

Attachment B: NSCAS Proposed Rule Changes

2. Registered Participants and Registration

2A.2.5 Alternative congestion management options

- (b) The alternative congestion management options include:
 - (3) changes in capability of the *transmission network* arising under other arrangements for the provision of *network support* and control ancillary services such as network support agreements or network control ancillary services agreements.



3. Market Rules

3.1.4 Market design principles

- (a) This Chapter is intended to give effect to the following market design principles:
 - (7) the <u>last resort powers</u> of direction <u>in the National Electricity</u>
 <u>Law and clause 4.8.9 to provide ancillary services</u> as a last resort to ensure *system security* should not be affected by the competitive market arrangements;
 - (8) where arrangements require participants to pay a proportion of *AEMO* costs for *ancillary services*, charges should where possible be allocated to provide incentives to lower overall costs of the national electricity market NEM. Costs unable to be reasonably allocated this way should be apportioned as broadly as possible whilst minimising distortions to production, consumption and investment decisions; and
 - (9) where arrangements provide for AEMO to dispatch or procure acquire an ancillary service, AEMO should be responsible for settlement of the service.
- (a1) AEMO must review, prepare and publish a report on:
 - (1) [Deleted]
 - (2) the operation and effectiveness of the spot market for market ancillary services within the overall central dispatch and any recommendations for their improvement, including:
 - (i) simplification of the arrangements for the provision of market ancillary services; and
 - (ii) improving the determination of market ancillary services requirements;
 - (3) the potential future implementation of a usage market for market ancillary services whilst retaining an enabling market to assist AEMO with its obligations with respect to system security; and
 - (4) the provision of network control ancillary services including:
 - (i) a review of the responsibilities of AEMO and Transmission Network Service Providers for the provision of reactive power support;
 - (ii) a review of the formulation of those generic network constraints within central dispatch that are dependant on the provision of network control ancillary services; and



- (iii) a program to assess the potential implementation of market mechanisms for the recruitment and dispatch of
- (a2) In conducting the reviews under clause 3.1.4(a1), AEMO must:
 - (1) seek and take account of the opinion of the *Reliability Panel* on matters to be considered in, and the draft conclusions of, the review set out in clause 3.1.4(a1)(1);
 - (2) [Deleted]
 - (3) publish a program for the conduct of the reviews within three months of the market ancillary services commencement date;
 - (4) take into account when setting the program of the reviews the need to balance the benefit of utilising the results of other reviews or market experience and the need to progress market development;
 - (5) use the Rules consultation procedures in conducting each review;
 - (6) publish a review outline and indicative timelines at the commencement of each review;
 - (7) complete each review and deliver to the *AEMC* a report of the findings and recommendations of the review within 12 months of the commencement of the review; and
 - (8) deliver to the AEMC within 3 months of the conclusion of each review any proposed Rule changes required to implement the recommendations of the review.

3.2.4 Non-Market aAncillary services function

- (a) *AEMO* must determine the *market's* requirements for *non-market* ancillary services in accordance with rule 3.11.
- (b) AEMO must use reasonable endeavours to ensure adequateacquire non-market ancillary services are available in accordance with rule 3.11.



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 which are 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 which are not acquired by AEMO as part of the spot market, but acquired:
 - (i) in the case of SRAS, by AEMO under ancillary services agreements agreements which are entered into following a call for offers made in accordance with this rule clause 3.11.5, with Tthe prices for non market ancillary services SRAS being are determined in accordance with the relevant ancillary services agreements; and

(ii) in the case of NSCAS:

- (A) 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 or to meet an NSCAS need; and
- (B) 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 rule 3.11 to meet an *NSCAS need*,
- with the prices for NSCAS being determined in accordance with the relevant agreements.
- (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 non-market ancillary services

- (a) AEMO must use reasonable endeavours to acquire non market ancillary services in accordance with the remaining relevant provisions of rule 3.11
- (b) The requirement for *AEMO* to acquire *non market ancillary services* referred to in clause 3.11.3(a) must be met in the following ways:
 - (1) by AEMO setting minimum standards which are to be dealt with in Registered Participants' connection agreements for the technical performance of the service; or
 - (2) by AEMO acquiring ancillary services in accordance with this rule 3.11 or giving a direction in accordance with clause 4.8.9.
- (c) AEMO must make and publish a set of minimum technical ancillary service standards that must be met by all Registered Participants who have entered into a connection agreement.
- (d) AEMO may amend the minimum technical ancillary service standards from time to time.
- (e) AEMO must comply with the Rules consultation procedures when making or amending the minimum technical ancillary service standards.
- (f) In setting or amending minimum technical ancillary service standards, AEMO must:
 - take into account the provisions of connection agreements existing at the time of setting or amending such standards;
 - (2) ensure that proposed *minimum technical ancillary service* standards do not impose more onerous material obligations on parties to existing connection agreements, as a whole, than are imposed by such existing connection agreements;
 - (3) take into account and minimise the additional costs overall that may arise from proposed minimum technical ancillary service standards for parties to existing connection agreements generally; and
 - (4) take into account the obligations imposed on parties to connection agreements by Chapter 5 of the Rules and any applicable derogation.
- (g) The minimum technical ancillary service standards are not intended to, nor are to be read or construed as having the effect of:
 - (1) altering any term of a connection agreement;
 - (2) altering the contractual rights or obligations of any of the parties under a connection agreement as between those parties; or
 - (3) relieving the parties under any such connection agreement of their contractual obligations under such agreement or obligations under Chapter 5 of the Rules.



