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By online submission

Dear Mr Tamblyn

Network Support and Control Ancillary Services

AEMO requests the AEMC consider making a Rule change under sections 91 and 96A of the National Electricity Law (**NEL**). The proposed Rule changes seek to implement the recommendations in AEMO's Final Determination published 18 December 2009, on its review of Network Support and Control Services (**NSCS Review**). AEMO is required to conduct this review under clause 3.1.4(a1)(4) of the National Electricity Rules (**NER**) and in accordance with the Rules consultation procedures set out in rule 8.9. AEMO is also required under clause 3.1.4(a2)(8) to submit any proposed Rule changes to the AEMC within three months of publishing its Final Determination.

Broadly, the proposed Rule changes seek to improve the current arrangements for the planning and acquisition of these services by:

- providing a new definition of "network support and control ancillary services" (**NSCAS**) to reflect their expanded scope and objective;
- providing greater clarity in the respective roles of AEMO and transmission network service providers (**TNSPs**) in planning and acquiring NSCAS, including AEMO's obligations to conduct and publish assessments of NSCAS needs in its National Transmission Network Development Plan (**NTNDP**) and to initiate a safety net acquisition of such NSCAS needs should these be unmet by relevant TNSPs; and
- allowing AEMO to acquire NSCAS from persons other than Registered Participants.

The proposed Rule changes also include consequential changes to support the implementation of the improved NSCAS arrangements so that AEMO (and, to a lesser extent, TNSPs and the AER) can effectively perform their proposed functions.

AEMO considers that the proposed Rule changes would give effect to the recommendations of the NSCS Review, and would promote the national electricity objective (NEO) through improvements in each of the following areas:

- service definition: increasing regulatory certainty and transparency;
- service planning and acquisition:
 - providing better investment signals to the market; and

- encouraging TNSPs to provide market solutions to identified NSCAS needs and, where this does not occur, allowing AEMO to more competitively acquire those services at lower costs than can be achieved under the current arrangements.
- service deployment: improving the efficiency of the central dispatch and PASA processes and promoting regulatory certainty regarding the provision and dispatch of these services; and
- service cost recovery: aligning the beneficiaries of the NSCAS with the recovery of the service costs.

AEMO has undertaken extensive consultation on the current arrangements for NSCAS which has resulted in key recommendations that are the subject of these proposed Rule changes. On this basis, AEMO requests that the AEMC consider “fast tracking” this proposed Rule change under section 96A of the NEL. Section 96A applies if the AEMC considers that the nature and the content of a Rule change proposal has previously been consulted with the public by an electricity market regulatory body.

Further details of AEMO’s consultation process, submissions received in response to the various stages of consultation and AEMO’s response to the issues raised are included in its two Draft Determinations and its Final Determination, which can be found on AEMO’s website at: <http://www.aemo.com.au/electricityops/168-0089.html>.

AEMO would be pleased if you could have these matters considered by the AEMC. For further details, please do not hesitate to contact Franc Cavoli on 03 9609 8416.

Yours sincerely



Matt Zema
Managing Director and Chief Executive Officer

Attachment A: Rule Change Proposal

Attachment B: Proposed Rule Changes

Attachment C: Summary of Minor and Consequential Rule Changes

Attachment D: Summary of NSCS Review Submissions and AEMO’s response.

ATTACHMENT A

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1. Interpretations

For the purposes of this document, references to AEMO also include the actions undertaken by NEMMCO prior to 1 July 2009.

Throughout this document, references to:

- the new term “network support and control ancillary services” (**NSCAS**) as proposed in the National Electricity Rules (**NER**) changes, is equivalent to the term “network support and control services” (**NSCS**) as referred to during the review of Network Support and Control Services (**NSCS Review**). The proposed new term reflects that these services are ancillary services. The exception to this interpretation is in specific references to the NSCS Review;
- the “acquisition” of NSCAS as is currently used in the NER, is equivalent to the term “procurement” as referred to during the NSCS Review; and
- the “dispatch” of NSCAS as is currently used in the NER, is equivalent to the term “deployment” as referred to during the NSCS Review and elsewhere in this document.

2. Summary

AEMO’s proposed Rule changes seek to implement the recommendations arising from its NSCS Review required under clause 3.1.4(a1)(4) of the NER and undertaken in accordance with the Rules consultation procedures set out in rule 8.9. AEMO’s Final Determination was published on AEMO’s website on 18 December 2009.

The NSCS Review recommended improvements to the planning arrangements for NSCAS, whereby AEMO identifies requirements for NSCAS (**NSCAS needs**) through its National Transmission Network Development Plan (**NTNDP**).

The NSCS Review also recommended improvements to the arrangements for acquiring NSCAS that:

- clarify the current safety net arrangement whereby AEMO would acquire services to meet identified NSCAS needs where the relevant Transmission Network Service Provider (**TNSP**) does not do so; and
- allow AEMO to acquire NSCAS more competitively by opening its tender process to all potential viable providers including Generators, TNSPs and other commercial entities. This proposed arrangement would require additional provisions in the NER to facilitate the contracting of preferred services based on the circumstances.

3. Request for Proposed Rule

This section provides a description of AEMO's right to submit the proposed Rule to the AEMC, the power that the AEMC has under the NEL to consider the proposed Rule, and AEMO's request for the proposed Rule to be "fast tracked".

3.1. AEMO's Right to Submit this Proposal

AEMO is requesting that the AEMC make these proposed Rules in accordance with section 91 of the *National Electricity Law (NEL)*.

AEMO has the following operational functions under the NEL:

- to operate and administer the national electricity market (**NEM**);
- to promote the development and improve the effectiveness of the operation and administration of the NEM; and
- to maintain and improve power system security.

AEMO also has the following planning functions under the NEL as the National Transmission Planner (**NTP**):

- to prepare, maintain and publish the NTNDP;
- to review the national transmission grid and advise on its development or projects that affect it; and
- provide a national strategic perspective for transmission planning and coordination.

3.2. Power of the AEMC to make the Proposed Rule

The subject matters about which the AEMC may make Rules are set out in section 34 of the NEL and, more specifically, in Schedule 1 to the NEL.

AEMO considers that the proposed Rule falls within the subject matters that the AEMC may make Rules about, as it relates to the activities of persons participating in the NEM.

3.3. Request for the Proposed Rule to be "Fast Tracked"

AEMO requests that AEMC considers "fast tracking" the proposed Rule under section 96A of the NEL. Section 96A applies if the AEMC considers that the nature and the content of a proposed Rule have previously been consulted on with the public by an electricity market regulatory body¹.

AEMO considers that section 96A applies because:

¹ Under section 87 of the NEL, electricity market regulatory body means the AER, AEMO or the Reliability Panel

- throughout the NSCS Review, AEMO has consulted extensively on the matters that are included in the proposed Rule, and stakeholders have been given adequate opportunity to provide comments to AEMO on the key issues addresses in the proposed Rule; and
- the consultation involved industry members and industry representative bodies, with key consultation dates and documents published on AEMO's website and notified via AEMO Communications, and was undertaken in accordance with the Rules consultation procedure set out in rule 8.9 of the NER.

Section 4.3 of this proposal provides a summary of the NSCS Review's consultation. Attachment D provides a summary of the issues raised and AEMO's response.

4. Relevant Background

4.1. What are Network Support and Control Ancillary Services?

Ancillary services are defined in clause 3.11.1(a) of the NER as “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”.

Chapter 10 of the NER defines ancillary services as comprising market ancillary services and non-market ancillary services (**NMAS**), with the latter defined as comprising system restart ancillary services (**SRAS**) and network control ancillary services (**NCAS**). Clauses 3.11.1(b) and (c) of the NER state that only AEMO acquires ancillary services.

However in practice ancillary services are also acquired by TNSPs for network support, and hence the reference in this proposal to the collective term “network support and control ancillary services” (**NSCAS**) which reflects a combination of “network support” and “network control” ancillary services. NSCAS are services that are critical to maintaining the secure and reliable operation of the power system. They provide the capability to control the active or reactive power flow into or out of a transmission network in order to maintain that transmission network in a secure operating state and maintain or increase its power transfer capability of a transmission network. In the right situation, NSCAS can significantly increase secure power transfer capability and do so at a much lower cost than additional investment in transmission lines and transformers.

NSCAS include services currently acquired by:

- TNSPs, from their own assets as prescribed transmission services, or from other parties²; and
- AEMO, from Registered Participants, currently referred to as network control ancillary services (**NCAS**).

