~5) are not *inertia network services*; and

(~~3~~6) in the case of:

(i) a requested adjustment to the *binding inertia sub-network allocation*, *AEMO* is satisfied the activities will contribute to the operation of the *power system* (excluding the Tasmania *region*) in a *secure operating state* when no *inertia sub-network* is *islanded*; or

(ii) a requested adjustment to the *binding satisfactory inertia level* or the *binding secure inertia level*, *AEMO* is satisfied the activities will contribute to the operation of the *inertia sub-network* in a *satisfactory operating state* or *secure operating state* in the circumstances described in clause 4.4A.3(b)(2) and (3)~~4.4.4(a) or (b)~~ as applicable.

Note

If approved by *AEMO* under paragraph (a), *inertia support activities* may include installing or contracting for the provision of *frequency* control services, installing emergency protection schemes or contracting with *Generators* or *Integrated Resource Providers* in relation to the operation of their ~~*generating*~~ *production units* in specified conditions.

(b) An adjustment to one or more of the *binding inertia requirements* ~~*minimum threshold level of inertia* or the *secure operating level of inertia*~~ for *inertia support activities* will apply to the level determined by *AEMO* and only where and to the extent that the approved activity is *enabled* and performing in accordance with the conditions of any approval determined by *AEMO*.

(c) An *Inertia Service Provider* making a request under paragraph (a) must give *AEMO*:

(1) details of the proposed *inertia support activity* and the other information about the *inertia support activity* consistent with the requirements of clause 5.20B.6(c);

(2) the proposed technical specification and performance standards and the information about arrangements to *enable* the *inertia support activity* consistent with the requirements of clause 5.20B.6(d);

(3) information about how the *inertia support activity* will, in the case of:

(i) a requested adjustment to the *binding inertia sub-network allocation*, contribute to the operation of the *inertia sub-network* in a *secure operating state*; or

(ii) a requested adjustment to the *binding satisfactory inertia level* or the *binding secure inertia level*, contribute to operation of the *inertia sub-network* in a *satisfactory operating state* or *secure operating state* in the circumstances described in clause 4.4A.3(b)(2) and (3) ~~4.4.4(a) or (b)~~ as applicable;

(4) the *Inertia Service Provider's* proposal for calculating adjustments to be made and the times they will apply; and

(5) any other information requested by *AEMO* in connection with the request.

(d) *AEMO* may give or withhold its approval under this clause in its discretion and subject to any conditions determined by *AEMO*.

(e) The technical specification, performance standards and information referred to in paragraph (c)(2) and any change to them must be approved by *AEMO*.

(f) An *Inertia Service Provider* must obtain *AEMO's* approval under paragraph (e) before any change to the technical specification, performance standards or arrangements to give instructions that apply to an *inertia support activity* comes into effect.

Note

This paragraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

5.20B.6 Inertia network services information and approvals

(a) An *Inertia Service Provider* required to make *inertia network services* available under clause 5.20B.4(a1) or clause 5.20B.4(b) must prepare and give to *AEMO* and keep up to date, a schedule setting out ~~:~~

~~(1)~~ the *inertia network services* made available by the *Inertia Service Provider* for the *inertia sub-network*~~; and~~.

~~(2) the *Inertia Service Provider's* proposed order of priority for the *inertia network services* to be *enabled*.~~

(b) Where the *Inertia Service Provider* procures *inertia network services* from a *Generator* or *Integrated Resource Provider* provided by means of a *synchronous generating unit* under an *inertia services agreement*, the *Inertia Service Provider* must register the *generating unit* with *AEMO* as an *inertia* ~~*generating*~~ *unit* and specify that the *generating unit* may be periodically used to provide *inertia network services* and will not be eligible to set *spot prices* when *constrained on* to provide *inertia* in accordance with clause 3.9.7(c).

Note

This paragraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(b1) Where the *Inertia Service Provider* procures *inertia network services* from an *Integrated Resource Provider* provided by means of a *bidirectional unit* under an *inertia services agreement*, the *Inertia Service Provider* must register the *bidirectional unit* with *AEMO* as an *inertia unit* and specify that the *bidirectional unit* may be periodically used to provide *inertia network services* and will not be eligible to set *spot prices* when *constrained on* to provide *inertia* in accordance with clause 3.9.7(c).

(b2) An *Inertia Service Provider* must establish arrangements for each *inertia network service* it makes available to *AEMO* under the *Rules*, including under any relevant *inertia services agreement*, to ensure:

(1) that *inertia network service* is capable of being *enabled* by *AEMO* under clause 4.4A.1 on and from 2 December 2025; and

(2) that *inertia network service* is only capable of being *enabled* by *AEMO*, unless otherwise agreed by *AEMO*.

Note

Clause 4.4A.1 commences on 2 December 2025.

(c) An *Inertia Service Provider* required to make *inertia network services* available under clause 5.20B.4(a1) or clause 5.20B.4(b) must give to *AEMO* and keep up to date the following details for each *inertia network service*:

(1) a description of the *inertia network service*, including:

(i) the nature of the *inertia network service*;

(ii) the *inertia unit* or other *facilities* used to provide the *inertia network service*;

(iii) the purpose for which the *inertia network service* is being provided;

(iv) the location in the *transmission network* or *distribution network* of the *facilities* used to provide the *inertia network service*;

(v) the quantity of *inertia* to be provided when the *inertia network service* is *enabled* and;

(vi) any other information requested by *AEMO* in connection with the *inertia network service*;

(2) information about the availability of the *inertia network service*, including:

(i) the times when, and the period over which, the *inertia network service* will be available to provide *inertia*; ~~and~~

(ii) any possible restrictions on the availability of the *inertia network service*; and

(iii) the costs to *enable* the *inertia network service*.

(d) An *Inertia Service Provider* required to make *inertia network services* available under clause 5.20B.4(a1) or clause 5.20B.4(b) must prepare and submit to *AEMO* for approval under paragraph (e) the following details for each *inertia network service*:

(1) the technical specification and performance standards for the *inertia network service*; and

(2) the arrangements necessary for *AEMO* to give instructions to *enable* or cease the provision of the *inertia network service* including:

(i) the period of any notice that has to be given to the provider of the *inertia network service* for it to be *enabled*;

(ii) the response time to any instruction for the *inertia network service* to be *enabled* or to cease being provided; and

(iii) communication protocols between it, *AEMO* and the *Registered Participants* that provide *inertia network services*.

(e) The technical specification performance standards and arrangements necessary for *AEMO* to give the instructions referred to in paragraph (d) and any change to them must be consistent with the *Rules* and approved by *AEMO*.

(f) An *Inertia Service Provider* must ensure that *AEMO's* approval is obtained under paragraph (e) before the *inertia network service* is first made available and in the case of a change, before the change comes into effect.

Note

This clause is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(g) *AEMO* must use reasonable endeavours to respond to the *Inertia Service Provider* within 20 *business days* following the receipt of a request for approval under paragraph (e) stating whether it gives its approval.

(h) If *AEMO* does not approve the matters in a request for approval under paragraph (e):

(1) *AEMO* must tell the *Inertia Service Provider* its reasons for withholding approval and may advise the *Inertia Service Provider* of the changes *AEMO* requires to be made; and

(2) the *Inertia Service Provider* must amend its request to address the matters identified by *AEMO* and submit to *AEMO* a new request for approval.

5.20C System strength requirements

5.20C.1 Declaring system strength requirements

(a) *AEMO* may from time to time declare *system strength nodes*, being locations on the *transmission network* of a *System Strength System Provider* at which:

(1) in relation to *AEMO*, clauses 4.2.6(g)~~, 4.4.5(a)~~ and 4.6.1(b) and rule 4.4A apply; and

(2) in relation to a *System Strength Service Provider* for a *system strength node*, clause S5.1.14 applies.

(b) *AEMO* must, by 1 December each year, determine the *system strength requirements* for each *system strength node* by applying~~. In determining system strength requirements, AEMO must apply~~ the *system strength requirements methodology*.

(c) The *system strength requirements* to be determined for a *system strength node* are:

(1) the minimum *three phase fault level* for the *system strength node* applicable for the purposes of clauses 4.2.6(g), 4.4A.3(b)(4) ~~4.4.5(a)~~ and 4.6.1(b) for the following year (commencing 2 December); and

(2) *AEMO's* forecast of the following matters for each of the following ten years (commencing 2 December):

(i) the minimum *three phase fault level* applicable at the *system strength node* for the purposes of clause S5.1.14(b)(1); and

(ii) the level and type of *inverter based resources* and *market network service facilities* projected by *AEMO* for the *system strength node* for the purposes of clause S5.1.14(b)(2).