- (h) An amendment to the *minimum technical ancillary service* standards must not take effect until at least 30 days after the publication of the report required under the Rules consultation procedures.
- (i) AEMO is not responsible for payment to a Registered Participant for services provided by that Registered Participant under a connection agreement or under clause 4.9.2(b).
- (j) A Network Service Provider must advise AEMO of all ancillary services or similar services to be provided by a Registered Participant under a connection agreement to which that Network Service Provider is a party.
- (k) AEMO may instruct a Registered Participant to provide a nonmarket ancillary service agreed to be provided under a connection agreement agreement and any Registered Participant so instructed must use reasonable endeavours to comply with any such instruction.

3.11.3 Acquisition of Network Support and Control Ancillary Services

- (a) Where an NTNDP identifies an NSCAS need that remains unmet for a period of 18 months from its first identification, 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 need, or provide reasons why the NSCAS need will not be met.
- (b) The *Transmission Network Service Provider* must respond to <u>AEMO's</u> request under paragraph (a) within 30 days of <u>AEMO's</u> request. If the *Transmission Network Service Provider* proposes to put in place arrangements to meet the relevant *NSCAS need*, it must include in its response full details of those arrangements.
- (c) If, after considering any response under paragraph (b), AEMO considers that the relevant NSCAS need will remain unmet AEMO must use reasonable endeavours to acquire sufficient network support and control ancillary services to meet that NSCAS need in accordance with clause 3.11.5.

3.11.4 Guidelines and objectives for aAcquisition of Procedure for determining quantities of Network Support and Control Ancillary Services

- (a) AEMO must develop and publish a detailed description of each type of network support and control ancillary service (NSCAS description).
- (b) AEMO must develop and publish a procedure (NSCAS quantity procedure) for determining the location and quantity ies of each



kindtype of network <u>support and</u> control ancillary service required (NSCAS need):

for AEMO:

- (1) to maintain *power system security* and reliability of *supply* of the *transmission network* in accordance with the *power system security and reliability standards*; and
- (2) to maintain or increase the *power transfer capability* of that *transmission network* so as to maximise the present value of net economic benefit to all those who produce, consume or transport electricity in the *market*.(1) to achieve the *power system security and reliability standards*; and
- (2) where practicable to enhance network transfer capability whilst still maintaining a secure operating state when, in AEMO's reasonable opinion, the resultant expected increase in network control ancillary service costs will not exceed the resultant expected increase in benefits of trade from the spot market.
- (c) AEMO may amend the <u>NSCAS description</u> and the <u>NSCAS quantity</u> <u>procedure</u> developed under clause 3.11.4(a) and the procedure referred to in clause 3.11.4(b).
- (d) AEMO must comply with the Rules consultation procedures when making or amending the NSCAS descriptions or or the NSCAS quantity procedures under clause 3.11.4.
- (e) AEMO may make minor and administrative amendments to the NSCAS description or the NSCAS quantity procedure without complying with the Rules consultation procedures.

3.11.5 Tender process for non-market ancillary services

- (a) Except as provided in clause 4.8.9, i<u>I</u>f AEMO proposes to acquire a non-market ancillary service, AEMO must call for offers in accordance with the NMAS tender guidelines from persons who are in a position to provide the non-market ancillary service—so as to have the required effect at a connection to a transmission network in accordance with the NMAS tender guidelines (NMAS tender guidelines).
- (b) AEMO must determine and publish the NMAS tender guidelines. Separate NMAS tender guidelines may be prepared in respect of network support and control ancillary services and system restart ancillary services. The NMAS tender guidelines must contain the following:
 - (1) a requirement for *AEMO* to call for *NMAS* expressions of interest before issuing an *NMAS* invitation to tender in relation to any required *non-market ancillary services*;

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- (2) a requirement that a person who is required to provide <u>non-market ancillary services</u> <u>SRAS</u> under an <u>ancillary services</u> <u>agreement</u> has the <u>facility</u> tested in accordance with:
 - (i) the SRAS assessment guidelines referred to in clause 3.11.4A(e); and
 - (ii) the timeframes for physical testing referred to in subparagraph (5);
- (3) a requirement that a person who is to provide network <u>support</u> and control ancillary services under an ancillary services agreement has the facility tested in accordance with the NMAS tender guidelines;
- (4) 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 <u>non-market system restart</u> ancillary services proposed by a prospective tenderer;
- (5) the timeframes over which AEMO's assessment of NMAS expressions of interest and NMAS tenders and physical testing of selected non-market ancillary services will occur;
- (6) the period for which each non market ancillary service may be contracted;
- (7) a requirement for a tenderer to provide data, models and parameters of relevant *plant*, sufficient to facilitate a thorough assessment of the *network* impacts and *power station* impacts of the use of the relevant *non-market ancillary service*;
- (8) the minimum terms and conditions of the *ancillary services* agreement that a successful tenderer would be expected to enter into with *AEMO*;
- (9) the principles *AEMO* must adopt in assessing *NMAS* expressions of interest and *NMAS* tenders; and
- (10) any other matter considered appropriate by AEMO.
- (c) AEMO may amend the NMAS tender guidelines and must comply with the Rules consultation procedures when making or amending the NMAS tender guidelines.
- (c1) AEMO may make minor and administrative amendments to the NMAS tender guidelines without complying with the Rules consultation procedures.
- (d) A Registered Participant is not under any obligation to submit an NMAS tender in response to an NMAS invitation to tender.[Deleted]
- (e) AEMO is not under any obligation to accept the lowest priced NMAS tender or any NMAS tender in response to an NMAS invitation to tender.
- (f) A Network Service Provider must:

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

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(2) participate in, or facilitate, testing of a system restart ancillary service or a network support and control ancillary service required by the NMAS 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 Registered Participant 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 *Registered Participant*-person submits an *NMAS* tender in response to an *NMAS* invitation to tender and *AEMO* wishes to negotiate an aspect of that *NMAS* tender, *AEMO* and the *Registered Participant*-that person must negotiate in good faith concerning that aspect.
- Where the tender call for offers is for the acquisition of network support and control ancillary services, in assessing any offers tenders submitted in response to thea call for offers under this clause 3.11.5 to meet a particular NSCAS need, AEMO must seek to-first determine whether those tenders are competitive.acquire the quantity of the relevant kind of network control ancillary services determined in accordance with clause 3.11.4 by competitive tender and in accordance with this clause 3.11.5(h). A The tenders submitted to meet a particular NSCAS need will be deemed to be a competitive-tender if the quantity of network support and control ancillary service that AEMO is seeking for a particular network control ancillary service if the required quantity of that service determined in accordance with clause 3.11.4 can be supplied from the conforming offers tenders received by AEMO with any one conforming offer tender discarded or all conforming offers tenders from any one party discarded. If the a-tenders process submitted to meet a particular NSCAS need are is not deemed to be a-competitive tender for a particular network control ancillary service, then AEMO and those Registered Participants persons that submitted conforming and non-conforming tenders selected by AEMO (preferred tenderers), must negotiate in good faith to agree reasonable terms and conditions for the supply of the relevant kind type of network support and control ancillary service, taking into account the need to:
 - (1) subject to <u>clause 3.11.5sub-paragraph</u> (h)(2), so far as practicable minimise the overall cost of supply of that service; and
 - (2) appropriately remunerate the providers of the relevant *network* support and control ancillary service for that service.



- (i) If AEMO and the a Registered Participants preferred tenderer selected by AEMO cannot agree on the terms and conditions for the supply of a network support and control ancillary service after 21 business days from delivery to the Registered Participant preferred tenderer of a written notice from AEMO to negotiate, then either AEMO or the Registered Participant preferred tenderer may refer the matter to an-the Adviser for the determination of a dispute as to those terms and conditions in accordance with rule 8.2.
- (j) Subject to <u>clause 3.11.5paragraph</u> (k), *AEMO* must not acquire <u>non-market-system restart</u> ancillary services from any person who is not a *Registered Participant*.
- (k) AEMO may enter into an agreement to acquire <u>system restart non-market ancillary services</u> with a person who is not a <u>Registered Participant</u> if that agreement includes a condition for the benefit of <u>AEMO</u> that no <u>system restart ancillary services</u> will be provided under the agreement until that person becomes a <u>Registered Participant</u>.
- (1) If AEMO calls for offers under clause 3.11.5paragraph (a) in respect of a type of non market ancillary service, AEMO must give a notice to Registered Participants and NMAS providers when the tender process is complete it believes that it has available, under ancillary services agreements, a sufficient quantity of that type of non market ancillary service (as determined by applying the procedure developed under clause 3.11.4(b) or clause 3.11.4A(f), whichever is relevant).
- (m) Within 5 business days of AEMO giving a notice under elause 3.11.5paragraph (l), AEMO must publish the total estimated annual costs and quantitiesy of each kind type of network support and control ancillary service acquired by AEMO under ancillary services agreements in respect of each region and in total under elause 3.11.5 and provide a breakdown of those costs and quantities relating to each facility contracted under those agreements.
- (n) Within 5 business days of AEMO giving a notice under elause 3.11.5 paragraph (1), AEMO must publish:
 - the total estimated annual cost for the provision of system restart ancillary services, broken down to charges for availability and use, or other factors that AEMO considers appropriate for each electrical sub-network; and
 - (2) the number of those-system restart ancillary services procured acquired for each electrical sub-network.
- (o) An Registered Participant NMAS provider person must comply with an ancillary services agreement between thate NMAS provider Registered Participant and AEMO—under which they Registered Participant—provides one or more non-market ancillary services.

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(p) A dispute concerning any aspect, (other than the aspect of price), of a system restart ancillary services agreement or a tender call for offers conducted by AEMO for the acquisition of system restart ancillary services, must be dealt with in accordance with rule 8.2.

3.11.6 Procedures for the dDispatch of non-market ancillary services by AEMO

- (a) AEMO must develop procedures for:
 - dispatching each kind of non-market ancillary service-AEMO requires in order to maintain the power system in a secure operating state; and
 - (2) reporting to Registered Participants and NMAS providers, on a periodic basis, on the effectiveness of the dispatch of non-market ancillary services using criteria related to the performance of the power system specified in the procedures developed pursuant to clause 3.11.6under sub-paragraph (a)(1).
- (b) AEMO must make publish the procedures developed under this clause 3.11.6 available to the Registered Participants.
- (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 network support and control ancillary services to support the relevant procedure developed under sub-paragraph (a)(1).
- (e) 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.

3.13.5 Ancillary services contracting by AEMO

- (a) AEMO must publish annually the costs of all of its operations associated with the-its acquisition of market ancillary services and non-market ancillary services.
- (b) AEMO must publish annually the quantities and eategories-types of market ancillary services and non-market ancillary services covered under existing ancillary services agreements—and the additional quantities of non market ancillary services for which AEMO expects to enter into ancillary services agreements within the ensuing 12 months.
- (c) Information *published* under <u>paragraph</u> elauses 3.13.5(a) or (b) must include:

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- (1) the <u>actual</u> costs and quantities associated with each <u>eategory</u> <u>type</u> of <u>ancillary service</u> <u>purchased</u> <u>acquired</u> or to be <u>purchasedover the preceding 12 months in respect of each region; and</u>
- (2) in the case of NSCAS, a breakdown of the actual costs and quantities relating to each facility contracted under ancillary services agreements.; and
- (2) where possible, the *regions* in respect of which costs were or are expected to be incurred and *ancillary services* were or are expected to be provided.