NSCAS comprise a wide range of services that include the following:

- Services provided by Market Participants, such as:
 - Reactive power by generators; and
 - Active power flow control services provided by changing loads (usually switching a load off, but could also involve switching standby generation on).
- Services provided on the transmission network, including reactive and active power flow equipment, such as:
 - Capacitors and reactors;

² Provided as either:

- a paid (discretionary) network support service under a network support agreement, or
- an unpaid (mandatory) service under a network connection agreement (and registered with AEMO as performance standards)

- Static VAR Compensators;
- Phase shift transformers and other equipment used to control power flow; and
- Special protection systems that allow overload capacity to be used while still maintaining security; and
- Services provided by Demand-Side Participants (**DSP**), including:
 - Control of customer load in response to certain signals; and
 - Installation of, or utilisation of, existing small scale generation.

AEMO is required to operate the power system³ to maintain power system security in accordance with the power system security and reliability standards, while TNSPs are required to invest in network services, including NSCAS, to meet their jurisdictional supply reliability obligations and network connection and planning obligations under schedules 5.1 and 5.1a of the NER.

4.2. Purpose of the NSCS Review

AEMO is required under clause 3.1.4(a1)(4) of the NER to conduct a review into the provision of NCAS in accordance with the Rules consultation procedures, which require consultation with Registered Participants, Intending Participants and interested parties (Consulted Persons). Clause 3.1.4(a1)(4) of the NER requires this to include:

- a review of the responsibilities of AEMO and TNSPs for the provision of reactive support;
- a review of the formulation of the generic network constraint equations within central dispatch that depend on the provision of NCAS; and
- a program to assess the potential implementation of market mechanisms for the recruitment and dispatch of NCAS.

The review was known as the NSCS Review, to encompass network services acquired by TNSPs. The NSCS Review was completed on 18 December 2009 and the key dates of the review are outlined in Table 1. Further information on each stage of the NSCS Review can be found on AEMO's website.⁴

4.3. Consultation on the NSCS Review

The NSCS Review was conducted with extensive consultation, in accordance with the Rules consultation procedures. Details of the NSCS Review were published on AEMO's website along with copies of all submissions received, and key updates to the NSCS Review were notified to the market via AEMO Communications.⁵ AEMO published an Initial and a Revised

³ While the Rules define the *power system* to include generation, transmission and distribution networks, AEMO's power system security obligations do not extend to the distribution networks

⁴ See <http://www.aemo.com.au/electricityops/168-0089.html>

⁵ AEMO Communications are electronic information bulletins sent by AEMO to Registered Participants, jurisdictions, regulators and other interested parties ("consulted persons") that have been included in AEMO's stakeholder contacts database over time

Draft Determination, on 25 November 2008 and 12 October 2009, respectively, and a Final Determination on 18 December 2009, all of which considered and addressed the issues raised by consulted persons in their submissions.

Throughout the NSCS Review, AEMO engaged with consulted persons through submissions, open forums and issue-specific meetings with representative industry groups, to gain a greater understanding of the issues, to present relevant information and to encourage participation in the review.

AEMO notes that further consideration of the responses received to its Initial Draft Determination led to AEMO changing its approach to the acquisition of NSCAS as set out in its Revised Draft Determination (12 October 2008).

Table 1: Key Consultation Dates of the NSCS Review

Date	Stage of Consultation
7 March 2008	Draft Scoping Paper published and invitation for submissions on the scope of the NSCS Review
4 April 2008	Closing date for submissions on the scope of the NSCS Review
2 June 2008	Final Scoping Paper published
29 July 2008	Issues and Options Discussion Paper published and notification of the first stage of Rules Consultation
9 September 2008	Closing date for submissions on the Issues and Options Discussion Paper
25 November 2008	Initial Draft Determination report published and notification of the second stage of Rules Consultation
16 February 2009	Closing date for submissions on the Initial Draft Determination Report
Pause in Review process, pending the establishment of AEMO in July 2009 and its review of submissions on Initial Draft Determination Report.	
12 October 2009	Revised Draft Determination Report published and notification of the third stage of Rules consultation
20 October 2009	Public forum held in Melbourne
6 November 2009	Closing date for submissions on the Revised Draft Determination Report
18 December 2009	Final Determination Report published

The following sections provide a broad overview of the various stages of consultation and the key issues that were raised.

Attachment D provides a complete summary of issues raised and AEMO's response to these issues in reaching its Final Determination.

4.3.1. Draft and Final Scoping Papers

On 7 March 2008, NEMMCO published a Draft Scoping Paper that sought stakeholders' views on the scope of the NSCS Review in the context of the current arrangements for the acquisition and dispatch of reactive power and other NCAS.

Following consultation on the Draft Scoping Paper, the Final Scoping Paper was published on 2 June 2008 which finalised the scope of the NSCS Review as follows:

- to identify and address issues surrounding the current arrangements for the acquisition and delivery of NSCAS by TNSPs and NEMMCO; and
- to identify, evaluate and make recommendations on potential alternative arrangements for the more efficient acquisition and delivery of NSCAS.

Specifically, the NSCS Review was to examine the following areas:

- Service definition;
- Service substitutability;
- Service planning and acquisition;
- Service deployment;
- Service cost recovery;
- Barriers to market entry of service providers; and
- Types of NSCAS markets.

4.3.2. Issues and Options Discussion Paper

NEMMCO conducted an assessment of the current NSCAS arrangements in relation to each of the areas defined in its Final Scoping Paper and identified a number of potential issues in its Issues and Options Discussion Paper published on 29 July 2008.

Initial proposals to address these issues were also included in this paper and NEMMCO invited submissions from stakeholders regarding these issues and proposals as part of its first stage of Rules consultation.

4.3.3. Initial Draft Determination and Submissions

After consideration of submissions received in response to its Issues and Options Discussion Paper NEMMCO published its Initial Draft Determination on 12 October 2008, with the key recommendation to remove NEMMCO's safety net obligation under the NER to plan and acquire NSCAS, and to reinforce existing NER obligations on TNSPs to plan and acquire all NSCAS.

However, submissions to the Draft Determination by the Australian Energy Regulator (**AER**) and the National Generators' Forum (**NGF**) raised material concerns with this proposal,

particularly in the context of NEMMCO's (then) future NTP functions. In May 2009, the NSCS Review was deferred, pending the establishment of AEMO on 1 July 2009, to allow these issues to be considered and addressed by the new organisation, taking into account its NTP functions.

4.3.4. Revised Draft Determination

Following AEMO's establishment, the NSCS Review resumed and AEMO published a Revised Draft Determination on 12 October 2009 that took into account submissions received and AEMO's NTP functions. The Revised Draft Determination differed from the Initial Draft Determination by proposing to retain AEMO's current NSCAS planning and acquisition role with the following improvements:

- integration of AEMO's NSCAS planning and acquisition into the annual national transmission planning process;
- a greater forecasting horizon for the identification of NSCAS needs through the NTNDP, and with the cost/benefit assessment of NSCAS proposals more aligned with the principles of the Regulatory Investment Test for Transmission (**RIT-T**) that apply to investments in prescribed transmission services;
- removal of limitations on the parties who can provide NSCAS;
- greater flexibility in NSCAS contracting duration and lead times; and
- a more targeted recovery of AEMO's NSCAS costs from Market Customers in regions benefitting from those NSCAS, where practicable.

As the revised approach represented a substantive departure from its Initial Draft Determination, AEMO conducted a further round of consultation prior to reaching its Final Determination.

4.3.5. Submissions to Revised Draft Determination

AEMO received five submissions to the Revised Draft Determination, from the AER, Energy Response, Grid Australia, Hydro Tasmania and the NGF. Respondents were generally supportive of the Revised Draft Determination however there were a number of key issues raised.

Table 2 summarises these key issues and how these were addressed by AEMO in making further refinements to the arrangements proposed in the Final Determination. Details of other issues that were raised in submissions to the Revised Draft Determination, and AEMO's responses, are contained in AEMO's Final Determination.