(d) *AEMO* must publish its declaration of *system strength nodes* under paragraph (a) and the *system strength requirements* determined for each *system strength node* in the *System Strength Report*.

(e) If *AEMO* becomes aware of a material change to the *power system* likely to affect the *system strength requirements* for a *system strength node*, where the timing, occurrence or impact of the change was unforeseen, *AEMO* must as soon as reasonably practicable, revise and publish its determination of the minimum *three phase fault level* under paragraph (c)(1) and the forecast under paragraph (c)(2) for the *system strength node.*

(f) If *AEMO* publishes a revision to one or more of the *system strength requirements* in accordance with paragraph (e) within three years of the commencement of the relevant year to which a *binding system strength requirement* relates, then the *System Strength Service Provider:*

(1) may make *system strength services* available to meet the revised *system strength requirement*;

(2) is not required to make *system strength services* available where the revised *system strength requirement* exceeds the *binding system strength requirement* for the relevant year.

5.20C.2 [Deleted]

5.20C.3 System Strength Service Provider

(a) The *System Strength Service Provider* for a *region* is:

(1) the *Transmission Network Service Provider* for the *region*; or

(1) if there is more than one *Transmission Network Service Provider* for a *region*:

(i) the *jurisdictional planning body* for the *participating jurisdiction* in which the *region* is located, if that entity is also a *Transmission Network Service Provider*; or

(ii) otherwise, the *Co-ordinating Transmission Network Service Provider* for the *region*.

(a1) In this clause, a *non-network option* includes a means by which an *identified need* can be fully or partly addressed by *network* expenditure which is undertaken by a *Network Service Provider* other than the *System Strength Service Provider* or by any other person.

(b) [**Deleted**]

(c) [**Deleted**]

(d) [**Deleted**]

(e) A *System Strength Service Provider* must prepare and *publish* information to enable potential providers of *system strength services* to develop *non-network options* for consideration by the *System Strength Service Provider* including:

(1) a description of the requirement for *system strength services* including timing;

(2) the technical characteristics that a *non-network option* would be required to deliver, such as the contribution to the *three phase fault level*, location, availability, response time and operating profile;

(3) a summary of potential options to make the *system strength services* available identified by the *System Strength Service Provider*, including *network options* and *non-network options*; and

(4) information to assist providers of *non-network options* wishing to present proposals to the *System Strength Service Provider* including details of how to submit a proposal for consideration.

(f) A *System Strength Service Provider* must provide information in its *Transmission Annual Planning Report* about the *system strength nodes* for which it is the *System Strength Service Provider* including:

(1) the activities undertaken or planned to satisfy its obligations under clause S5.1.14 in relation to each *system strength node*;

(2) modelling methodologies, assumptions and results used by the *System Strength Service Provider* in planning the activities referred to in subparagraph (1); and

(3) the *System Strength Service Provider's* forecast of the *available fault level* at each *system strength node* over the period for which *AEMO* has determined *system strength requirements*, where applicable determined in a manner consistent with the methodology in the *system strength impact assessment guidelines*.

(f1) A *System Strength Service Provider* must consult with other *Network Service Providers* whose *networks* are *connected* to the *transmission system* of the *System Strength Service Provider* when preparing the information referred to in paragraph (f).

(g) If the *System Strength Service Provider* proposes *network* investment for the purpose specified in paragraph (f), the *System Strength Service Provider* must provide the following information in its next *Transmission Annual Planning Report*:

(1) the date when the proposed relevant *network* investment became or will become operational;

(2) the purpose of the proposed relevant *network* investment;

(3) the total cost of the proposed relevant *network* investment;

(4) the indicative total costs of any *non-network options* considered.

(h) [**Deleted**]

5.20C.4 System strength services information and approvals

(a) A *System Strength Service Provider* who makes *system strength services* available for the purposes of clause S5.1.14 must prepare and give to *AEMO* and keep up to date, a schedule setting out ~~:~~

~~(1)~~ the *system strength services* available to contribute to the *three phase fault level* at each *system strength node*~~; and~~.

~~(2) the *System Strength Service Provider*'s proposed order of priority for the *system strength services* to be *enabled*.~~

(b) Where the *System Strength Service Provider* procures *system strength services* from a *Generator* or *Integrated Resource Provider* provided by means of a *generating unit* under a *system strength services agreement*, the *System Strength Service Provider* must register the *generating unit* with *AEMO* as a *system strength production unit* and specify that the *generating unit* may be periodically used to provide *system strength services* and will not be eligible to set *spot prices* when *constrained on* to provide *system strength services* in accordance with clause 3.9.7(c).

Note

This paragraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(b1) Where the *System Strength Service Provider* procures *system strength services* from an *Integrated Resource Provider* provided by means of a *bidirectional unit* under a *system strength services agreement*, the *System Strength Service Provider* must register the *bidirectional unit* with *AEMO* as a *system strength production unit* and specify that the *bidirectional unit* may be periodically used to provide *system strength services* and will not be eligible to set *spot prices* when *constrained on* to provide *system strength services* in accordance with clause 3.9.7(c).

(b2) A *System Strength Service Provider* must establish arrangements for each *system strength service* it makes available to *AEMO* under the *Rules*, including under any relevant *system strength services agreement*, to ensure:

(1) that *system strength service* is capable of being *enabled* by *AEMO* under clause 4.4A.1 on and from 2 December 2025; and

(2) that *system strength service* is only capable of being *enabled* by *AEMO*, unless otherwise agreed by *AEMO*.

Note

Clause 4.4A.1 commences on 2 December 2025.

(c) A *System Strength Service Provider* must give to *AEMO* and keep up to date the following details for each *system strength service* it makes available to *AEMO* under the *Rules*:

(1) a description of the *system strength service*, including:

(i) the nature of the *system strength service*;

(ii) the *system strength production unit* or other *facilities* used to provide the *system strength service*;

(iii) the purpose for which the *system strength service* is being provided;

(iv) the location in the *transmission network* or *distribution network* of the *facilities* used to provide the *system strength service*;

(v) the contribution to the *three phase fault level* at each relevant *system strength node* and the *facility's connection point* when the *system strength service* is *enabled*; and

(vi) any other information (including models) requested by *AEMO* to assess the contribution of the *system strength service* referred to in subparagraph (v).

(2) information about the availability of the *system strength service*, including:

(i) the times when, and the period over which, the *system strength service* will be available to contribute to the *three phase fault level* at each relevant *system strength node*; ~~and~~

(ii) any possible restrictions on the availability of the *system strength service*;~~.~~ and

(iii) costs to *enable* the *system strength service*.

(d) A *System Strength Service Provider* must prepare and submit to *AEMO*, for approval under paragraph (e), the following details for each *system strength service* it makes available to *AEMO* under the *Rules*:

(1) the technical specification and performance standards for the *system strength service*; and

(2) the arrangements necessary for *AEMO* to give instructions to *enable* or cease the provision of the *system strength service* including:

(i) the period of any notice that has to be given to the provider of the *system strength service* for it to be *enabled*;

(ii) the response time to any instruction for the *system strength service* to be *enabled* or to cease being provided; and

(iii) communication protocols between it, *AEMO* and the *Registered Participants* or other persons that provide *system strength services*.

(e) The arrangements necessary for *AEMO* to give the instructions referred to in paragraph (d) and any change to them must be consistent with the *Rules* and approved by *AEMO*.

(f) A *System Strength Service Provider* must ensure that *AEMO*'s approval is obtained under paragraph (e) before the *system strength service* is first made available and in the case of a change, before the change comes into effect.

Note

This paragraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(g) *AEMO* must use reasonable endeavours to respond to the *System Strength Service Provider* within 20 *business days* following the receipt of a request for approval under paragraph (e) stating whether it gives its approval.

(h) If *AEMO* does not approve the matters in a request for approval under paragraph (e):

(1) *AEMO* must tell the *System Strength Service Provider* its reasons for withholding approval and may advise the *System Strength Service Provider* of the changes *AEMO* requires to be made; and

(2) the *System Strength Service Provider* must amend its request to address the matters identified by *AEMO* and submit to *AEMO* a new request for approval.

CHAPTER 6A

6A.2.3 Guidelines

(a) The *AER*:

(1) must make and *publish* the *Shared Asset Guidelines*, the *Capital Expenditure Incentive Guidelines*, the *Expenditure Forecast Assessment Guidelines*, the *Transmission Confidentiality Guidelines*, the *Cost Allocation Guidelines*, the *information guidelines* and the *pricing methodology guidelines* in accordance with the *Rules*; and

(2) may, in accordance with the *transmission consultation procedures*, make and publish guidelines as to any other matters relevant to this Chapter.

(b) A guideline may relate to a specified *Transmission Network Service Provider* or *Transmission Network Service Providers* of a specified class.