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3.15.6A Ancillary service transactions

- (b) In each trading interval, In relation to each Market Participant NMAS provider whowhich 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 trading amount for the relevant Market Participant determined in accordance with that agreement.
- (b1) Where an amount payable by *AEMO* under paragraph (b) is not determined on a *trading interval* basis, that amount is recovered in accordance with the relevant paragraphs (c7), (c8), (d) and (e), except that a reference to *trading interval* in the calculation of RBF, AGE, AAGE, TGE, ATGE, 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) 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:

$$\frac{TA = TNCASP \times \frac{TCE}{ATCE}}{ATCE}$$

where:

TA (in \$) the trading amount to be determined

(which is a negative number);

TNCASP (in \$) all amounts payable by AEMO in respect of

the trading interval under ancillary services agreements in respect of the

provision of NCAS;

TCE (in MWh) the customer energy for the Market

Customer for the trading interval; and

ATCE (in the aggregate customer energy figures for MWh) all Market Customers for the trading

interval.

- (c1) AEMO must recover its liabilities under ancillary services agreements for the provision of NSCAS from Market Customers in each region in accordance with paragraphs (c7) and (c8), subject to paragraph (b1).
- (c2) 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 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 (c7) formula); and
- (2) does not benefit specific *regions* (being the amount *TNSCAS_p* in the paragraph (c8) formula).
- (c3) AEMO must develop a procedure to determine the relative benefit that each region is estimated to receive from the provision of each NSCAS ("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 the estimated increase for each region of the gross economic benefit from increased power transfer capability and any other relevant factors.
- (c4) AEMO may amend the regional benefit ancillary services procedures from time to time.
- (c5) AEMO may make minor and administrative amendments to the <u>regional benefit ancillary services procedures</u> without complying with the Rules consultation procedures.
- (c6) From time to time, AEMO must determine an allocation between regions of the costs associated with the provision of NSCAS under each ancillary services agreement in accordance with the regional benefit ancillary services procedures ("regional benefit factors").
- (c7) 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:

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

$$\underline{AAGE_{P,R}}$$

where:

Subscript 'P' is the relevant period

Subscript 'R' is the relevant region

Subscript 'S' is the relevant NSCAS

 $\underline{TA}_{P,R}$ (in \$) $\underline{=}$ the trading amount payable by the

<u>Market Customer in respect of the</u> relevant region and trading interval;

 $\underline{\text{TNSCAS}_{S,P}(\text{in \$})} = \underline{\text{the total amount payable by } AEMO \text{ for}}$

the provision of the relevant NSCAS under an ancillary services agreement in respect of the relevant trading interval;



 $RBF_{S, P, R}$ (number) = the latest regional benefit factor

assigned to the provision of the relevant NSCAS under an ancillary services agreement in respect of the relevant region and trading interval, as determined by AEMO under paragraph

(c6);

 $\underline{AGE}_{P,R}$ (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

 $AAGE_{P,R}(in MWh)$ = the aggregate $AGE_{P,R}$ figures for all

<u>Market Customers in respect of the</u> relevant *region* and *trading interval*.

(c8) 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:

$$\underline{TA_{P}} = \underline{TNSCAS_{P}} \quad \mathbf{x} \quad \xrightarrow{\underline{AGE_{P}}} \mathbf{x} \quad -\mathbf{AGGE_{P}}$$

$$AAGE_{P}$$

where:

Subscript 'P' is the relevant period

 $\underline{TA_{P}(in \$)} \equiv \underline{the trading amount payable by the}$

Market Customer in respect of the

relevant trading interval;

 $\underline{\text{TNSCAS}}_{\underline{P}}$ (in \$) $\underline{\underline{}}$ the sum of all amounts payable by

AEMO for the provision of NSCAS 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 the relevant trading interval under

paragraph (c7);

 \underline{AGE}_{P} (in MWh) $\underline{=}$ the sum of the adjusted gross energy

figures in respect of all of the *Market*Customer's relevant connection points
for the relevant trading interval; and

 $AAGE_{P}$ (in MWh) = the aggregate AGE_{P} figures for all

Market Customers in respect of the

relevant trading interval.

(c9) AEMO must publish the regional benefit factors determined under sub-paragraph (c6).



3.15.8 Funding of Compensation for directions

- (f) The *trading amount* must be calculated as follows:
 - (1) subject to clause 3.15.8(f)(2) and (3) *AEMO* must use the appropriate formula set out in clause 3.15.6A(e)(c7), (c8), (d), (e), (f), (g), (h) or (i) depending on which *ancillary service* was the subject of the *direction*;
 - (2) TNCASPTNSCASP, TSRP, RTCRSP, RTCLSP or TSFCAS (as applicable) in the relevant formula is equal to the *ancillary service compensation recovery amount* for the relevant *ancillary service* in respect of the *direction*; and
 - (3) if TCE, TGE, <u>AGE</u>, ATCE-or, ATGE or <u>AAGE</u> is used in the relevant formula, then the words 'the *trading interval*' in the definitions of those terms in the formula are to be read as 'all of the *trading intervals* during which the *direction* applied'.