Table 2: Key Issues with Revised Draft Determination and Final Determination

Key Issues	AEMO's Response in Final Determination
<p>Inclusion of RIT-T objective in NSCAS definition:</p> <p>The NGF was concerned that replacing the spot market trading objective with the RIT-T objective might fundamentally change the type and quantity of NSCAS acquired, and bias NSCAS investment towards network versus non-network options.</p>	<p>AEMO would work with the AER in developing the guidelines for the efficient deployment of NSCAS to deliver the net market benefits under the RIT-T objective.</p>
<p>Exclusion of unplanned shortfalls in NSCS definition:</p> <p>Energy Response was concerned that AEMO's NSCAS acquisition role only covers planned shortfalls, with no allowance for unplanned shortfalls.</p>	<p>AEMO did not consider that it was appropriate to extend the service definition to cover "unplanned shortfalls" arising from non-credible contingency events, as by definition such events are highly improbable with an open-ended requirement and hence their service costs would likely exceed their benefits. Further, the NER does not require AEMO to cover non-credible contingency events, as the NCAS definition under clause 3.11.4(b)(1) refers to "maintaining a secure operating state" which, under clause 4.2.4(a)(2) is required after any credible contingency event.</p>
<p>Moral hazard of selective TNSP investment:</p> <p>The NGF was concerned that TNSPs' involvement in AEMO's NSCAS tender process might create a moral hazard whereby TNSPs avoid making efficient regulated investments in order to pursue potentially more attractive, unregulated returns from AEMO.</p>	<p>AEMO would evaluate NSCAS tenders on a comparable basis and, where offers are non-competitive, against acceptance criteria that align, where practicable, with existing published cost/value benchmarks used by the AER in its revenue determination process.</p>
<p>Service double-dipping by TNSPs:</p> <p>The NGF was concerned that there should be adequate measures in place to ensure that a TNSP cannot receive a regulated return on an asset in its regulated asset base for which it is already receiving an unregulated return from AEMO under an NSCAS contract to provide equivalent service.</p>	<p>AEMO would seek to mitigate this risk by publishing sufficient details of its NSCAS contracts so that the AER could identify and exclude a TNSP asset contracted with AEMO from the TNSP's regulated asset base.</p>
<p>Automatic roll-over into regulated asset base:</p> <p>The NGF was concerned with AEMO's proposal to allow a TNSP to automatically roll an asset into its regulated asset base at the end of an NSCAS contract with AEMO could distort AEMO's competitive tender process and would not be competitively neutral.</p>	<p>AEMO accepted the NGF's concerns in this regard and decided not to pursue this option, as all potential tenderers should be treated equitably, with TNSPs able to apply for inclusion of their previously contracted asset through the existing regulatory investment processes.</p>

Key Issues	AEMO's Response in Final Determination
<p>Unlevel playing field for tendering:</p> <p>The NGF was concerned that the use of the RIT-T in evaluating tenders, open-ended contracting timeframes, and the lack of safeguards to prevent misuse of generator cost information available to NSPs might tend to favour NSPs over other parties in the tendering of NSCAS to AEMO.</p>	<p>AEMO would address this by changes to AEMO's NMAS Tender Guidelines, developed in consultation with stakeholders that would define the common criteria for the evaluation and acceptance of tenders for NSCAS. Contracting timeframes would be defined as part of the tendering process itself, be specific to the identified NSCAS need, and consistent across all potential tenderers.</p>
<p>No mandatory service provision:</p> <p>The NGF was concerned that there should be no mandatory requirement to provide reactive and active power, as it is inefficient and reduces incentives on generators to maintain plant and control systems to provide these services.</p>	<p>AEMO considered that while a full market-based approach is impractical, the question of the appropriate balance of mandatory versus market provision of reactive power should be considered as part of the Reliability Panel's review of the Technical Standard settings, which would be informed by a wider review to clarify the roles and obligations of the various parties in the provision of all network services, not only NSCAS.</p>
<p>AEMO versus TNSP NSCAS acquisition roles:</p> <p>Grid Australia was concerned that AEMO's safety net acquisition of NSCAS is inconsistent with the preferred policy direction of the Ministerial Council on Energy (MCE) in relation to AEMO's NTP function, which clearly sets out that the accountability for network service investment should remain with TNSPs.</p>	<p>AEMO considered that a safety net provision for it to acquire NSCAS to maintain power system security and reliability is consistent with its power system security functions and obligations, similar to its role under the RERT provisions.</p>
<p>AEMO's NSCAS acquisition versus AEMC's Last Resort Planning Power (LRPP):</p> <p>Grid Australia was concerned that it is inefficient and poor regulatory design to have a last resort NSCAS acquisition role for AEMO as well as the LRPP framework.</p>	<p>AEMO considered that its proposed role in the acquisition of NSCAS, while complementary to AEMC's LRPP, is quite different in its application.</p>

5. Service Definition

5.1. Current Definition

Chapter 10 defines network control ancillary service or NCAS as:

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.

Clause 3.11.4(b) restates the above as the quantity of network control ancillary service required⁶:

- (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*.

Based on the above definitions AEMO's NCAS description⁷ defines two types of NCAS: reactive power ancillary service (**RPAS**) and network loading control ancillary service (**NLCAS**). RPAS is used to maintain the transmission network within its post-contingency voltage and stability limits (Chapter 10 definition and clause 3.11.4(a)), NLCAS is used to maintain the transmission network within its current limits (Chapter 10 definition and clause 3.11.4(a)), with both able to enhance secure power transfer capability on transmission networks in order to deliver net spot market trading benefits (Chapter 10 definition and clause 3.11.4(b)).

5.2. Statement of Issues with the Rules

AEMO considers that the definition of NCAS in the NER is inadequate as:

- **Service is user-specific:** AEMO is not the only user of the service, as implied by the Chapter 10 definition and clause 3.11.4(b). TNSPs also use the service to meet their NER and jurisdictional obligations, and are permitted to seek services that enhance power transfer capability beyond those obligations.

⁶ As determined in accordance with AEMO's NCAS quantity procedure, found at: <http://www.aemo.com.au/electricityops/ncas.html>

⁷ NCAS description found at: <http://www.aemo.com.au/electricityops/ncas.html>

- **Service objective is too narrow:** The spot market trading benefit objective for the enhanced power transfer capability service does not cover the full range of benefits that TNSPs would consider (such as the savings in capital and operating expenditure realised by deferring a network augmentation) when they evaluate an investment for similar service under the regulatory test or future RIT-T. As the objective is directly linked to outcomes of the central dispatch process it appears to relate only to AEMO's real-time decision to deploy the service rather than the broader investment decision, and hence tends to favour investment in non-network services (that is, to the exclusion of TNSPs) that primarily deliver energy market benefits at the expense of achieving optimal reductions in overall electricity charges (both energy and network) to consumers.
- **Network scope is too narrow:** Under clause 3.11.5(a), AEMO must call for offers from persons who are in a position to provide NMAS so as to have the required effect "at a connection to a transmission network". The reference to "at a connection" unintentionally limits the locational scope of required service to a particular connection rather than deep within the shared transmission network not associated with a particular connection.
- **Unintentionally includes service that reduces power transfer capability:** The objectives in paragraphs (a) and (b) of the Chapter 10 definition are separated by "or", which infers that NCAS includes services with the capability to achieve either objective. When considered in the context of the rule 3.11 as a whole, and in the context of the definitions for RPAS and NLCAS adopted by AEMO in its NCAS description, it is clear that NCAS is intended to meet both the objectives in the Chapter 10 definition.
- **Service ambiguity due to multiple objectives:** defining the objectives of NCAS in different ways in Chapter 10, clause 3.11.4(b) and (indirectly) in clauses 3.11.5(a) and 3.11.6(a)(1) results in ambiguity, as all need to be read together to understand what the service delivers and its objectives:
 - Security only service: Chapter 10 defines a specific objective of maintaining post-contingency network limits, whereas clause 3.11.4(b)(1) defines a broader power system security and reliability objective which includes the Chapter 10 objective and which is more clearly linked to AEMO's power system security and reliability obligations. Clause 3.11.5(a) refers to the provision of NMAS "so as to have the required effect at a *connection* to a *transmission network*" while clause 3.11.6(a)(1) refers to procedures for dispatching each kind of NMAS required "to maintain the *power system* in a *secure operating state*".
 - Security plus enhanced power transfer capability service: Chapter 10 defines an objective of enhancing the value of spot market trading in conjunction with central

dispatch whereas clause 3.11.4(b)(2) defines the objective in terms of costs and benefits without reference to central dispatch.

AEMO also considers that the definitions for RPAS and NLCAS in its NCAS description⁸ are inadequate in terms of clarity of outcome, transparency, and technological and provider neutrality. However such issues would only be addressed by consequential amendment to the NCAS description (in accordance with Rule consultation procedures) after implementing the proposed Rule to address the above issues.

5.3. Description of Proposed Rule

AEMO considers that the NCAS definitions and objectives in clause 3.11.4(b) and Chapter 10, and the consequent service definitions in the associated NSCAS description, need to be replaced by a broader NSCAS definition and objective that is technology and provider neutral, unambiguous, outcome focussed and consistent with the market design principles of clause 3.1.4(a) in order to facilitate efficient service provision while meeting AEMO's power system security and reliability obligations.

The proposed Rule would:

- **Chapter 10:** Add a new defined term *network support and control ancillary service* or NSCAS that describes it as a service that has the capability to control the active power flow or reactive power flow into or out of a transmission network in order to assist in maintaining that transmission network in a secure operating state and to maintain or increase its power transfer capability.⁹ AEMO considers that the new NSCAS definition would reduce the existing bias towards investing in services that primarily derive spot market benefits.

This change results in consequential changes to:

- Clause 3.11.4: Change heading from “Procedure for determining quantities of Network Control Ancillary Services” to “Guidelines and objectives for acquisition of Network Support and Control Ancillary Services”.
- Clause 3.11.4(b): Delete the current NCAS definition and objective.
- Clause 3.11.4(e): Add provision, to allow AEMO to make minor or administrative changes to the NSCAS description without a Rules consultation.