(c) Except as otherwise provided in this Chapter, a guideline is not mandatory (and so does not bind the *AER* or anyone else) but, if the *AER* makes a *transmission determination* that is not in accordance with the guideline, the *AER* must state, in its reasons for the *transmission determination*, the reasons for departing from the guideline.

(d) If a guideline indicates that there may be a change of regulatory approach in future *transmission determinations*, the guideline should also (if practicable) indicate how transitional issues are to be dealt with.

(e) Subject to paragraph (f), the *AER* may, from time to time and in accordance with the *transmission consultation procedures*, amend or replace a guideline.

(f) The *AER* may make administrative or minor amendments to any guideline without complying with the *transmission consultation procedures*.

(g) This clause 6A.2.3 does not apply to the *Transmission Ring-Fencing Guidelines* or the *system security network support payment guidelines*.

…

6A.6.6 Forecast operating expenditure

(a) A *Revenue Proposal* must include the total forecast operating expenditure for the relevant *regulatory control period* which the *Transmission Network Service Provider* considers is required in order to do each of the following (the *operating expenditure objectives*):

(1) meet or manage the expected demand for *prescribed transmission services* over that period;

(2) comply with all applicable *regulatory obligations or requirements* associated with the provision of *prescribed transmission services*;

(3) to the extent that there is no applicable *regulatory obligation or requirement* in relation to:

(i) the quality, reliability or security of supply of *prescribed transmission services*; or

(ii) the reliability or security of the *transmission system* through the supply of *prescribed transmission services*,

to the relevant extent:

(iii) maintain the quality, reliability and security of supply of *prescribed transmission services*; and

(iv) maintain the reliability and security of the *transmission system* through the supply of *prescribed transmission services*;

(4) maintain the safety of the *transmission system* through the supply of *prescribed transmission services*; and

(5) contribute to achieving *emissions reduction targets* through the supply of *prescribed transmission services*.

(b) The forecast of required operating expenditure of a *Transmission Network Service Provider* that is included in a *Revenue Proposal* must:

(1) comply with the requirements of any relevant *regulatory information instrument*;

(2) be for expenditure that is properly allocated to *prescribed transmission services* in accordance with the principles and policies set out in the *Cost Allocation Methodology* for the *Transmission Network Service Provider*; and

(3) include both:

(i) the total of the forecast operating expenditure for the relevant *regulatory control period*; and

(ii) the forecast operating expenditure for each *regulatory year* of the relevant *regulatory control period*.

(c) Subject to paragraph (c1), the *AER* must accept the forecast of required operating expenditure of a *Transmission Network Service Provider* that is included in a *Revenue Proposal* if the *AER* is satisfied that the total of the forecast operating expenditure for the *regulatory control period* reasonably reflects each of the following (the *operating expenditure criteria*):

(1) the efficient costs of achieving the *operating expenditure objectives*;

(2) the costs that a prudent operator would require to achieve the *operating expenditure objectives*; and

(3) a realistic expectation of the demand forecast, cost inputs and other relevant inputs required to achieve the *operating expenditure objectives*.

(c1) If:

(1) a *Transmission Network Service Provider* made *network support payments* in accordance with a relevant agreement for *network* support services in the previous *regulatory control period*; and

(2) the *Transmission Network Service Provider* must continue to make *network support payments* to fulfil obligations under the relevant agreement for *network* support services in the relevant *regulatory control period*,

the *AER* must accept the forecast of required operating expenditure of the *Transmission Network Service Provider* included in a *Revenue Proposal* in relation to the remainder of costs required to meet obligations under the relevant agreement for *network* support services in the relevant *regulatory control period*.

(d) Subject to paragraph (c1), if the *AER* is not satisfied as referred to in paragraph (c), it must not accept the forecast of required operating expenditure of a *Transmission Network Service Provider* that is included in a *Revenue Proposal*.

(e) In deciding whether or not the *AER* is satisfied as referred to in paragraph (c), the *AER* must have regard to the following (the *operating expenditure* factors):

(1) **[Deleted]**

(2) **[Deleted]**

(3) **[Deleted]**

(4) the most recent *annual benchmarking report* that has been published under rule 6A.31 and the benchmark operating expenditure that would be incurred by an efficient *Transmission Network Service Provider* over the relevant *regulatory control period*;

(5) the actual and expected operating expenditure of the *Transmission Network Service Provider* during any preceding *regulatory control periods*;

(5A) the extent to which the operating expenditure forecast includes expenditure to address the concerns of electricity consumers as identified by the *Transmission Network Service Provider* in the course of its engagement with electricity consumers;

(6) the relative prices of operating and capital inputs;

(7) the substitution possibilities between operating and capital expenditure;

(8) whether the operating expenditure forecast is consistent with any incentive scheme or schemes that apply to the *Transmission Network Service Provider* under clauses 6A.6.5, 6A.7.4, 6A.7.5 or 6A.7.6;

(9) the extent the operating expenditure forecast is referable to arrangements with a person other than the *Transmission Network Service Provider* that, in the opinion of the *AER*, do not reflect arm's length terms;

(10) whether the operating expenditure forecast includes an amount relating to a project that should more appropriately be included as a *contingent project* under clause 6A.8.1(b);

(11) the most recent *Integrated System Plan* and any submissions made by *AEMO*, in accordance with the *Rules*, on the forecast of the

Transmission Network Service Provider's required operating expenditure;

(12) the extent to which the *Transmission Network Service Provider* has considered and made provision for efficient and prudent *non-network options*;

(13) any relevant *project assessment conclusions report* required under clauses 5.16.4 or 5.16A.4; ~~and~~

(13a) the extent to which the operating expenditure forecast includes expenditure that was subject to a determination by the *AER* under clause 6A.6.6A; and

(14) any other factor the *AER* considers relevant and which the *AER* has notified the *Transmission Network Service Provider* in writing, prior to the submission of its revised *Revenue Proposal* under clause 6A.12.3, is an *operating expenditure factor*.

(f) **[Deleted]**

6A.6.6A AER power to make advance determination with regard to future operating expenditure

(a) The *AER* may, on application by a *Transmission Network Service Provider*, make a determination that expenditure for a proposed *system security network support payment*, or a methodology for such payment, specified in the determination, will be consistent with:

(1) the *operating expenditure objectives*;

(2) the *operating expenditure criteria*;

(3) the *operating expenditure factors*; and

(4) the factors in clause 6A.7.2(i) relevant to a *system security network support payment.*

(b) An application submitted by a *Transmission Network Service Provider* under paragraph (a) must comply with any relevant requirements in the *system security network support payment guidelines.*

(c) The *AER* may (but is not required to) consult in a manner it considers appropriate on the application submitted under paragraph (a) before making a determination.

(d) A determination made by the *AER* under paragraph (a) must be consistent with the *system security network support payment guidelines*.

(e) The *AER* must make and publish, and may amend, guidelines (*system security network support payment guidelines*) that set out:

(1) the information to be included in an application submitted under paragraph (a);

(2) any eligibility criteria or thresholds that will apply for *system security network support payments* before the *AER* will accept an application for under paragraph (a);

(3) the process and timeframes for the *AER* to make its determination under paragraph (a); and

(4) any other matters the *AER* considers relevant.

(f) The *transmission consultation procedures* do not apply to the making or amendment of the *system security network support payment guidelines*.

6A.7.2 Network support pass through

(a) This clause applies where a *network support event* occurs with respect to a *regulatory year* ('the **previous *regulatory year***').

(b) If a *network support event* occurs, a *Transmission Network Service Provider* must seek a determination by the *AER* to pass through to *Transmission Network Users* a *network support pass through amount*.

(c) Where a *Transmission Network Service Provider* seeks a determination as referred to in paragraph (b), the provider must, within 60 *business days* of the end of the previous *regulatory year*, submit to the *AER* a written statement which specifies:

(1) the details of the *network support event* including whether the event was a *negative network support event* or a *positive network support event*;

(2) the amount that the provider proposes should be passed through to *Transmission Network Users* in the *regulatory year* following the previous *regulatory year* as a result of the *network support event*;

(3) except to the extent subparagraph (4) applies, evidence:

(i) of the actual increase in the amount of *network support payments*, including certification by an independent and appropriately qualified expert; and

(ii) that such amounts occur solely as a consequence of the positive *network support event*; and

~~(4)~~(4) for a *network support event* related to a *system security network support payment*, evidence:

(i) of the actual costs of *system security network support payments*, irrespective of whether that resulted in a *negative network support event* or a *positive network support event*, including certification by an independent and appropriately qualified expert; and

(ii) for a *positive network support event*, that such amounts occur solely as a consequence of the *positive network support event*; and

(5) such other information as may be required pursuant to ~~the~~ any relevant *regulatory information instrument*.