3.15.10C Intervention Settlements

- (a) *AEMO* must include in the final statement provided under clause 3.15.14 and 3.15.15 for a *billing period* in which a *direction* was issued:
 - (1) for each Affected Participant and Market Customer in relation to that direction the amount calculated pursuant to clause 3.12.2(c);
 - (2) for each *Directed Participant* in relation to that *direction* the amount calculated pursuant to clause 3.15.7(c) or clause 3.15.7A(a) by application of clause 3.15.7A(e), as the case may be;
 - (3) for each *Market Customer* in relation to that *direction* the amount calculated pursuant to clause 3.15.8(b) by application of clause 3.15.8 mutatis mutandis provided that the amount for the purposes of:
 - clause 3.15.8(a)(1)(i) shall be the total amount payable to AEMO by Affected Participants and Market Customers calculated pursuant to clause 3.12.2(c);
 - (ii) clause 3.15.8(a)(1)(ii) shall be the amount calculated in accordance with that clause;
 - (iii) clause 3.15.8(a)(2)(i) shall be the total amount payable by *AEMO* to *Affected Participants* and *Market Customers* calculated pursuant to clause 3.12.2(c);
 - (iv) clause 3.15.8(a)(2)(ii) shall be the sum of the total amount payable by *AEMO* to *Directed Participants*



calculated pursuant to clause 3.15.7(c) and 3.15.7A(a) by application of 3.15.7A(e); and

- (v) clause 3.15.8(a)(2)(iii) shall be zero; and
- (4) for each *Market Customer* and *Market Generator* in relation to that *direction* an amount calculated pursuant to clause 3.15.8(e) by application of clause 3.15.8 mutatis mutandis provided that for the purposes of clause 3.15.8(f)(2) TNCASPTNSCASP, TSRP, RTCRSP, RTCLSP and TSFCAS shall be the total compensation payable by *AEMO* for the relevant *ancillary service* calculated in accordance with clause 3.15.7(c) or clause 3.15.7A(a) by application of clause 3.15.7A(e), as the case may be.
- (b) *AEMO* must include in the first statement it provides under clauses 3.15.14 and 3.15.15 following a final determination of all total amounts payable or receivable by it pursuant to clause 3.12.2, clause 3.15.7(a) and clause 3.15.8, separate details of the amount:
 - (1) receivable by each *Directed Participant* pursuant to clause 3.15.7(a) less the amount, if any, paid to that *Directed Participant* pursuant to clause 3.15.10C(a)(2);
 - (2) receivable by each Affected Participant or Market Customer pursuant to clause 3.12.2:
 - (i) less the amount paid to that *Affected Participant* or *Market Customer*, in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any; or
 - (ii) plus the amount paid by that *Affected Participant* or *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any;
 - (3) payable by each Affected Participant or Market Customer pursuant to 3.12.2:
 - (i) less the amount paid by that *Affected Participant* or *Market Customer*, in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any; or
 - (ii) plus the amount paid to that Affected Participant or Market Customer in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any;
 - (4) receivable by each *Market Customer* pursuant to clause 3.15.8(b):
 - (i) less the amount paid to that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any; or



- (ii) plus the amount paid by that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any;
- (5) payable by each *Market Customer* pursuant to clause 3.15.8(b):
 - (i) less the amount paid by that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any; or
 - (ii) plus the amount paid to that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any;
- (6) if an *Affected Participant* or *Market Customer* is not entitled to any compensation pursuant to clause 3.12.2, the amount:
 - (i) receivable by that person equal to the amount paid by that person pursuant to clause 3.15.10C(a); or
 - (ii) payable by that person equal to the amount paid to that person pursuant to clause 3.15.10C(a);
- (7) payable by each *Market Customer* and *Market Generator* equal to:
 - (i) the amount payable by the *Market Customer* or *Market Generator*, as the case may be, pursuant to clause 3.15.8(e) by application of clause 3.15.8 mutatis mutandis provided that for the purposes of clause 3.15.8(f)(2) TNCASPTNSCASP, TSRP, RTCRSP, RTCLSP and TSFCAS shall be the total compensation payable by *AEMO* for the relevant *ancillary service* calculated in accordance with clause 3.15.7A(a); less
 - (ii) the amount paid by the *Market Customer* or *Market Generator*, as the case may be, in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(4); and
- (8) payable by *Registered Participants* pursuant to clause 3.15.8(g).
- (c) If on application by the *AER* a court determines, in relation to a *direction*, that a *Directed Participant* has breached clause 4.8.9(c2) then:
 - (1) the *Directed Participant* shall not be entitled to, and must repay, any compensation plus interest pursuant to clauses 3.15.7, 3.15.7A and 3.15.7B, in relation to that *direction*; and
 - (2) the AER must forward to AEMO a written notice of the court's determination.



- (3) *AEMO* must include in the first relevant statement it provides under clauses 3.15.14 and 3.15.15 following receipt of the notice from the *AER* issued pursuant to clause 3.15.10C(c)(2) separate details of:
 - (i) an amount payable to AEMO by the Directed Participant equal to the total compensation received by that Directed Participant in accordance with clauses 3.15.7, 3.15.7A and 3.15.7B plus interest on that total compensation computed at the average bank bill rate for the period from the date of payment of such amount to the Directed Participant until the date of that first statement;
 - (ii) an amount payable by AEMO to each relevant Market Customer calculated by applying clause 3.15.8(b) mutatis mutandis except that:
 - (A) MCP shall equal the amount receivable by the Market Customer; and
 - (B) CRA shall equal that part of the amount, including interest, calculated pursuant to clause 3.15.10C(c)(3)(i) attributable to the provision of *energy* by the *Directed Participant*; and
 - (iii) an amount payable by *AEMO* to each relevant *Market Customer* and *Market Generator* calculated by applying clause 3.15.8(f)(2) mutatis mutandis except that:
 - (A) all *trading amounts* determined by this clause 3.15.10C(c)(3)(iii) shall be positive; and
 - (B) TNCASPTNSCASP, TSRP, RTCRSP, RTCLSP, and TSFCAS shall all be an amount equal to that part of the amount, including interest, calculated pursuant to clause 3.15.10C(c)(3)(i) attributable to the provision of the relevant *ancillary service*.