⁸ A document that is separate from the NER

⁹ The proposed definition for NSCAS focuses on the physical outcome delivered by the service rather than its economic objective of maximising the present value of net economic benefit to all those who produce, consume and transport electricity in the market (which is the RIT-T objective in clause 5.6.5B(b) of the NER). AEMO considers that this economic objective should form part of the service requirement or “NSCAS need” that is defined in proposed clause 3.11.4(b)

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- Clause 3.11.5(a): Modify provision, to delete the limiting reference to the purpose of non-market ancillary services being only “to have the required effect at a connection to a transmission network” which excludes NSCAS that enhances power transfer capability within the shared transmission network as it is not associated with a particular connection.
 - Clause 3.11.6(a)(1): Modify provision, to delete the redundant reference to the specific purpose of dispatching NMAS being “to maintain the *power system* in a *secure operating state*”.
 - Chapter 10: Add defined term *NSCAS description*, as defined in clause 3.11.4(a).
 - Chapter 10: Delete the defined terms *network control ancillary service* and *NCAS*.
 - Chapter 10: Modify defined term *non-market ancillary services*, to replace ‘network control ancillary services’ with the broader ‘network support and control ancillary services’.
 - **Chapter 10:** Modify the defined term *network support agreement*, to reflect that it is an agreement made between a person and an NSP to provide one or more “network support and control ancillary services”, including network support services provided to that NSP to improve its network capability by providing a non-network alternative to a network augmentation.

6. Service Planning and Acquisition

6.1. Current Arrangements

Currently, TNSPs and AEMO share responsibility for planning and acquiring NSCAS.¹⁰ AEMO's obligations are contained in clauses 3.11.4(b)(1) and 3.11.4(b)(2) of the NER, respectively, to:

- meet the power system security and reliability standards; and
- enhance network transfer capability, where practicable, while 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.

TNSPs are responsible for ensuring an intra-regionally reliable transfer of electricity of acceptable quality between its transmission network users, while AEMO is responsible for providing a NEM-wide secure and reliable power system, covering all transmission networks and their users.

Further details of the current arrangements for NSCAS planning and acquisition are described in Section 3.5 of AEMO's Issues and Options Discussion Paper and further in Section 3.1 of the Initial Draft Determination.

6.2. Statement of Issues with the Rules

AEMO considers that the current arrangements for NSCAS planning and acquisition are inefficient and result in more costs to the market than necessary.

The NSCS Review identified that some of these inefficiencies arose from issues with the broader network planning and investment framework (such as different planning standards between AEMO and TNSPs and the lack of incentives for TNSPs to invest in services that deliver NEM-wide benefits beyond jurisdictional obligations) and while important to address, were considered outside the scope of the review and this Rule change proposal.

Notwithstanding the resolution of the broader issues above, AEMO considers there are other inefficiencies that should be addressed that are specific to the NSCAS planning and acquisition arrangements in the NER. These issues are identified in the following sections.

Obligations to Acquire Service

AEMO considers that the obligations for acquiring NCAS in the NER are inadequate as:

- **Obligations to acquire NCAS are unclear:** In terms of acquiring NCAS for power system security and reliability purposes under clause 3.11.3(b)(1), there is

¹⁰ In Victoria, AEMO is also the TNSP for the shared transmission network

no clear guidance in the NER as to when AEMO is expected to intervene to address an apparent investment failure on the part of the relevant TNSPs, or when that intervention (in the form of NCAS contracts) should cease. This has resulted in some TNSPs believing that only AEMO is permitted under the NER to acquire NCAS and hence not planning to address the underlying NCAS requirement through their own regulated investment processes, which in turn has perpetuated a cycle of NCAS contract renewals by AEMO to meet particular NSCAS needs. In addition, the obligation to pursue opportunities to acquire NCAS that enhance power transfer capability for spot market trading benefits alone under clause 3.11.3(b)(2) appears to only reside with AEMO, contrary to the intent of the NTP arrangements whereby TNSPs are expected to pursue opportunities identified in the NTNDP.

- **Ambiguity between AEMO's voluntary acquisition versus directions power:** Clause 3.11.3(b)(2) ambiguously refers to directions as being an alternative to NEMAS acquisition, rather than a last resort measure taken by AEMO absent any NEMAS.

Service Planning

- **Lack of integrated national planning focus:** AEMO's NCAS planning arrangements are not integrated with the NTP function, which does not encourage optimisation of NCAS with investments in network augmentations or replacements that are typically of a longer-term nature.¹¹

Service Acquisition

- **Limited Range of Service Providers:** Only Registered Participants may provide NCAS to AEMO, which excludes other potential viable providers such as DSPs who, by the nature of their business, are typically not financially responsible for all of the generation or load at a connection point and hence do not neatly fall within any of the categories of Registered Participant. AEMO considers that widening the range of service providers would in many cases encourage greater competition and reduce the price for service.¹²
- **Inflexible Contracting Timeframe:** Clause 3.11.5(b)(6) requires that the NEMAS Tender Guidelines define "the period for which each *non-market ancillary service* may be contracted". Section 7 of the NEMAS Tender Guidelines then states that "AEMO will seek an initial term of three years with one option to extend for a period of twelve

¹¹ This issue is exacerbated as AEMO's NEMAS tendering guidelines for NCAS only allow for an NCAS assessment once every three years with a three year outlook, and NCAS is contracted for immediate delivery with no lead-time to construct facilities

¹² AEMO notes that at some locations there is only one viable service provider, hence in those cases there might be little or no competitive pressure on the offered service price

months.” However AEMO considers that the period for NSCAS contracts should be flexible depending on the nature of the NSCAS need (that is, the period that the need is forecast to persist). The contracting period should be specific to each identified NSCAS need and hence defined as part of the tendering process itself.

- **Redundant AEMO option to acquire NMAS via Connection Agreements:** Clause 3.11.3(b)(1) of the NER includes unnecessary obligations on AEMO to develop “minimum technical ancillary service standards” for use by TNSPs in acquiring NMAS under connection agreements. AEMO has not developed these standards, and therefore has never relied on them, as the standards are already sufficiently captured in the various technical performance standards for network connection under Chapter 5 of the NER. To date, AEMO has elected to acquire NMAS under clause 3.11.3(b)(2) of the NER rather than require a TNSP to enter into ancillary services agreements with a Registered Participant to meet minimum technical ancillary service standards under clause 3.11.3(b)(1).
- **Regulated status of TSNP assets acquired by AEMO unclear:** The definition of *prescribed transmission service* includes services required to be provided to AEMO under the NER. However as TNSPs are Registered Participants and hence permitted to tender, clearly any contracted assets would earn an unregulated income from AEMO rather than a regulated income under AER’s processes.
- **No obligations on Network Service Providers (NSPs) to assist prospective NCAS tenderers:** NCAS facilities must be tested for the ability to deliver service before AEMO can accept their tender. Clause 3.11.5(f)(2) only obliges NSPs to participate in or facilitate testing for SRAS, with all reasonable costs incurred by the relevant NSP recovered as negotiable services. Given that NSPs own and maintain the transmission networks that NCAS is attempting to extract greater utilisation from, without their assistance such testing might not proceed and might even present a barrier to entry of potential NCAS providers.

6.3. Associated Procedural Issues

In addition to the NER issues identified above, AEMO considers that there are other inefficiencies in its various procedures that are associated with the NSCAS arrangements.¹³

These issues would be addressed by consequential amendments to those documents (in accordance with Rule consultation procedures) after implementing the proposed Rule.

¹³ For example, AEMO’s NCAS Description only allows Generators to provide reactive power under RPAS contracts with AEMO. The current RPAS contracts are estimated to cost around \$18 to \$23 million per annum over the benchmark cost of a TNSP-equivalent service. That is, the required level of reactive support could be provided by a network investment, with annual cost savings of up to \$23 million. This is within an overall estimated annual NCAS cost of around \$36.7 million.

6.4. Description of Proposed Rule

The following sections outline the proposed arrangements for the planning and acquisition of NSCAS and the obligations on AEMO and TNSPs to acquire such services.

AEMO considers that the proposed arrangements would encourage more diverse and innovative services from a greater range of service providers at more competitive prices, while clarifying the respective planning and acquisition obligations on AEMO and TNSPs and providing a more integrated national planning focus.

Obligations to Acquire Service

The proposed Rule would:

- **Clause 3.11.1(c):** Modify provision, to clarify that both AEMO and TNSPs acquire NSCAS for the purposes stated, including to meet an “NSCAS need” (proposed new defined term) identified by AEMO in its NTNDP. Under this proposed change, NMAS is defined as:
 - SRAS, which is acquired by AEMO under ancillary service agreements; and
 - NSCAS, which is acquired:
 - By TNSPs under connection agreements or network support agreements to meet their service standard obligations associated with the technical requirements of schedule 5.1 of the NER, in applicable regulatory instruments, or to meet an NSCAS need; and
 - By AEMO under ancillary services agreements to meet an NSCAS need not met by a TNSP.