(d) If the *AER* determines that a *positive network support event* has occurred in respect of a statement under paragraph (c), the *AER* must determine the *network support pass through amount*, taking into account the matters referred to in paragraph (i).

(e) If the *AER* does not make the determination referred to in paragraph (d) within 60 *business days* from the date it receives the *Transmission Network Service Provider's* statement and accompanying evidence under paragraph (c), then, on the expiry of that period, the *AER* is taken to have determined that the amount as proposed in the *Transmission Network Service Provider's* statement under paragraph (c) is the *network support pass through amount*.

(f) If a *negative network support event* occurs (whether or not the occurrence of that event is notified by the provider to the *AER* under paragraph (c)) and the *AER* determines to impose a requirement on the *Transmission Network Service Provider* in relation to that *negative network support event*, the *AER* must determine the *network support pass through amount* taking into account the matters referred to in paragraph (i).

(g) A *Transmission Network Service Provider* must provide the *AER* with such information as the *AER* requires for the purpose of making a determination under paragraph (f) within the time specified by the *AER* in a notice provided to the provider by the *AER* for that purpose.

Consultation

(h) Before making a determination under paragraph (d) or (f), the *AER* may consult with the relevant *Transmission Network Service Provider* and such other persons as the *AER* considers appropriate, on any matters arising out of the relevant *network support event* as the *AER* considers appropriate.

Relevant factors

(i) In making a determination under paragraph (d) or (f), the *AER* must take into account:

(1) the matters and proposals set out in any statement given to the *AER* by the *Transmission Network Service Provider* under paragraph (c);

(2) except to the extent subparagraph (3a) applies, in the case of a *positive network support event*, the increase in costs in the provision of *prescribed transmission services* that the provider has incurred in the preceding *regulatory year* as a result of the *positive network support event*;

(3) except to the extent subparagraph (3a) applies, in the case of a *positive network support event*, the efficiency of the *Transmission Network Service Provider's* decisions and actions in relation to the risk of the event, including whether the provider has failed to take any action that could reasonably be taken to reduce the magnitude of the *positive network support event* and whether the provider has taken or omitted to take any action where such action or omission has increased the magnitude of the amount in respect of that event;

(3a) in the case of a *network support event* to which a *system security network support payment* relates (for both a *negative network support event* and a *positive network support event*):

(i) the total costs for *system security network support payments* the *Transmission Network Service Provider* incurred in the preceding *regulatory year*;

(ii) the efficiency of the *Transmission Network Service Provider's* decisions and actions in relation to the risk of the event, including whether the provider has failed to take any action that could reasonably be taken to reduce the magnitude of the *system security network support payments* and whether the provider has taken, or omitted to take, any action where such action or omission has increased the magnitude of the amount in respect of that event; and

(iii) if applicable, a determination made by the *AER* under clause 6A.6.6A;

(4) the time cost of money based on the *allowed rate of return* for the provider for the relevant *regulatory control period*;

(5) the need to ensure that the provider only recovers any actual increment in costs under this paragraph (i) to the extent that such increment is solely as a consequence of a *network support event*; and

(6) any other factors the *AER* considers relevant.

…

6A.7.3 Cost pass through

(a1) Any of the following is a *pass through event* for a *transmission determination*:

(1) a *regulatory change event*;

(2) a *service standard event*;

(3) a *tax change event*;

(4) an *insurance event*; and

(5) any other event specified in a *transmission determination* as a *pass through event* for the determination.~~; and~~

~~(6) an *inertia shortfall event*;~~

~~Note~~

~~This paragraph (6) does not apply in Victoria (see clause 5.20B.4(a)).~~

(a) If a *positive change event* occurs, a *Transmission Network Service Provider* may seek the approval of the *AER* to pass through to *Transmission Network Users* a *positive pass through amount*.

(b) If a *negative change event* occurs, the *AER* may require the *Transmission Network Service Provider* to pass through to *Transmission Network Users* a *negative pass through amount* as determined by the *AER* under paragraph (g).

Part J Prescribed Transmission Services - Regulation of Pricing

6A.22 Terms used in Part J

6A.22.1 Aggregate annual revenue requirement (AARR)

For the purposes of this Part J, the *aggregate annual revenue requirement* (*AARR*) for *prescribed transmission services* provided by a *Transmission Network Service Provider*, is the *maximum allowed revenue* referred to in clause 6A.3.1 adjusted:

(1) in accordance with clause 6A.3.2;

(2) by subtracting:

(i) the operating and maintenance costs expected to be incurred in the provision of *prescribed common transmission services*; and

(ii) ~~expected *system strength service payments*; and~~ the *network support payment allowance* for a *regulatory year* for the *Transmission Network Service Provider* that relates to *system security network support payments*; and

(iii) any adjustments under clause 6A.7.2 that relate to a reconciliation in a previous *regulatory year* of expected *system security network support payments* with actual *system security network support payments*;

(3) by any allocation as agreed between *Transmission Network Service Providers* in accordance with clause 6A.29.3.

6A.22.2 Annual service revenue requirement (ASRR)

For the purposes of this Part J, the *annual service revenue requirement* (*ASRR*) for a *Transmission Network Service Provider* is the portion of the *AARR* for *prescribed transmission services* provided by a *Transmission Network Service Provider* that is allocated to each *category of prescribed transmission services* for that *Transmission Network Service Provider* and that is calculated by multiplying the *AARR* by the *attributable cost share* for that category of services in accordance with the principles in clause 6A.23.2.

6A.22.3 Meaning of attributable cost share

(a) For a *Transmission Network Service Provider* for a *category of prescribed transmission services*, the *attributable cost share* for that *Transmission Network Service Provider* for that category of services must, subject to any adjustment required or approved, under this Part, substantially reflect the ratio of:

(1) the costs of the *transmission system* assets directly attributable to the provision of that *category of prescribed transmission services*; to

(2) the total costs of all the *Transmission Network Service Provider's transmission system* and any other *transmission system* assets directly attributable to the provision of *prescribed transmission services*.

(b) The costs of the *transmission system* assets referred to in paragraph (a) refers to optimised replacement cost or to an accepted equivalent to optimised

replacement cost that is referable to values contained in the accounts of the *Transmission Network Service Provider*.

6A.22.4 Meaning of attributable connection point cost share

(a) For a *Transmission Network Service Provider* for *prescribed entry services* and *prescribed exit services*, the *attributable connection point cost share* for that *Transmission Network Service Provider* for each of those categories of services must substantially reflect the ratio of:

(1) the costs of the *transmission system* assets directly attributable to the provision of *prescribed entry services* or *prescribed exit services*, respectively, at a *transmission network connection point*; to

(2) the total costs of all the *Transmission Network Service Provider's transmission system* assets directly attributable to the provision of *prescribed entry services* or *prescribed exit services*, respectively.

(b) The costs of the *transmission system* assets referred to in paragraph (a) refers to optimised replacement cost or to an accepted equivalent to optimised replacement cost that is referable to values contained in the accounts of the *Transmission Network Service Provider*.

6A.23 Pricing Principles for Prescribed Transmission Services

6A.23.1 Introduction

(a) This rule 6A.23 sets out the principles that constitute the *Pricing Principles for Prescribed Transmission Services*.

(b) The *Pricing Principles for Prescribed Transmission Services* are given effect by *pricing methodologies*.

6A.23.2 Principles for the allocation of the aggregate annual revenue requirement

The *aggregate annual revenue requirement* for *prescribed transmission services* provided by a *Transmission Network Service Provider* is to be allocated in accordance with the following principles:

(a) The *AARR* for a *Transmission Network Service Provider* must be allocated to each *category of prescribed transmission services* in accordance with the *attributable cost share* for each such category of services.

(b) This allocation results in the *annual service revenue requirement* (*ASRR*) for that category of services.

(c) The allocation of the *AARR* must be such that:

(1) every portion of the *AARR* is allocated; and

(2) the same portion of the *AARR* is not allocated more than once.

(d) Where, as a result of the application of the *attributable cost share*, a portion of the *AARR* would be attributable to more than one category of *prescribed transmission services*, that *attributable cost share* is to be adjusted and applied such that any costs of a *transmission system* asset that would

otherwise be attributed to the provision of more than one category of *prescribed transmission services*, is allocated as follows:

(1) to the provision of *prescribed TUOS services*, but only to the extent of the *stand-alone amount* for that *category of prescribed transmission services*;

(2) if any portion of the costs of a *transmission system* asset is not allocated to *prescribed TUOS services*, under subparagraph (1), that portion is to be allocated to *prescribed common transmission services*, but only to the extent of the *stand-alone amount* for that *category of prescribed transmission services*;

(3) if any portion of the costs of a *transmission system* asset is not attributed to *prescribed transmission services* under subparagraphs (1) and (2), that portion is to be attributed to *prescribed entry services* and/or *prescribed exit services*.