4. Power System Security

4.3.4 Network Service Providers

- (d) Each Network Service Provider must advise AEMO of any ancillary services or similar services provided under any connection agreement or network support agreement to which it is a party-, and in respect of network support and control ancillary services provided under any network support agreement must provide to AEMO and update as the need arises, details of the following:
 - (i) a description of the *network support* and control ancillary service, including:
 - (A) the nature of the *network support and control ancillary service*;
 - (B) the purpose for which the *network support and control* ancillary service has been acquired;
 - (C) the connection points at which the network support and control ancillary service is to be provided;
 - (D) the quantity of the <u>network support and control</u> <u>ancillary service</u> that can be provided, described in a <u>manner relevant to the stated purpose;</u>
 - (E) the period of any notice that has to be given to the provider of the *network support and control ancillary* service for it to be enabled;
 - (F) the response time to any instruction for use once the network support and control ancillary service has been enabled; and
 - (G) the communication protocols related to the enabling and usage of the *network support and control ancillary* service and the notification of changes to its availability;
 - (ii) the availability of the *network support and control ancillary* <u>service</u>, including:
 - (A) the period over which the *network support and control* ancillary service will be available;
 - (B) any possible restrictions on the availability of the network support and control ancillary service; and
 - (C) whether the *network support and control ancillary* service is available for the use of parties other than the Network Service Provider;
 - (iii) advice on any changes to the formulation of *network* limits to reflect the enabling or usage of the *network support and* control ancillary service; and



- (iv) if relevant, when and how the network support and control ancillary service is to be dispatched by AEMO.
- (d1) A Network Service Provider who enters into a network support agreement must negotiate in good faith with AEMO on the form of instructions it will provide to AEMO under paragraph (d)(iv) to dispatch the network support and control ancillary service to ensure those instructions are both comprehensive and practicable for AEMO to implement in central dispatch if required.

4.5.1 Power system voltage control

- (f) AEMO must use its reasonable endeavours to arrange the provision of reactive power facilities and power system voltage stabilising facilities through:
 - (1) contractual arrangements for ancillary services agreements with appropriate Registered Participants in accordance with rule 3.11:
 - (2) negotiation and agreement with appropriate *Network Service Providers* on the use of their *networks* and the provision of ancillary services under network support agreements; or
 - (3) obligations on the part of Registered Participants under their connection agreements in accordance with clause 3.11.4(b)(1).

4.9.2 Instructions to Scheduled Generators and Semi-Scheduled Generators

(c) Unless otherwise provided under an ancillary services agreement, a network support agreement or a connection agreement, AEMO must not give an instruction under paragraph (b) that requires a generating unit or generating system to supply or absorb reactive power at a level outside the plant's relevant performance standard.

4.9.3A Ancillary services instructions

- (b) AEMO may at any time give an instruction (a "dispatch instruction") to an Registered Participant NMAS provider with which whom AEMO has an ancillary services agreement in relation to the provision of non-market ancillary services under that ancillary services agreement or which AEMO is otherwise entitled to give under that ancillary services agreement.
- (d) An Registered Participant NMAS provider with which whom AEMO has an ancillary services agreement must ensure that appropriate personnel or electronic facilities are available in accordance with that agreement at all times to receive and immediately act upon dispatch instructions issued to the Registered Participant that NMAS provider by AEMO.



4.10.2 Transmission network operations

(c) <u>Registered Participants Persons</u> must operate their equipment interfacing with a <u>transmission network</u> in accordance with the requirements of Chapter 5, any applicable <u>connection agreement</u>, ancillary services agreement, <u>network support agreement</u>, and the associated <u>power system operating procedures</u>.



5. Network Connection

5.2.1 Obligations of Registered Participants

- (b) All Registered Participants must ensure that the connection agreements to which they are a party require the provision and maintenance of all required facilities consistent with good electricity industry practice and must operate their equipment in a manner:
 - to assist in preventing or controlling instability within the power system;
 - (2) comply with the minimum standards published pursuant to clause 3.11.4(c);
 - (2) to comply with their *performance standards*;
 - (3) to assist in the maintenance of, or restoration to, a *satisfactory* operating state of the power system; and
 - (4) to prevent uncontrolled separation of the *power system* into isolated *regions* or partly combined *regions*, *intra-regional transmission* break-up, or *cascading outages*, following any *power system* incident.

5.3.6 Offer to connect

(c1) An offer to connect and the resulting connection agreement must be consistent with any minimum standards set by AEMO under clause 3.11.4(b)(1).[Deleted]

5.3.8 Provision and use of information

- (b) The data and information to be provided under this rule 5.3 may be shared between a *Network Service Provider* and *AEMO* for the purpose of enabling:
 - (1) the *Network Service Provider* to advise *AEMO* of *ancillary services* or similar services described in clause 3.11.3(j); and

5.4.2 Advice of inconsistencies

- (a) At any stage prior to commissioning the *facility* in respect of a *connection* if there is an inconsistency between the proposed equipment and the *connection agreement* including the *performance standards*, the *Registered Participant* or the person intending to be registered as a *Generator* must:
 - advise the relevant Network Service Provider and, if the inconsistency relates to performance standards, AEMO, in writing of the inconsistency; and
 - (2) if necessary, negotiate in good faith with the *Network Service Provider* any necessary changes to the *connection agreement*.