This change results in consequential changes to:

- Clause 3.1.4(a)(9): Modify the market design principle, to clarify that AEMO is only responsible for settlement of ancillary services that it acquires, but not necessarily dispatches, as AEMO may dispatch service of a scheduled entity that is acquired by a TNSP under a network support agreement, for which the TNSP must remain liable
- Clause 3.11.1(e): Add provision, to clarify that AEMO is not responsible for payment to a person for NMAS provided to TNSP under a connection agreement or a network support agreement. This requirement is moved from clause 3.11.3(i), with the redundant reference to “clause 4.9.2(b)” removed.
- Clause 3.11.3(i): Delete provision, as replaced by new clause 3.11.1(e).
- Chapter 10: Modify defined term *planned network event*, to replace “services” with “network support and control ancillary services”.

- **Clauses 3.11.3(a), (b)(2):** Delete AEMO obligation to use reasonable endeavours to acquire NMAS in accordance with rule 3.11 or giving a direction in accordance with clause 4.8.9, as it already appears in clause 3.2.4(b) without the option to acquire NMAS by issuing a direction as this confuses AEMO's voluntary NMAS contracting process with its statutory directions power. This change results in consequential changes to:
 - Clause 3.1.4(a)(7): Modify the market design principle, to clarify that AEMO's statutory directions power are "last resort", derive from the NEL and clause 4.8.9 and are broader than only ancillary services. Change is consequential to proposed deletion of clause 3.11.3(b)(2) which ambiguously refers to directions as an alternative to NMAS acquisition
 - Clause 3.2.4(b): Modify obligation on AEMO to use reasonable endeavours to "acquire" NMAS rather than "ensure adequate [NMAS] are available", as AEMO cannot ensure the latter after following the voluntary process under rule 3.11.
 - Clause 3.11.5(a): Modify obligation, to delete "Except as provided in clause 4.8.9", to avoid confusing AEMO's voluntary NMAS contracting process with its statutory directions power.
- **Clauses 3.11.3(a), (b):** Add provisions that clarify TNSPs' and AEMO's roles regarding the acquisition of NSCAS. Where AEMO has identified an NSCAS need in its NTNDP that has remained unmet for 18 months it may request the relevant TNSP to provide details of how and when it intends to meet the NSCAS need allowing a further 30 days to respond. If the relevant TNSP does not intend to meet the NSCAS need, the proposed Rule would require the relevant TNSP to explain to AEMO why. If the TNSP intends to meet the NSCAS need, it must include in its response to AEMO full details of the arrangements it intends to put in place to meet that need.
- **Clause 3.11.3(c):** Add an obligation on AEMO to use reasonable endeavours to acquire NSCAS to meet any identified NSCAS need that AEMO considers, despite the TNSP's response, will remain unmet.

These proposed arrangements are not intended to replace the TNSPs' own planning and acquisition of NSCAS.

Service Planning

The proposed Rule would:

- **Clause 5.6A.2(c)(6A):** Add an obligation on AEMO, as part of its NTP function, to assess the requirement for NSCAS annually (determined in accordance with the NSCAS quantity procedure) and to include that assessment in its NTNDP as an identified NSCAS need. AEMO considers that the planning horizon for this

assessment should be from the first year that the NTNDP applies, out for a minimum of five years. The integration of NSCAS planning into the overall collaborative network planning process places a greater NEM-wide focus on NSCAS and facilitates more optimal network versus non-network investment decisions.

This change results in consequential changes to:

- Clause 5.6A.2(b)(2)(iii): Modify provision relating to matters that AEMO must consider in preparing the NTNDP, to replace “network control ancillary services” with “network support and control ancillary services”.
- Clause 5.6A.2(c)(2): Modify provision relating to factors that the NTNDP must account for, to include all NSCAS that are part of, or materially affect, the transmission capability of any current or potential national transmission flow paths (**NTFP**).
- **Clause 3.11.4(b):** Add a provision that defines an NSCAS need as the location and quantity of NSCAS required (as determined in accordance with the NSCAS quantity procedure):
 - to maintain the power system security and reliability of supply of the transmission network in accordance with the power system security and reliability standards; and
 - to maintain or increase the power transfer capability of that transmission network so as to maximise the present value of net economic benefit to those who produce, consume and transport electricity in the market.

This change results in consequential changes to:

- Clause 3.11.4(e): Add provision, to allow AEMO to make minor or administrative changes to the NSCAS quantity procedure without a Rules consultation.
- Chapter 10: Add defined term *NSCAS need*.
- Chapter 10: Add defined term *NSCAS quantity procedure*, as defined in clause 3.11.4(b).

Service Acquisition

The proposed Rule would:

- **Clause 3.11.5(g):** Modify provision, to allow AEMO to acquire NSCAS from persons other than Registered Participants. AEMO considers that allowing non-Registered Participants (such as DSPs) to tender for and provide NSCAS is likely to increase competition in the acquisition of NSCAS, which in turn would reduce the long term costs of NSCAS to consumers. While it is acknowledged that the Rules are only

enforceable on Registered Participants, the rights and obligations of “persons” will derive from the terms and conditions in the NSCAS tender and ancillary services agreement.¹⁴

This change results in consequential changes to:

- Clause 3.11.1(d): Add provision, to allow AEMO to instruct a person to provide NSCAS under an ancillary services agreement or otherwise in accordance with the relevant performance standard, and oblige the person to comply with such an instruction. This requirement is moved from clause 3.11.3(k), with the addition of “ancillary services agreement” and replacing "connection agreement" with "in accordance with the relevant performance standards".
- Clause 3.11.3(k): Delete provision, as replaced by clause 3.11.1(d).
- Clause 3.11.5(b): Modify provision relating to AEMO’s NMAS Tender Guidelines for NSCAS.
- Clause 3.11.5(c1): Add provision, to allow AEMO to make minor or administrative changes to the NMAS Tender Guidelines without a Rules consultation.
- Clause 3.11.5(d): Delete redundant provision that Registered Participants are not obliged to submit an NMAS tender to AEMO, as the process is voluntary.
- Clause 3.11.5(h): Modify provision relating to AEMO’s competitive tender test, to replace “network control ancillary services” with “network support and control ancillary services”.
- Clause 3.11.5(h)(2): Modify provision relating to AEMO’s negotiated remuneration of non-competitive tenders, to replace “network control ancillary services” with “network support and control ancillary services”.
- Clause 3.11.5(i): Modify provision relating to AEMO’s NSCAS tendering, negotiation and contracting process, to replace "Registered Participant selected by AEMO" with “preferred tenderer”.
- Clauses 3.11.5(j),(k): Modify provisions relating to AEMO’s NSCAS tendering, negotiation and contracting process, to replace “non-market ancillary services” with “system restart ancillary services”, as SRAS would be the only NMAS that is restricted to Registered Participants.

¹⁴ Given that NSCAS providers might not neatly fall into any of the existing participant categories, AEMO initially considered options such as creating a new participant category for providers such as DSPs, or inserting deeming provisions but these were dismissed as being overly complex and requiring more detailed analysis of the net benefit. AEMO notes that the Rules already allow AEMO to contract for reserves from persons other than Registered Participants.

- Clause 3.11.5(l): Modify provision relating to AEMO's NSCAS tendering, negotiation and contracting process, to oblige AEMO to give a notice to NMAS providers once the tender process is complete.
- Clauses 3.11.5(o), 4.9.3A(b), (d): Modify provisions relating to the various obligations to comply with NSCAS dispatch instructions, to replace "Registered Participant" with "NMA provider".
- Clause 4.10.2(c): Modify provision relating to the obligation to operate equipment interfacing with transmission network, to replace "Registered Participant" with "persons" and to also refer to the requirements of network support agreements.
- Clause 3.11.6(a)(2): Modify provision relating to AEMO's reporting on the effectiveness of NSCAS dispatch, to report also to "NMA providers".
- Clause 3.15.6A(b): Modify provision relating to AEMO's NMA settlement, to replace "Market Participant" with "NMA provider".
- Clause 8.2.1(a1): Modify provision relating to the referral of disputes to Adviser under clause 3.11.5(i), to apply also to "NMA providers".
- Chapter 10: Modify defined term *ancillary services agreement*, to replace "Registered Participant" with "NMA provider".
- Chapter 10: Modify defined term *dispatch*, to include a response to an instruction under an ancillary service agreement.
- Chapter 10: Modify defined term *dispatch instruction*, to include an instruction given to an "NMA provider".
- Chapter 10: Add defined term *NMA provider*.
- **Clause 3.11.3(b)(1)**: Modify provision, to delete the option for AEMO to acquire NSCAS by setting minimum standards to be dealt with in Registered Participants' connection agreements for the technical performance of NSCAS ('minimum technical ancillary service standards').