6A.23.3 Principles for the allocation of the annual service revenue requirement to connection points

The allocation of the *annual service revenue requirement* of a *Transmission Network Service Provider* for each *category of prescribed transmission services* to the relevant *connection points* (other than the *connection points* of any *Market Network Service Provider*), and the manner and sequence in which adjustments can be made to those allocations, for the relevant *regulatory year* to which the *maximum allowed revenue* relates, must be in accordance with the following principles:

(a) The *annual service revenue requirement* for *prescribed TUOS services* is to be allocated between a locational component (*pre-adjusted locational component*) and a non-locational component (*pre-adjusted non-locational component*) either:

(1) as to 50% to each component; or

(2) an alternative allocation to each component, that is based on a reasonable estimate of future *network* utilisation and the likely need for future *transmission* investment, and that has the objective of providing more efficient locational signals to *Market Participants*, *Intending Participants* and end users.

(b) Subject to paragraph (d), the *pre-adjusted locational component* is to be adjusted by:

(1) subtracting any amount estimated as proceeds from *auctions* or any portion of *settlements residue* allocated to the *directional interconnector* which is not the subject of a *SRD agreement* estimated to be receivable by the *Transmission Network Service Provider* from the *connection points* for each relevant *directional interconnector* as referred to in clause 3.18.4, with that amount including an adjustment calculated in accordance with paragraph (f); and

(2) adding or subtracting the amount estimated by the *Co-ordinating Network Service Provider* for the *modified load export charge* receivable by or payable to the *Transmission Network Service Provider*

under clause 6A.29A.5, with that amount including an adjustment calculated in accordance with paragraph (f),

(the *adjusted locational component*).

(c) If the *adjusted locational component* is a positive amount, it is to be allocated to *transmission network connection points* of *Transmission Customers* on the basis of their proportionate use of the relevant *transmission system* assets, excluding, to avoid doubt, assets which constitute an *identified user shared asset* or *designated network asset*. The *CRNP methodology* and the *modified CRNP methodology* are two permitted methodologies to estimate the proportionate use of the relevant *transmission system* assets as referred to in paragraph (b).

(d) If the *adjusted locational component* is a negative amount, then the *adjusted locational component* will be deemed to be zero and the absolute value of that negative amount is to be subtracted from the *pre-adjusted non-locational component* under subparagraph (e)(1).

(e) The *pre-adjusted non-locational component* is to be adjusted by:

(1) subtracting the absolute value of the amount (if any) referred to in paragraph (d);

(2) adding or subtracting any amount for *settlements residue* (not being any *auction* amount referred to in subparagraph (b)(1) or *settlements residue* that accrue on a *designated network asset* due to *boundary point loss factors*, but otherwise, including any amount of *settlements residue* due to *intra-regional loss factors*) estimated to be receivable by or payable to the *Transmission Network Service Provider* in accordance with clause 3.6.5(a)(3);

(3) adding or subtracting any adjustment arising as a result of the application of clauses 6A.23.4(c) and (d);

(4) adding or subtracting any amount arising as a result of the application of prudent discounts (if any) under clauses 6A.26.1(d) to (g);

(5) adding or subtracting any *over-recovery amount* or *under-recovery amount*, with that amount including an adjustment calculated in accordance with paragraph (f); and

(6) adding the amount of *NTP function* fees advised to the *Co-ordinating Network Service Provider* in accordance with clause 2.11.3(ba),

(the *adjusted non-locational component*).

(f) The adjustment referred to in subparagraphs (b)(1), (b)(2) and (e)(5) must be calculated as the sum of:

(1) the difference between:

(i) the estimated amount payable or receivable for a service (or component of a service) referred to in subparagraphs (b)(1), (b)(2) and (e)(5) in year t - 1; and

(ii) the amount actually payable or receivable for that service (or that component of service) in year t - 1;

(2) the difference between:

(i) the actual amount payable or receivable for that service (or that component of service) in year t - 2; and

(ii) the estimate of the amount payable or receivable for that service (or component of a service) in year t - 2 that was used for the purposes of clause (f)(1)(i) in accordance with the *Co-ordinating Network Service Provider's* or the *Transmission Network Service Provider's* (as the case may be) *pricing methodology* that applied in year t - 1; and

(3) grossed up on the basis of the *allowed rate of return* that applies to the *Transmission Network Service Provider* at the time when the further adjustment is to be made.

(g) For the purposes of paragraph (f):

"year t"	means the *regulatory year* in which adjustments are made under paragraph (f).
"year t - 1"	means the *regulatory year* immediately prior to year t or, where year t is the first year of a *regulatory control period*, the last *regulatory year* of the previous *regulatory control period*.
"year t - 2"	means the *regulatory year* immediately prior to year t - 1 or, where year t is the: (1) first year of a *regulatory control period*, the penultimate *regulatory year* of the previous *regulatory control period*; and (2) second year of a *regulatory control period*, the last *regulatory year* of the previous *regulatory control period*.

~~(h)~~

(h) The *annual service revenue requirement* for *prescribed common transmission services* is to be adjusted by adding:

(1) the operating and maintenance costs incurred in the provision of those services;

(2) expected *system security network support payments*;

(3) any adjustments under clause 6A.7.2 that relate to a reconciliation in a previous *regulatory year* of expected *system security network support payments* with actual *system security network support payments* ~~and *system strength service payments*~~ (to the extent that ~~those costs or payments were~~ the relevant allowance was subtracted from the *maximum allowed revenue* in accordance with clause 6A.22.1).

(h1) In addition to the adjustment under paragraph (h), for a *Transmission Network Service Provider* who is a *System Strength Service Provider*:

(1) the *annual service revenue requirement* for *prescribed common transmission services* for a *regulatory year* must be adjusted by:

(i) subtracting the *Transmission Network Service Provider's* forecast of its *annual system strength revenue* for the *regulatory year* made in accordance with clause 6A.23.3A(a)(1); and

(ii) adding or subtracting any adjustment for the *regulatory year* arising as a result of the application of clause 6A.23.3A(b); and

(2) a reference to the *annual service revenue requirement* or *ASRR* for *prescribed common transmission services* for that *Transmission Network Service Provider* is taken to be a reference to the amount adjusted in accordance with subparagraph (h1)(1).

(i) The whole of the *annual service revenue requirement* for *prescribed entry services* is to be allocated to *transmission network connection points* (other than *connection points* of any *Market Network Service Provider*) in accordance with the *attributable connection point cost share* for *prescribed entry services* that are provided by the *Transmission Network Service Provider* at that *connection point*.

(j) The whole of the *annual service revenue requirement* for *prescribed exit services* is to be allocated to *transmission network connection points* (other than *connection points* of any *Market Network Service Provider*) in accordance with the *attributable connection point cost share* for *prescribed exit services* that are provided by the *Transmission Network Service Provider* at that *connection point*.

CHAPTER 8

8.8 Reliability Panel

8.8.1 Purpose of Reliability Panel

(a) The functions of the *Reliability Panel* are to:

(1) monitor, review and report on the performance of the *market* in terms of *reliability* of the *power system*;

(1A) on the advice of *AEMO*, determine the *system restart standard*;

(1B) review and make recommendations on the *reliability standard* and *reliability settings* under clause 3.9.3A;

(2) review and, on the advice of *AEMO*, determine the *power system security standards*;

(2A) for the purposes of *contingency event* management, develop and *publish* principles and guidelines that determine how *AEMO* should maintain *power system security* while taking into account the costs and benefits to the extent practicable;

(2B) determine, and modify as necessary, and *publish* the *template for generator compliance programs*;

(2C) on the advice of *AEMO*, determine which *non-credible contingency events* are to be *protected events* and any conditions applicable to the determination, in accordance with clause 8.8.4;

(2D) if the *Reliability Panel* considers it necessary or desirable, determine guidelines for *power system frequency risk reviews* conducted by *AEMO* under clause 5.20A.1; requests for *protected event* declaration by *AEMO* under clause 5.20A.4; or the *Reliability Panel's* determination of *protected events* under clause 8.8.4;

(2E) if the *Reliability Panel* considers it necessary or desirable, identify scenarios *AEMO* must study in preparing the *EAAP* for the purposes of rule 3.7C(k)(1);

(3) while *AEMO* has power to issue *directions* in connection with maintaining or re-establishing the *power system* in a *reliable operating state*, determine guidelines governing the exercise of that power;

(4) while *AEMO* has power to enter into contracts for the provision of *reserves*, determine policies and guidelines governing *AEMO's* exercise of that power;