- (b) If an inconsistency in a *connection agreement* including a *performance standard* is identified under paragraph (a), the *Registered Participant* or the person intending to be registered as a *Generator* and the *Network Service Provider* must not commission the *facility* in respect of a *connection* unless the *facility* or the *connection agreement* or *performance standard* has been varied to remove the inconsistency.
- (c) Nothing in this clause 5.4.2 affects the operation of clause 5.3.6(c1).[Deleted]

5.6A.2 Publication of NTNDP

- (a) By no later than 31 December each year, AEMO must publish the NTNDP for the following year.
- (b) In preparing the *NTNDP* that is to be *published* under paragraph (a), *AEMO* must:
 - take into account the submissions made in response to the invitation referred to in clause 5.6A.1(b); and
 - (2) consider the following matters:
 - the quantity of electricity that flowed, the periods in which the electricity flowed, and *constraints* on the national transmission flow paths over the previous year;
 - (ii) the forecast quantity of electricity that is expected to flow, the periods in which the electricity is expected to flow, and the magnitude and significance of future network losses and constraints, on the current and potential national transmission flow paths over the year in which the NTNDP is to apply or some other period to which a scenario that is used for the purposes of the NTNDP applies;
 - (iii) the projected capabilities of the national transmission grid, and the network <u>support and control</u> ancillary services required to support the existing and future capabilities of the national transmission grid, under each of the scenarios that is being used for the purposes of the NTNDP;
 - (iv) relevant intra-jurisdictional developments and any incremental works that may be needed to co-ordinate national transmission flow path planning with intrajurisdictional planning;
 - (v) such other matters as AEMO, in consultation with the participating jurisdictions, considers appropriate; and
 - (3) have regard to the following documents:



- (i) the most recent Annual Planning Reports that have been published;
- (ii) the most recent statement of opportunities that has been published;
- (iii) the most recent gas statement of opportunities published under the National Gas Law;
- (iv) the current revenue determination for each *Transmission Network Service Provider*;
- (v) any other documents that AEMO considers relevant.
- (c) An NTNDP that is published under paragraph (a) must:
 - (1) consider and assess an appropriate course for the efficient development of the *national transmission grid* for a planning horizon of at least 20 years from the beginning of the year in which the *NTNDP* applies; and
 - (2) take into account all transmission elements and network support and control ancillary services that are part of, or materially affect, the transmission capability of any current or potential national transmission flow paths; and
 - (3) identify a range of credible scenarios for the geographic pattern of the demand for, and supply of, electricity for the planning horizon of the *NTNDP*; and
 - (4) identify the location of current *national transmission flow paths* and specify their transmission capability; and
 - (5) identify the location of the potential *national transmission flow paths* over the planning horizon of the *NTNDP* under each of the scenarios referred to in subparagraph (3); and
 - (6) specify a development strategy for each current and potential *national transmission flow path* in accordance with clause 5.6A.3; and
 - (6A) include an assessment that identifies any NSCAS need for a planning horizon of at least 5 years from the beginning of the year in which the NTNDP applies; and
 - (7) include a summary of the information specified in rule 3.7A in relation to congestion on each current *national transmission flow path*; and
 - (8) include a consolidated summary of the *augmentations* proposed by each *Transmission Network Service Provider* in the most recent *Annual Planning Reports* they have *published* and an analysis of the manner in which the proposed *augmentations* relate to the *NTNDP* and any previous *NTNDP*; and

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(9) summarise the material issues arising from the submissions received in response to the invitation referred to in clause 5.6A.1(b), explain how those issues have been addressed in the *NTNDP* and give reasons for not addressing any of those issues in the *NTNDP*.



8. Administrative Functions

8.2.1 Application and guiding principles

(a1) For the purposes of this rule 8.2 only, "Registered Participant" is deemed to include not just Registered Participants but also AEMO. and Connection Applicants and NMAS providers who are not otherwise Registered Participants, except that this will not be the case where the term "Registered Participant":

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- (1) is used in clauses 8.2.2(b)(4), 8.2.2(d), 8.2.3(a), 8.2.3(b)(5) and 8.2.5(e):
- (2) first occurs in clauses 8.2.3(b), (b)(3), (b)(4) or (c); or
- (3) last occurs in clauses 8.2.4(a) or 8.2.9(c).



10. Glossary Terms

ancillary services agreement

An agreement under which an *Registered Participant_NMAS provider* agrees to provide one or more *non-market ancillary services* to *AEMO*.

dispatch

The act of initiating or enabling all or part of the response specified in a dispatch bid, dispatch offer or market ancillary service offer in respect of a scheduled generating unit, semi-scheduled generating unit, a scheduled load, a scheduled network service, an ancillary service generating unit or an ancillary service load 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 as appropriate.

dispatch instruction

An instruction given to a *Registered Participant* under clauses 4.9.2, 4.9.2A, 4.9.3—4.9.3A, or to an *NMAS provider* under clause 4.9.3A.

minimum technical ancillary service standards

The minimum technical service standards prepared by AEMO in accordance with clause 3.11.4.

NCAS

A network control ancillary service.

network control ancillary service

A service identified in clause 3.11.4(a) which provides AEMO with a capability to control the real or reactive power flow into or out of a transmission network in order to:

- (a) maintain the transmission network within its current, voltage, or stability limits following a credible contingency event; or
- (b) enhance the value of *spot market* trading in conjunction with the *central dispatch* process.

network support and control ancillary service or NSCAS

A service with the capability to control the *active power* or *reactive power flow* into or out of a *transmission network* in order to:

(a) assist in maintaining that *transmission network* in a *secure operating* <u>state</u>; and



(b) maintain or increase its power transfer capability.

network support agreement

An agreement under which a person agrees to provide one or more network support and control ancillary services to between a Network Service Provider, and a Market Participant or any other person providing including network support services to improve network capability by providing a non-network alternative to a network augmentation.