This change results in consequential changes to:

- Clauses 3.11.3(c)-(h): Delete provisions relating to various AEMO obligations to develop and publish the minimum technical ancillary service standards.
- Clause 4.5.1(f)(3): Modify provision, to delete the Registered Participant obligation to provide reactive power and power system voltage stabilising facilities to AEMO under a connection agreement "in accordance with clause 3.11.4(b)(1)".
- Clause 5.2.1(b)(2): Modify provision, to delete Registered Participant obligation to comply with these standards.

- Clause 5.3.6(c1): Modify provision, to delete NSP obligation to enter into ancillary service agreements to meet these standards during network connection.
- Clause 5.4.2(c): Delete provision relating to the clause 5.3.6(c1) exception to correcting inconsistencies between the proposed equipment and the connection agreement prior to commissioning, as it is proposed to delete clause 5.3.6(c1).
- Chapter 10: Delete defined term *minimum technical ancillary service standards*.
- **Chapter 10:** Modify paragraph (b)(1) of the defined term *prescribed transmission service* which includes a service “required by AEMO to be provided under the Rules”, to add after this the qualification “but excluding those acquired by AEMO under rule 3.11”. This clarifies that ancillary services acquired by AEMO from TNSPs under its voluntary tendering process are not subject to economic regulation by the AER, not included in the TNSP’s regulated asset base and hence not paid for twice.
- **Clause 3.11.5(b)(6):** Delete AEMO obligation to include a requirement in its NMAS Tender Guidelines to define the period that NMAS may be contracted, as the period for NSCAS contracts should be flexible depending on the nature of the NSCAS need. Contracting timeframes would be defined as part of the tendering process itself, be specific to the identified NSCAS need and consistent across all prospective tenderers.
- **Clause 3.11.5(m):** Modify provision, to add obligations on AEMO to publish estimated annual costs and quantities of NSCAS it acquires under ancillary service agreements, for each region and for each contracted facility. AEMO considers that publishing this information is important to increase transparency and assist the AER in assessing a TNSP’s forecast revenue requirements during a regulatory control period. This change results in consequential changes to:
 - Clause 3.11.5(l): Modify provision relating to the trigger for publishing estimates, from when “sufficient quantities are tendered” to “when the tender process is complete”.
 - Clause 3.13.5(b): Modify provision to delete the reporting of “additional quantities of non-market ancillary services for which AEMO expects to enter into ancillary services agreements within the ensuing 12 months” as these estimates are now published under clause 3.11.5(m) on completion of NMAS tender, and are not revised unless a new tender is conducted.
- **Clause 3.13.5(c)(2):** Add obligation on AEMO to publish actual annual costs and quantities of NSCAS acquired in relation to each facility under an ancillary service agreement. Again, AEMO considers that publishing this information for the reasons stated in proposed clause 3.11.5(m). This change results in consequential changes to:

- Clause 3.13.5(c)(1): Modify provision, to publish "actual" annual costs and quantities "over the preceding 12 months in respect of each region".
- Clause 3.13.5(c)(2): Delete AEMO obligation to report "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" as covered in paragraph (c)(1) for NMAS , and cost estimates for market ancillary services are largely unknown.
- **Clause 3.11.5(f)(2):** Add NSP obligation to participate in, or facilitate, testing of the NSCAS facilities of a prospective tenderer charged as a negotiable service.¹⁵ NSCAS facilities must be tested before AEMO can accept their tender. This change results in consequential changes to:
 - Clause 3.11.5(b)(2): Modify provision relating to the requirement in the NMAS Tender Guidelines to have a facility under an ancillary services agreement tested, to replace "SRAS" with "non-market ancillary services" and hence to apply timeframes for the testing of NSCAS as outlined in the NMAS Tender Guidelines.
 - Clause 3.11.5(b)(3): Modify provision relating to the requirement in the NMAS Tender Guidelines to have an NSCAS facility tested prior to tendering, to replace "network control ancillary services" with "network support and control ancillary services".
 - Clause 3.11.5(b)(4): Add obligation on an NSP or other Registered Participant to assist a prospective tenderer in relation to effective delivery of NSCAS, by replacing "system restart ancillary services" with "non-market ancillary services".
- **Clause 3.11.5(b)(5), (b)(9):** Modify provision relating to the tender assessment principles and timeframes included in the NMAS Tender Guidelines, to also refer to the initial "expressions of interest" (**EOI**) stage.¹⁶

¹⁵ Under the current Rule the NSP obligation only applies to SRAS. This issue was identified in AEMO's March 2008 NCAS Procedures review.

¹⁶ To date, NMAS acquisition has been a two stage process: an initial expressions of interest (**EOI**) stage, followed by an invitation to tender (**ITT**) stage. This issue was identified in AEMO's March 2008 NCAS Procedures review.

7. Service Deployment

7.1. Current Arrangements

NSCAS are services deployed either by AEMO (up to the plant's relevant performance standards or in accordance with an ancillary service agreement) or by a TNSP (in accordance with a network support agreement). In either case, AEMO aims to model the deployment of those services in network constraint equations used in its central dispatch and PASA processes in order to improve dispatch and pricing outcomes and to better manage power system security and reliability.

AEMO may direct or instruct any person to provide services to maintain power system security and reliability including NSCAS that is available to a TNSP under a network support agreement.

Clause 4.3.4(d) of the NER obliges an NSP is to advise AEMO of any ancillary services or similar services provided under any connection agreement.

7.2. Statement of Issues with the Rules

AEMO considers that the NER does not oblige NSPs to provide AEMO with sufficient information on NSCAS provided under network support agreements to assist AEMO in managing transmission operations more efficiently and in formulating network support constraint equations that properly reflect the impact of such deployment.

While clause 4.3.4(d) obliges an NSP to advise AEMO of services under connection agreements, there are only informal arrangements in place to provide information to AEMO in relation to services under network support agreements.

The absence of quality information on such services would diminish AEMO's ability to achieve its power system security obligations through the central dispatch and PASA outcomes.

7.3. Description of Proposed Rule

The proposed Rule would:

- **Clause 4.3.4(d):** Add an obligation on NSPs to provide and update AEMO with relevant information on their NSCAS provided under a network support agreement to allow AEMO to reflect and, if required, deploy the service effectively within its central dispatch and PASA processes. AEMO considers that publishing this information is important because it will assist in dispatching these services and improve pricing outcomes, thereby enhancing investment outcomes. The proposed Rule would oblige NSPs to provide:
 - A description of the NSCAS that details its:

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- nature;
 - the purpose that it has been acquired for;
 - the relevant connection points;
 - the quantity that can be provided;
 - the notice that is required before enablement of the service;
 - once enabled, the time to respond to a usage instruction, and
 - communication protocols related to enabling and usage and notification of changes to service availability.
- The availability of the NSCAS including any possible availability restrictions and whether other parties (such as AEMO) are able to use the service;
 - Advice on any changes to the formulation of network limits to reflect the enabling or usage of the service; and
 - Where relevant, details of how and when the service is to be dispatched by AEMO.

This change results in consequential changes to:

- Clause 3.11.3(j): Modify provision, to delete the redundant NSP obligation to advise AEMO of all ancillary services provided by a Registered Participant under a connection agreement, as the obligation now appears in clause 4.3.4(d).
- Clause 4.5.1(f)(2): Modify provision relating to AEMO's options for use of reactive power and power system voltage stabilising facilities, to add the right to negotiate with NSPs on the use of their networks and the provision of ancillary services under network support agreements.
- Clause 4.9.2(c): Modify provision relating to AEMO's prohibition from issuing a dispatch instruction for reactive power above a performance standard, to add "network support agreement" alongside ancillary services agreement and a connection agreement as the list of exceptions to this prohibition.
- Clause 5.3.8(b)(1): Modify provision, to delete the redundant reference to "or similar services described in clause 3.11.3(j)", as the services under proposed clause 4.3.4(d) includes services negotiated when a network connection is established under this clause.
- **Clause 4.3.4(d1):** Add an obligation on NSPs to negotiate in good faith with AEMO on the form of the instructions they will provide to AEMO on how to dispatch NSCAS (particularly in relation to scheduled or semi-scheduled plant), to ensure that those instructions are both comprehensive and practicable for AEMO to implement in central dispatch if required. Without this obligation, AEMO would be unable to

dispatch NSCAS in the manner intended by the NSP and if AEMO were to exercise its discretion in dispatching the service, this could leave AEMO open to dispute by the NSP if their decision was wrong.