(5) report to the *AEMC* and *participating jurisdictions* on overall *power system reliability* matters concerning the *power system* and on the matters referred to in clauses 8.8.1(a)(1B), (2), (2C) and (3), and make recommendations on *market* changes or changes to the *Rules* and any other matters which the *Reliability Panel* considers necessary;

(6) monitor, review and *publish* a report on the *system standards* in terms of whether they appropriately and adequately describe the expected technical performance conditions of the *power system*;

(7) monitor, review and *publish* a report on the implementation of *automatic access standards* and *minimum access standards* as *performance standards* in terms of whether:

(i) their application is causing, or is likely to cause, a material adverse effect on *power system security*; and

(ii) the *automatic access standards* and *minimum access standards* should be amended or removed;

(8) consider requests made in accordance with clause 5.3.3(b2) and, if appropriate, determine whether an existing Australian or international standard, or a part thereof, is to be adopted as a *plant standard* for a particular class of *plant*; ~~and~~

(9) determine guidelines identifying or providing for the identification of operating incidents and other incidents that are of significance for the purposes of the definition of "Reviewable operating incident" in clause 4.8.15~~.~~; and

(10) if the *Reliability Panel* considers it necessary or desirable, consider the most recent *Transition Plan for System Security* and provide written commentary to *AEMO* on the *Transition Plan for System Security*.

(b) In performing its functions set out in clause 8.8.1(a)(1) the *Reliability Panel* must not monitor, review or report on the performance of the *market* in terms of *reliability* of *distribution networks*, although it may collate, consider and report information in relation to the *reliability* of *distribution networks* as measured against the relevant standards of each *participating jurisdiction* in so far as the *reliability* of those *networks* impacts on overall *power system reliability*.

CHAPTER 10

10. Glossary

Definitions for inertia and enablement

ancillary services agreement

An agreement under which an *NMAS provider* agrees to provide one or more services described in paragraph (b) of *NMASs* to *AEMO*.

binding inertia requirements

The *binding inertia sub-network allocation*, *binding satisfactory inertia level* and *binding secure inertia level*.

binding inertia sub-network allocation

Has the meaning in clause 5.20B.2(g)(1).

binding satisfactory inertia level

Has the meaning in clause 5.20B.2(g)(2).

binding secure inertia level

Has the meaning in clause 5.20B.2(g)(3).

binding system strength requirements

The system strength standard specification (as defined in clause S5.1.14) as applicable for each *system strength node*.

constrained on

(a) In respect of a *production unit*, the state where, due to a *constraint* on a *network* or in order to provide ~~*inertia network services*~~*system security services* under ~~*an inertia services agreement* or *system strength services* under a *system strength services agreement*~~ a relevant agreement, the *loading level* of that *production unit* is limited above the level to which it would otherwise have been *dispatched* by *AEMO* on the basis of its *dispatch bid*.

(b) In respect of a *wholesale demand response unit*, the state where, due to a *constraint* on a *network*, the *loading level* of that *wholesale demand response unit* is limited above the level to which it would otherwise have been *dispatched* by *AEMO* on the basis of its *dispatch bid*.

dispatch

The act of initiating or enabling all or part of the response specified in a *dispatch bid* or *market ancillary service bid* in accordance with rule 3.8, or a *direction* or operation of capacity the subject of a *reserve contract* or an instruction under an *ancillary services agreement or* to *enable* ~~*an inertia network service* or *system strength service*~~ a *system security service* as appropriate.

enable

A *market ancillary service* is *enabled* when *AEMO* has selected the relevant *generating unit* or *load* for the provision of the *market ancillary service* and has notified the relevant *Market Participant* accordingly.

A *system security service* is *enabled* when *AEMO* has selected the relevant service and the service is contributing to achieving and maintaining the *minimum system security requirements* or the *stable voltage waveform requirements*. ~~An *inertia network service* is *enabled* when *AEMO* has selected the relevant *inertia network service* and the service is providing *inertia* to an *inertia sub-network*.~~

~~An activity approved by *AEMO* under clause 5.20B.5(a) is *enabled* when *AEMO* has selected the relevant activity and the activity is performing and available in accordance with any conditions of that approval.~~

~~A *system strength service* is *enabled* when *AEMO* has selected the relevant *system strength service* and the service is contributing to the *three phase fault level* at the relevant *system strength node*.~~

inertia

Contribution to the capability of the *power system* to resist changes in *frequency* by means of an inertial response from a *generating unit*, *bidirectional unit*, *network element* or other equipment. ~~that is electro-magnetically coupled with the *power system* and *synchronised* to the *frequency* of the *power system*.~~

inertia sub-network allocation

Has the meaning in clause 5.20B.2(b)(2).

inertia network service specification

Has the meaning in clause 5.20.4(f).

inertia requirements

The ~~*minimum threshold level of inertia* and the *secure operating level of inertia* for an *inertia sub-network*~~ requirements determined by *AEMO* under clause 5.20B.2~~(a)~~.

inertia service payment

A payment by a *Transmission Network Service Provider* made under an *inertia services agreement* where:

(a) the payment is made for *inertia network services* or *inertia support activities* to be made available or provided as a service to the *Transmission Network Service Provider* in its capacity as an *Inertia Service Provider* to (in the case of *inertia network services*) satisfy an obligation under clause 5.20B.4 or (in the case of *inertia support activities*) resulting in an adjustment to the *binding inertia requirements* ~~*minimum threshold level of inertia* or the *secure operating level of inertia*~~; and

(b) the *inertia network services* are made available or provided, or the *inertia support activity* is undertaken, in accordance with:

(1) applicable technical specifications and performance standards approved by *AEMO*; ~~and~~

(2) in the case of an *inertia support activity*, any conditions of *AEMO*~~'~~*'s* approval under clause 5.20B.5(a); and

(3) if *AEMO's* approval is required under clause 5.20.4(g), any conditions of that approval.

~~***inertia shortfall***~~

~~A shortfall in the level of *inertia* typically provided in an *inertia sub-network* (having regard to typical patterns of *dispatched generation* in *central dispatch*) compared to the *secure operating level of inertia* most recently determined by *AEMO* for the *inertia sub-network*.~~

~~***inertia shortfall event***~~

~~A *Transmission Network Service Provider* is required to make *inertia network services* available under clause 5.20B.4 as a consequence of an assessment by *AEMO* under clause 5.20B.3(c) that there is an *inertia shortfall* in an *inertia sub-network* for which the *Transmission Network Service Provider* is the *Inertia Service Provider* or to cease making *inertia network services* available under clause 5.20B.4 as a consequence of an assessment by *AEMO* under clause 5.20B.3(d) that an *inertia shortfall* in the *inertia sub-network* has ceased and:~~

~~(a) the *Transmission Network Service Provider* is required to provide, or cease providing, *inertia network services* during the course of a *regulatory control period*; and~~

~~(b) making *inertia network services* available or ceasing to make *inertia network services* available *materially* increases or *materially* decreases the *Transmission Network Service Provider's* costs of providing *prescribed transmission services*.~~

inertia support activity

An activity approved by *AEMO* under clause 5.20B.5(a).

inertia year

Each period of 12 months commencing 2 December.

inertia unit

A *generating unit* or *bidirectional unit* registered with *AEMO* under clause 5.20B.6(b) or (b1).

minimum system security requirements

The requirements determined and published by *AEMO* under clause 4.4A.3(a).

~~***minimum threshold level of inertia***~~

~~***For an inertia sub-network, the minimum threshold level of inertia determined by AEMO and referred to in clause 5.20B.2(b)(1).***~~

network support agreement

An agreement under which a person agrees to provide one or more *NSCASs* to a *Network Service Provider*, including *network* support services to improve *network capability* by providing a non-*network* alternative to a *network augmentation*.

NMAS (non-market ancillary service)

Any of the following services:

(a) *NSCASs* and other services acquired by *Transmission Network Service Providers* under *connection agreements* or *network support agreements* to meet the service standards linked to the technical requirements of schedule 5.1 or in *applicable regulatory instruments* ~~(but to avoid doubt, excluding *inertia network services* and *system strength services*);~~ and

(b) *SRASs* acquired by *AEMO* under clause 3.11.9, ~~and~~ *NSCASs* acquired by *AEMO* in the circumstances described in clause 3.11.3(c)~~.~~ and *transitional services* acquired by *AEMO* under clause 3.11.11.

Note

The use of *transitional services* expires 15 years after commencement date. See clause 11.168.3.

(c) *NSCAS* comprising *inertia network services* and *system strength services* acquired by *Transmission Network Service Providers* (in their capacity as a *System Strength Service Provider* or *Inertia Service Provider*) to meet a *NSCAS need*.