NMAS

A non market ancillary service.

NMAS provider

A person who agrees to provide one or more *non-market ancillary* services to AEMO under an ancillary services agreement.

NMAS tender guidelines

As defined in clause 3.11.5(a).

non-market ancillary service or NMAS

Network <u>support and</u> control ancillary services and system restart ancillary services.

NSCAS description

As defined in clause 3.11.4(a).

NSCAS need

As defined in clause 3.11.4(b).

NSCAS quantity procedure

As defined in clause 3.11.4(b).

planned network event

An event which has been planned by a *Transmission Network Service Provider*, *AEMO* or a *Market Participant* that is likely to materially affect *network constraints* in relation to a *transmission system*, including but not limited to:

- (a) a network outage;
- (b) the connection or disconnection of generating units or load;



- (c) the commissioning or decommissioning of a network asset or the provision of new or modified network <u>support and</u> control ancillary services; and
- (d) the provision of <u>network support and control ancillary services</u> services under a network support agreement.

prescribed transmission service

Any of the following services:

- (a) a shared transmission service that:
 - does not exceed such network performance requirements (whether as to quality or quantity) as that shared transmission service is required to meet under any jurisdictional electricity legislation;
 - (2) except to the extent that the *network* performance requirements which that *shared transmission service* is required to meet are prescribed under any *jurisdictional electricity legislation*, does not exceed such *network* performance requirements (whether as to quality or quantity) as are set out in schedule 5.1a or 5.1; or
 - (3) is an above-standard system shared transmission service;
- (b) services that are required to be provided by a *Transmission Network Service Provider* under the *Rules*, or in accordance with *jurisdictional electricity legislation*, to the extent such services relate to the provision of the services referred to in paragraph (a), including such of those services as are:
 - required by AEMO to be provided under the Rules, but excluding those acquired by AEMO under rule 3.11; and
 - (2) necessary to ensure the integrity of a *transmission network*, including through the maintenance of *power system security* and assisting in the planning of the *power system*; or
- (c) connection services that are provided by a Transmission Network Service Provider to another Network Service Provider to connect their networks where neither of the Network Service Providers is a Market Network Service Provider;

but does not include a negotiated transmission service or a market network service.

regional benefit ancillary services procedures

As defined in clause 3.15.6A(c3).

SRAS

A system restart ancillary service.



system restart ancillary service or SRAS

A service provided by facilities with black start capability which allows:

- (a) energy to be supplied; and
- (b) a connection to be established,

sufficient to restart large generating units following a major supply disruption.



11. Savings and Transitional Rules

11.X Rules consequent on making the National Electricity Amendment (NSCAS) Rule 2010 No.X

11.X.1 Definitions

For the purposes of rule 11.X:

Amending Rule means the National Electricity Amendment (NSCAS) Rule 2010.

Existing NCAS contract means an ancillary services agreement entered into between AEMO and a Registered Participant prior to the NSCAS commencement date whereby AEMO acquires NCAS from that Registered Participant.

NCAS means *network control ancillary services*, as that term was defined immediately prior to the NSCAS commencement date.

NSCAS commencement date means the date of the commencement of the Amending Rule.

<u>AEMO NSCAS Acquisition Process commencement date is [insert date here].</u>

11.X.2 Purpose

The purpose of this rule 11.X is to provide transitional arrangements to facilitate *AEMO's* transition from the framework for the acquisition of *NCAS* prior to the NSCAS commencement date to the framework for the acquisition of *NSCAS* initiated under clause 3.11.3.

11.X.3 Existing NCAS Contracts to continue

- (a) AEMO may continue to acquire NCAS under existing NCAS contracts and may extend the term of any existing NCAS contract for such period as is agreed between AEMO and each counterparty to the relevant existing NCAS contract.
- (b) After the NSCAS commencement date, an existing NCAS contract is to be regarded as an *ancillary services agreement* for the provision of *NSCAS* that does not benefit a specific *region* for the purposes of clauses 3.15.6A (c1) (c9) (including during any period that the existing NCAS contract is extended under paragraph (a)).

11.X.4 Amendments to Existing Guidelines

(a) AEMO must amend the NMAS tender guidelines and the guidelines for the dispatch of network support and control ancillary services under clause 3.11.6(d) to take into account the



- Amending Rule with those amendments to take effect from AEMO NSCAS Acquisition Process commencement date.
- (b) Any action taken by AEMO prior to the AEMO NSCAS

 Acquisition Process commencement date for the purpose of amending the NMAS tender guidelines and the guidelines for the dispatch of network support and control ancillary services as a result of the Amending Rule is taken to satisfy any equivalent actions required under the Rules.

11.X.5 New Procedures

- (a) AEMO must develop and publish the NSCAS description and the NSCAS quantity procedure to take into account the Amending Rule and to take effect from the NSCAS commencement date.
- (b) AEMO must develop and publish the regional benefit ancillary services procedures to take into account the Amending Rule and to take effect from the AEMO NSCAS Acquisition Process commencement date.
- (c) Any action taken by *AEMO* prior to the relevant effective date for the purpose of developing the *NSCAS description*, *NSCAS quantity procedure* and the *regional benefit ancillary services* procedures as a result of the Amending Rule is taken to satisfy any equivalent actions required under the *Rules*.

11.X.6 Decisions and Actions taken prior to Amending Rule

All decisions and actions taken by *AEMO* prior to the NSCAS commencement date in anticipation of the commencement of the Amending Rule are taken to satisfy the equivalent actions required after the NSCAS commencement date and continue to have effect for that purpose.