- **Clause 3.11.6(d):** Add AEMO obligation to develop and publish guidelines for the dispatch of NSCAS within central dispatch and PASA to accommodate those broader service requirements and objectives.¹⁷ This change results in consequential changes to:
 - Clause 3.11.6(e): Add an AEMO obligation to comply with the Rules consultation procedures when making or amending the NSCAS dispatch guidelines.
 - Clause 3.11.6(f): Add a provision that allows AEMO to make minor or administrative changes to the NSCAS dispatch guidelines without a Rules consultation.

¹⁷ The NSCS Review Final Determination noted that: "AEMO, in consultation with stakeholders, will develop guidelines on how to dispatch NSCS to realise the net market benefits of enhanced power transfer capability".

8. Service Cost Recovery

8.1. Current Arrangements

Under clause 3.15.6A(c) of the NER, AEMO recovers the costs of acquiring NCAS under ancillary services agreements from all Market Customers in the NEM, pro-rata to their energy consumed.

8.2. Statement of Issues with the Rules

AEMO considers that AEMO's NCAS cost recovery arrangements are inappropriate as:

- service costs are not recovered from those receiving the benefits of the service;
- locational market signals for efficient network service investment are more muted;
- service costs are recovered on a different basis to that which applies to AEMO's other safety net acquisition functions¹⁸ and to TNSPs' acquisition of network support services from third parties, both of which apply a location-based beneficiaries approach; and
- TNSPs might be reluctant to acquire service from outside their region to enhance power transfer capability unless the question of inter-regional cost recovery is resolved.

AEMO has estimated that the inter-regional cross-subsidies over the three years of the current NSCAS contracts would (based on forecast NCAS contract costs for each region¹⁹ and assuming benefits accrued only to the host region) result in:

- a benefit to all NSW Transmission Customers around \$51 million; and
- costs to all Queensland, Victorian, South Australia and Tasmania transmission customers around \$22 million, \$16 million, \$7 million and \$6 million, respectively.

While there can be no guarantee that the proposed Rule will remove these, AEMO submits that providing a mechanism that requires the allocation of cost to beneficiaries of the service will enable AEMO to reduce their value.

There is a further issue with clause 3.15.6A (b) of the NER relating to AEMO's determination of a NMAS settlements transaction "for each *trading interval*" and deeming them as a "*trading amount* for the relevant Market Participant". Under AEMO's current arrangements, payments under ancillary services agreements are not all treated as "*trading amounts*", and there are some types of NMAS payments (such as testing payments for facilities) which are

¹⁸ Being the Reliability and Emergency Reserve Trader (RERT) and the directions functions

¹⁹ NEMMCO Communication No. 3128 - Final Notice to Market – NCAS ITT 2008, issued 14 November 2008

by their nature only incurred periodically and hence are settled on other than a “trading interval” basis.

8.3. Description of Proposed Rule

The proposed Rule would:

- **Clauses 3.15.6A(c1),(c7),(c8):** Add provisions that allow AEMO to recover its NSCAS costs under ancillary service agreements from Market Customers in benefitting regions, as identified by AEMO in accordance with its proposed regional benefit ancillary services procedures. If AEMO is unable to identify benefitting regions, it would by default recover its costs from Market Customers in all regions of the NEM as is the current practice. This change results in consequential changes to:
 - Clause 3.15.6A(c): Delete provision relating to AEMO's recovery of NSCAS costs from Market Customers on a “smeared over the NEM” basis, as this is replaced by proposed clauses (c1), (c7) and (c8).
 - Clause 3.15.6A(c2): Add an AEMO obligation to provide settlement statements to Market Customers that separately identify the total costs of providing NSCAS that benefits specific regions versus that which does not benefit specific regions.²⁰
 - Clause 3.15.6A(c3), (c4): Add AEMO obligations to develop, publish, and amend from time to time, regional benefit ancillary services procedures in accordance with the Rules consultation procedures, to guide AEMO in its determination of the relative benefit that each region is estimated to receive from NSCAS provided under ancillary service agreements.
 - Clause 3.15.6A(c5): Add provision, to allow AEMO to make minor or administrative changes to the regional benefit ancillary services procedures without a Rules consultation.
 - Clause 3.15.6A(c6): Add an AEMO obligation to determine an allocation between regions of the costs associated with each ancillary services agreement for NSCAS (“regional benefit factors”) determined in accordance with the regional benefit ancillary services procedures.
 - Clause 3.15.6A(c9): Add an obligation on AEMO to publish the regional benefit factors determined in accordance with the regional benefit ancillary services procedures, for each NSCAS under an ancillary service agreement for each relevant period, so that Market Customers can reconcile their charges.
 - Clauses 3.15.8(f)(1)-(3): Modify provisions relating to the funding of compensation for ancillary services directions, to replace the clause 3.15.6A(c) reference with

²⁰ A similar provision exists for reserve contract settlements under the RERT

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- clauses 3.15.6A(c7) and (c8), to replace 'TNCASP' with 'TNSCASP' and to add 'AGE' and 'AAGE' used in proposed clauses 3.15.6A(c7) and (c8).
- Clause 3.15.10C(a)(4),(b)(7)(i),(c)(3)(iii): Modify provision relating to intervention settlements, to replace 'TNCASP' with 'TNSCASP' used in proposed clauses 3.15.6A(c7) and (c8).
 - Chapter 10: Add defined term *regional benefit ancillary services procedures*.
 - **Clause 3.15.6A(b)**: Modify provision relating to AEMO's determination of an NMAS settlements transaction, to delete "trading interval" and to replace "trading amount for the relevant Market Participant" with "an amount payable by AEMO to the NMAS provider". These changes are required to align with current AEMO practice, as payments under ancillary services agreements are not treated as "trading amounts", and there are some NMAS payments (such as testing charges) that are settled on other than a "trading interval" basis. This change results in the following consequential change:
 - Clause 3.15.6A(b1): Add provision that, where payments to NMAS providers are not "trading interval" based (such as testing payments), the recovery of those costs under clauses 3.15.6A(c7),(c8) (for NSCAS) and clauses 3.15.6A(d),(e) (for SRAS) are calculated on a "relevant period" (affecting the calculation of the regional benefit factor 'RBF' and the energy generated/consumed factors 'AGE', 'AAGE', 'TGE', 'ATGE', 'TCE' and 'ATCE') and are charged over the "relevant billing period".

9. Minor Issues

Following an analysis of the various NER clauses relating to NSCAS and to NMAS generally, AEMO has identified a number of minor issues that, while not specifically consulted on during the NSCS Review, should nevertheless be addressed to improve regulatory certainty for market participants consistent with good regulatory practice. These issues include:

- clarifying potentially ambiguous provisions;
- italicising terms which are defined terms in Chapter 10 of the NER;
- using consistent terminology;
- correcting grammatical errors; and
- correcting paragraph references to use the NER convention.

Attachment C provides a tabular summary of these issues, the affected NER clauses and the proposed Rule to address the issue.

10. Implementation and Transition

In determining an appropriate framework for the transition to, and implementation of, the proposed arrangements, AEMO submits that consideration needs to be given to existing commitments.

AEMO's existing NCAS contracts are due to expire on 30 June 2011, with an option to extend these contracts by one year until 30 June 2012.

To facilitate the transition to the proposed NSCAS arrangements the proposed Rule includes provisions in Chapter 11 that allow AEMO to:

- continue to acquire NCAS under the existing NCAS contracts and to extend these contracts (as agreed) until the proposed new arrangements are in place;
- develop and publish the NSCAS description and the NSCAS quantity procedure to take effect from the NSCAS commencement date; and
- develop and publish the NMAS Tender Guidelines for NSCAS, the guidelines for dispatch of NSCAS, and the new regional benefit ancillary services procedures in accordance with the Rules consultation procedure by a specified date.

This framework facilitates the publication of NSCAS needs in the first NTNDP following the making of the proposed Rule.

For example, if AEMO wished to include its NSCAS needs assessment in the 2010 NTNDP, the proposed Rule would need to be made before September 2010. If this were possible, AEMO would also need to develop and publish the NSCAS description and the NSCAS quantity procedure before that date.

If the NSCAS needs were published in the 2010 NTNDP, TNSPs would have until 30 June 2012 to address those needs and if they do not do so, AEMO would issue the proposed clause 3.11.3 notice and give the TNSPs a further 30 days to respond. This means that the earliest AEMO would be able to commence its process for the acquisition of NSCAS would be 1 August 2012. To facilitate the commencement of a procurement process under the proposed new framework, the amended NMAS Tender Guidelines would need to be in place before that date.

Previous experience indicates that AEMO's acquisition process can take as much as 6 months, as it requires both an EOI and an ITT stage. This means that any NSCAS contracts under the proposed Rule are unlikely to commence before February 2013.

Any delay to the making of the proposed Rule beyond September 2010 is likely to delay the implementation of the new arrangements by one year as the first NSCAS needs assessment would not occur until the 2011 NTNDP.