NSCAS need

(a) ~~Subject to paragraphs (b) and (c),~~ *NSCAS* required to:

(1) maintain *power system security* and reliability of *supply* of the *transmission network* in accordance with the *power system security standards* and the *reliability standard*; and

(2) maintain or increase the *power transfer capability* of that *transmission network* so as to maximise the present value of net economic benefit.

(b) ~~Any requirement for a service that satisfies paragraph (a) and is also capable of being made available as an *inertia network service* to address an *inertia shortfall* through the arrangements in rule 5.20B must be treated as an *inertia shortfall* and is not an *NSCAS need*.~~A requirement for an *inertia network service* necessary to meet the *inertia requirements* where *AEMO* has revised the *inertia requirements* in accordance with clause 5.20B.2(f) such that the revised *inertia requirements* exceed one or more of the *binding inertia requirements* (as applicable).

~~(c)~~(c) ~~Any requirement for a service that satisfies paragraph (a) and is also capable of being made available as a *system strength service* is not an *NSCAS need*.~~A requirement for a *system strength service* necessary to meet the *system strength requirements* to maintain the *minimum three phase fault level* where

AEMO has revised the *minimum three phase fault level* in accordance with clause 5.20C.1(e) such that the revised *minimum three phase fault level* exceeds the *minimum three phase fault level* specified in the system strength standard specification (as defined in clause S5.1.14).

NSCAS (network support and control ancillary service)

A service (~~excluding~~ including an *inertia network service* or *system strength service*) with the capability to control the *active power* or *reactive power* flow into or out of a *transmission network* to address an *NSCAS need*.

NSCAS gap

~~Any *NSCAS need* that:~~Any of the following:

(a) an *NSCAS need* that *AEMO* forecasts will arise at any time within a planning horizon of at least 5 years from the beginning of the year in which the most recent *NSCAS Report* applies ;or

(b) an *NSCAS need* described in paragraph (b) of that definition where the time by which the *Transmission Network Service Provider* (as the *Inertia Service Provider*) must address the *NSCAS gap* is less than 3 years from the date *AEMO* has declared the *NSCAS gap*; or

(c) an *NSCAS need* described in paragraph (c) of that definition where the time by which the *Transmission Network Service Provider* (as the *System Strength Service Provider*) must address the *NSCAS gap* is less than 3 years from the date *AEMO* has declared the *NSCAS gap*.

satisfactory inertia level

Has the meaning given in clause 5.20B.2(b)(3).

secure inertia level

~~For an inertia sub-network, the secure operating level of inertia determined by AEMO and referred to in clause 5.20B.2(b)(2).~~ Has the meaning given in clause 5.20B.2(b)(4).

Security Enablement Procedures

The procedures published by *AEMO* under clause 4.4A.6.

stable voltage waveform requirements

Has the meaning in clause 4.4A.1(b).

sub-network islanding risk

Has the meaning in clause 5.20B.2(b)(5).

Synchronise

The act of *synchronising* a *production unit*, other equipment or a *scheduled network service* to the *power system*.

Synchronising

To electrically *connect* a *production unit*, other equipment or a *scheduled network service* to the *power system*.

System Security Service Provider

Each of the following:

(a) a *System Strength Service Provider;*

(b) an *Inertia Service Provider;*

(c) a *NSCAS Provider;* and

(d) a *Transitional Services Provider*.

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

system strength production unit

A *production unit* registered with *AEMO* under clause 5.20C.4(b) or (b1).

system security services

Has the meaning in clause 4.4A.2.

system-wide inertia level

Has the meaning in clause 5.20B.2(b)(1).

Definitions for transitional services

transitional services

A service provided by *plant*, equipment or *facilities* to meet a *power system security* need as a result of the transition to a low- or zero-emissions *power system*.

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

Transitional Services Guideline

The guideline developed and published by *AEMO* in accordance with clause 3.11.11(e).

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

Transitional Services Objective

Has the meaning in clause 3.11.11(a).

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

Transitional Services Procurement Objective

Has the meaning in clause 3.11.11(c).

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

Transitional Services Provider

A person who agrees to provide one or more *transitional services* to *AEMO* under an *ancillary services agreement*.

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

Transition Plan for System Security

The plan developed and published by *AEMO* in accordance with clause 5.20.8.

transitional services unit

A *production unit* registered with *AEMO* under clause 3.11.11(n).

Note

The transitional services framework (as defined in clause 11.168.1) under which *transitional services* are provided expires on 1 December 2039. See clause 11.168.5.

Definitions for TNSP cost recovery

network support agreement

An agreement under which a person agrees to provide one or more *NSCASs* to a *Network Service Provider*, including:

(a) *network* support services to improve network capability by providing a non-*network* alternative to a *network augmentation*; and

(b) *system strength services* or *inertia network services* (as the case may be) required to address a *NSCAS gap* described in paragraph (b) or (c) of that definition.

Negative network support event

A *network support event* which entails a *Transmission Network Service Provider* making lower *network support payments* in the preceding *regulatory year* than:

(a) the amount of the *network support payment allowance* (if any); or

(b) the expected *system security network support payments* included under clause 6A.23.3(h)(2), if applicable,

for that provider for that preceding *regulatory year*.

network support event

(a) If, at the end of a *regulatory year* of a *regulatory control period*, the amount of *network support payments* made by a *Transmission Network Service Provider* for that previous *regulatory year* is higher or lower than the amount of the *network support payment allowance* (if any) for the *Transmission Network Service Provider* for that previous *regulatory year*, this constitutes a *network support event*.

(b) **[Deleted]**

~~In calculating the amount for the purposes of a *network support event* referred to in paragraph (a), the amount of *network support payments* made by a *Transmission Network Service Provider* must not include an amount of *network support payments* that are a substitute for a *network augmentation* where an allowance for capital expenditure in relation to that *network augmentation* has been provided for in the *revenue determination* or an *approved pass through amount* arising from an *inertia shortfall event*.~~

(c) To the extent *network support payments* are *system security network support payments* for which the *Transmission Network Service Provider* has made estimates under clause 6A.23.3(h)(2), then a *network support event* has occurred if the amount of *system security network support payments* made for that previous *regulatory year* is higher or lower than the sum of the expected *system security network support payments* included under clause 6A.23.3(h)(2) for that previous *regulatory year*.

network support payment

Any of the following payments:

(a) a payment made by a *Transmission Network Service Provider* to:

(1) any *Generator* or *Integrated Resource Provider* providing *network* support services in accordance with clause 5.3A.12; or

(2) any other person providing a *network* support service that is an alternative to *network augmentation*;

(b) ~~an *inertia service payment*; and~~a *system security network support payment*.

~~(c) a *system strength service payment*.~~

network support payment allowance

The amount of *network support payments* (if any) that is provided for a *Transmission Network Service Provider* for a *regulatory year* in ~~:~~

~~(a)~~ the *annual building block revenue requirement* for the *Transmission Network Service Provider* for that *regulatory year*. ~~; or~~

~~(b) any *approved pass through amount* for the *Transmission Network Service Provider* for that *regulatory year* arising from an *inertia shortfall event*,~~

~~less the amount (expressed as a positive) of avoided *network support payments* (if any) that is provided for in any *required pass through amount* for the *Transmission Network Service Provider* for that *regulatory year* arising from an *inertia shortfall event*.~~

positive network support event

A *network support event* which entails a *Transmission Network Service Provider* making higher *network support payments* in the preceding *regulatory year* than:

(a) the amount of the *network support payment allowance* (if any); or

(b) the sum of the expected *system security network support payments* included under clause 6A.23.3(h)(2), if applicable

for that provider for that preceding *regulatory year*.

system security network support payment

Any of the following payments:

(a) a payment made by a *Transmission Network Service Provider* under a *network support agreement* for *NSCAS*;

(b) an *inertia service payment*; and

(c) a *system strength service payment*.

system security network support payment guidelines

The guidelines made by the *AER* under clause 6A.6.6A(e).

CHAPTER 11

11. Savings and Transitional Rules

11.168.1 Definitions

(a) In this rule 11.168:

Amending Rule means the Improving security frameworks for the energy transition Rule 2024.

commencement date means 4 April 2024.

expiry date means 1 December 2039.

existing inertia shortfall means an inertia shortfall that was declared prior to the commencement date in accordance with former clause 5.20B.3.

former clause 5.20B.3 means clause 5.20B.3 of the *Rules* as in force on the commencement date.

former clause 5.20B.4 means clause 5.20B.4 of the *Rules* as in force on the commencement date.

former clause 5.20B.4(b) means clause 5.20B.4(b) of the *Rules* as in force on the commencement date.

former clause 5.20B.4(h) means clause 5.20B.4(h) of the *Rules* as in force on the commencement date.

former clause 5.20B.5 means clause 5.20B.5 of the *Rules* as in force on the commencement date.

former clause 6A.7.3 means clause 6A.7.3 of the *Rules* as in force on the commencement date.

inertia shortfall has the same meaning as that term has in the *Rules* on the commencement date.

inertia shortfall event has the same meaning as that term has in the *Rules* on the commencement date.

new Chapter 10 means Chapter 10 of the *Rules* as in force on and from 2 December 2025.

new clause 3.11.11 means clause 3.11.11 of the *Rules* as in force on and from 3 June 2024, immediately after the commencement of the *National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 No. 13*.

new clause 3.11.11(e) means clause 3.11.11(e) of the *Rules* as in force on and from 3 June 2024, immediately after the commencement of the *National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 No. 13*.

new clause 3.11.12(b) means clause 3.11.12(b) of the *Rules* as in force on and from 3 June 2024, immediately after the commencement of the *National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021 No. 13*.

new clause 4.4A.1 means clause 4.4A.1 of the *Rules* as in force on and from 2 December 2025.

new clause 4.4A.6(a) means clause 4.4A.6(a) of the *Rules* as in force on and from 2 December 2025.

new clause 4.4A.6(a)(3) means clause 4.4A.6(a)(3) of the *Rules* as in force on and from 2 December 2025.

new clause 5.20.4 means clause 5.20.4 of the *Rules* as in force on and from 1 December 2024.

new clause 5.20.8(b) means clause 5.20.8(b) of the *Rules* as in force on and from 4 July 2024.

new clause 5.20.8(d) means clause 5.20.8(d) of the *Rules* as in force on and from 1 December 2024.

new clause 5.20.8(e) means clause 5.20.8(e) of the *Rules* as in force on and from 1 December 2024.

new clause 5.20B.4(b) means clause 5.20B.4(b) of the *Rules* as in force on and from 1 December 2024.

new clause 5.20B.4(h) means clause 5.20B.4(h) of the *Rules* as in force on and from 1 December 2024.

new clause 6A.7.2 means clause 6A.7.2 of the *Rules* as in force on and from 1 December 2024.

new clause 6A.22.1 means clause 6A.22.1 of the *Rules* as in force on and from 1 December 2024.

new clause 6A.23.3 means clause 6A.23.3 of the *Rules* as in force on and from 1 December 2024.

new inertia framework means the *inertia requirements* and all associated provisions of the *Rules* as in force on and from 1 December 2024.

transitional services framework means all provisions, and associated definitions, in the *Rules* relating to *transitional services*.

(b) Italicised terms used in this rule 11.168 have the same meaning as in new Chapter 10.

11.168.2 Security Enablement Procedures

(a) By 31 August 2025, *AEMO* must, in accordance with the *Rules consultation procedures*, develop and publish the *Security Enablement Procedures* under new clause 4.4A.6(a).

(b) Despite paragraph (a), by 30 June 2024, *AEMO* must publish the information under new clause 4.4A.6(a)(3).

(c) *AEMO* is not required to consult on the information to be published under paragraph (b), but must consult on that information when it consults on the development of the *Security Enablement Procedures* under paragraph (a).

(d) Subject to paragraph (e), once *AEMO* has published the *Security Enablement Procedures* under paragraph (a), the information published under paragraph (b) is superseded.

(e) Any agreement for the provision of *system security services* entered into by a *Transmission Network Service Provider* prior to 31 August 2025 in compliance with the information published under paragraph (b) is deemed to be compliant with new clause 4.4A.6(a)(3) to the extent the information published under paragraph (a) differs from the information published under paragraph (b).

11.168.3 Commencement of transitional services framework

(a) Despite new clause 3.11.11(e), *AEMO* is not required to publish the first *Transitional Services Guideline* until 1 December 2024.

(b) *AEMO* must not procure *transitional services* prior to the publication of the *Transitional Services Guideline.*

(c) *AEMO* is not required to publish the first report under new clause 3.11.12(b) until calendar year 2025.

11.168.4 AEMC review of transitional services framework

(a) The *AEMC* must complete and publish a review of the transitional services framework by no later than 1 December 2031.

(b) The review must consider whether:

(1) the transitional services framework is fit for purpose; and

(2) the transitional services framework should remain in place following the expiry date.

(c) In conducting its review under paragraph (a), the *AEMC* must:

(1) publish terms of reference for its review; and

(2) follow the *Rules consultation procedures*.

Note

This clause does not preclude the *AEMC* from conducting a review in accordance with section 45 of the NEL.

11.168.5 Expiry of transitional services framework

(a) The transitional services framework expires on the expiry date.

(b) On and from the expiry date, *AEMO* must not enter into any *ancillary services agreement* under new clause 3.11.11 or *enable* any *transitional services* under new clause 4.4A.1.

(c) Prior to the expiry date, *AEMO* must not enter into any *ancillary services agreement* under new clause 3.11.11 where the term of such an agreement would continue past the expiry date.

11.168.6 Transition Plan for System Security

(a) As part of the *AEMC's* review under clause 11.168.4, the *AEMC* must also consider whether:

(1) the *Transition Plan for System Security* is achieving its purpose under new clause 5.20.8(b); and

(2) the role of the *Reliability Panel* providing commentary on the *Transition Plan for System Security*, and the process for *AEMO* to consult with the *Reliability Panel*, remain fit for purpose.

11.168.7 Commencement of system security network support payments

(a) For the avoidance of doubt, new clause 6A.22.1 and new clause 6A.23.3:

(1) do not apply to transmission prices determined under Part J of Chapter 6A of the *Rules* for the 2024-2025 *financial year*;

(2) apply to transmission prices determined under Part J of Chapter 6A of the *Rules* from the 2025-2026 *financial year* onwards.

(b) A *Transmission Network Service Provider* cannot seek a determination by the *AER* under new clause 6A.7.2 in respect of a *regulatory year* that commences prior to 1 July 2025.

11.168.8 Inertia requirements methodology

(a) By 1 December 2024, *AEMO* must publish the *inertia requirements methodology* under new clause 5.20.4 to take account of the Amending Rule.

11.168.9 Preservation of inertia shortfall requirements

(a) On and from the commencement date, *AEMO* must not declare a new inertia shortfall under former clause 5.20B.3.

(b) Subject to paragraph (d), if, on the commencement date, there is an existing inertia shortfall, then the relevant *Inertia Service Provider* must continue to make available a range and level of *inertia network services* to comply with former clause 5.20B.3 and former clause 5.20B.4 until 1 December 2027, or an earlier date specified in a notice received from *AEMO* under paragraph (d).

(c) Between the commencement date and 1 December 2027, *AEMO* may make an assessment that an existing inertia shortfall:

(1) has been, or will be remedied; or

(2) needs to be adjusted.

(d) If *AEMO* makes an assessment under paragraph (c), *AEMO* must publish and give to the relevant *Inertia Service Provider*, a notice of that assessment that includes *AEMO's* specification of the date from which the obligation of the *Inertia Service Provider* ceases, or is adjusted, which must not be later than 1 December 2027.

(e) In making its assessment under paragraph (c), *AEMO* may take into account the *inertia network services* to be made available by any *Inertia Service Provider* pursuant to the new inertia framework.

(f) If:

(1) prior to the commencement date, a *Transmission Network Service Provider* has included an inertia shortfall event in its *transmission determination* in accordance with clause 6A.7.3; and

(2) if the *transmission determination* referred to in subparagraph (1) ends prior to 1 December 2027, the *Transmission Network Service Provider* includes an inertia shortfall event in its subsequent *transmission determination*; and

(2) a *pass through event* that is an inertia shortfall event occurs prior 1 December 2027;

then:

(1) the *Transmission Network Service Provider* is not prevented from seeking approval from the *AER* to pass through to *Transmission Network Users* a *positive pass through amount* in accordance with former clause 6A.7.3; and

(2) the *AER* is not prevented from requiring the *Transmission Network Service Provider* to pass through to *Transmission Network Users* a *negative pass through amount* in accordance with former clause 6A.7.3.

(g) Between the commencement date and 1 December 2027, for the purposes of clause 5.12.2(8)(ii), a *Transmission Network Service Provider* must include in its *Transmission Annual Planning Report* (as relevant):

(1) information required under clause 5.12.2(8)(ii) in respect of former clause 5.20B.4(h) and former clause 5.20B.4(b); and

(2) information required under clause 5.12.2(8)(ii) in respect of new clause 5.20B.4(h) and new clause 5.20B.4(b).

11.168.10 System security network support payment guidelines

(a) The *AER* must make and publish the *system security network support payment guidelines* by 1 December 2024.