Given these imperatives, AEMO would appreciate and welcome the opportunity to discuss with the AEMC a feasible work plan to ensure the implementation and transition to the new arrangements is successful.

11. How the Proposed Rule Contributes to the National Electricity Objective

Before the AEMC can make a Rule change it must apply the rule making test set out in the NEL which requires it to assess whether the proposed Rule will or is likely to contribute to the national electricity objective (**NEO**). Section 7 of the NEL states the NEO is:

- “... to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –
- (a) price, quality, reliability and security of supply of electricity; and
 - (b) the reliability, safety and security of the national electricity system.”

NSCAS can significantly increase the secure power transfer capability of parts of a transmission network. The secure power transfer capability or secure operating limit of a transmission network is based on ensuring the power system will be in a satisfactory operating state at all levels of power transfer up to its secure operating limit, and would return to a satisfactory operating state following any credible contingency event. Some NSCAS can supply reactive power to ensure voltages remain within acceptable limits following contingencies, while other NSCAS can supply active power or trip load to ensure the post-contingent power transfers remain within their operating ratings. In the right situation, NSCAS can significantly increase secure power transfer capability and do so at a much lower cost than additional investment in transmission lines and transformers. Therefore, a nationally coordinated approach to the planning, acquisition and deployment of NSCAS has the potential to provide additional power transfer capability at significantly lower costs than alternative infrastructure investment and also achieve significant benefits of trade.

AEMO submits that the proposed Rule is likely to promote the NEO because the proposed NSCAS arrangements provide greater role clarity, and more transparent and nationally focused planning and that would encourage more efficient use of existing transmission networks without compromising AEMO’s ability to maintain power system security and reliability. This would support efficient investment in, and efficient operation of electricity services for the long term interests of consumers particularly with respect to price, reliability and security of electricity.

AEMO submits that the proposed Rule is likely to specifically contribute to the NEO in the ways described in the following sections.

11.1. Service Definition

AEMO submits that the proposed new service definitions better reflect the capabilities and the value that these services deliver to the NEM. In turn, this provides greater transparency regarding the service options that can be offered to AEMO as NSCAS, and is likely to encourage a greater range of service options to meet identified NSCAS needs, which would

increase competition in the provision of NSCAS and reduce the long term costs of electricity to consumers.

11.2. Service Planning and Acquisition

Obligations to Acquire Service

AEMO submits that clarifying the respective obligations on AEMO and TSNPs to acquire NSCAS improves the overall coordination of service investment, reduces the risk of investment gaps or duplication, and increases transparency and regulatory certainty for all Registered Participants and NSCAS providers. AEMO submits that this would promote more efficient investment in, and operation of, electricity services for the long term interests of customers.

Service Planning

AEMO submits that the identification of NSCAS needs in the NTNDP, in addition to those identified by TNSPs would encourage competition and hence lower prices in the provision of these services. This is likely to occur because the proposed arrangements would rely on TNSPs to deliver a more competitive option to the market before AEMO would need to intervene.

AEMO also submits that including NSCAS needs in the NTNDP is likely to provide investment signals to the market to identify where timely investment should occur in order to achieve optimal power transfer capability on current and potential NTFPs and ensure power system security and reliability of supply of the NEM.

Service Acquisition

AEMO submits that the proposed approach to service acquisition, where AEMO is obliged to acquire NSCAS in the absence of TNSP action, promotes the NEO because it would enable AEMO to deliver ancillary services that improve the use of existing networks and improve power system security and reliability of supply at a more efficient price to electricity consumers.

Additionally, this supports AEMO's ability to maintain power system security and reliability. AEMO submits that this promotes efficient operation and use of ancillary services with respect to the reliability and security of supply of electricity for the long term interests of consumers.

AEMO also submits that allowing persons other than Registered Participants to provide NSCAS to AEMO to meet unmet NSCAS needs, and AEMO's proposed obligation to publish detailed information on its ancillary service agreements is likely to encourage a greater range of competitive service options, would increase price discovery, would increase competition in the provision of NSCAS and reduce the long term costs of electricity to consumers.

11.3. Service Deployment

AEMO submits that the proposed obligations for TNSPs to provide information regarding the deployment of their NSCAS under network support agreements would ensure that AEMO is aware of all options available to it. This would assist AEMO in managing transmission operations more efficiently and in formulating network support constraint equations that properly reflect the impact of such deployment, which in turn would enhance AEMO's ability to achieve its power system security obligations through the central dispatch and PASA outcomes.

AEMO also submits that including these obligations in the NER increases regulatory certainty for AEMO and TNSPs regarding the provision and dispatch of NSCAS because it clarifies the obligations of each party regarding the information required for the provision and efficient dispatch of these services.

The proposed Rule also clarifies NSPs' responsibilities regarding the dispatch of NSCAS and this increases regulatory certainty regarding the provision and dispatch of these services.

AEMO submits that these proposed changes are likely to promote the efficient operation and use of electricity services in terms of the price, reliability and security of supply for the long term benefit of consumers.

11.4. Service Cost Recovery

AEMO submits that changing the current approach for NSCAS cost recovery from Market Customers on a NEM wide basis to a more "regional beneficiaries" basis, where practicable, would promote the NEO because it provides an incremental improvement in efficiency by aligning the beneficiaries of the NSCAS and the recovery of that service. The proposed Rule would ensure that, where possible, the costs are recovered from the participants that benefit from the provision of the NSCAS.²¹

11.5. Addressing Minor Issues

The proposed Rule includes a number of minor changes to improve the clarity and consistency of the NER. AEMO submits that correcting minor inconsistencies and grammatical errors is likely to contribute to the efficient operation and use of electricity services in the NEM because they are likely to reduce the potential regulatory uncertainty and inefficiency arising from such inconsistencies.

While their overall NEO contribution is likely to be an incremental improvement in efficiency, these changes improve the clarity, predictability and transparency of the proposed NSCAS arrangements. Clearer obligations better inform AEMO and participants of their rights and

²¹ Examples where the regional benefit approach applies to recovering costs from Market Customers includes the RERT, contingency lower FCAS and compensation for directions

obligations which is important because they are relied on for making operational decisions that affect the reliability and security of the electricity supply in the NEM.

12. Expected Benefits and Costs of the Proposed Rule

AEMO considers that the benefits of the proposed Rule significantly outweigh the administrative and market systems costs that would be incurred in implementing the proposed Rule. These benefits are difficult to quantify because they will depend on the extent to which NSCAS is used to increase the secure power transfer capability on existing transmission networks. Nonetheless, AEMO considers that NSCAS can in many cases increase the utilisation of existing transmission assets at a much lower cost than augmenting transmission networks and this would lead to lower electricity costs for consumers.

12.1. Service Definition

AEMO does not expect that the changes to the NSCAS definitions would result in a cost to market participants.

AEMO expects that it would incur administrative costs associated with amending the NSCAS description in accordance with the Rules consultation procedure.

12.2. Service Planning and Acquisition

AEMO considers that the proposed Rule changes would provide more transparent arrangements for the identification and acquisition of NSCAS needs which are linked to AEMO's NTP function which aim to deliver long term benefits to electricity consumers. AEMO expects that this would further enhance the national transmission planning process for the NEM which would ensure a more strategic and nationally-coordinated approach to identifying NSCAS requirements and acquiring NSCAS to meet those requirements.

AEMO considers that this would encourage greater utilisation of the transmission network and this would deliver potentially significant benefits to the NEM. The proposed Rule changes are also expected to provide improved and timely investment signals that assist in identifying the location and quantity of service required to achieve optimal levels of power transfer capability on NTFPs while ensuring power system security and reliability of supply of the NEM. Where timely investment by the relevant TNSPs does not occur, AEMO would acquire the NSCAS thereby ensuring that power system security and reliability of supply of the NEM is maintained.

Under the proposed Rule changes AEMO would be required to include an annual assessment in the NTNDP of NSCAS needs for a minimum five year outlook, noting that AEMO currently only publishes an NSCAS assessment once every three years with a three year outlook. AEMO expects that the benefits of extending the NSCAS planning horizon and providing this information to the market on an annual basis would bring benefits because it increases the amount of useful and timely information that could be used for investment decisions. AEMO will incur costs in conducting the annual NSCAS assessments and including these in the NTNDP, which are not expected to be material. There are other

administrative costs associated with AEMO developing the relevant NSCAS procedures and guidelines in accordance with the Rules consultation procedure.

AEMO also expects that the proposed Rule changes would benefit those willing to provide NSCAS and currently not allowed to, potentially including DSPs. In the long term, customers are also likely to benefit because this change is likely to increase competition in the provision of NSCAS which would reduce costs. AEMO has estimated that the annual costs of existing RPAS contracts are \$18 to \$23 million higher than benchmarked costs for these services, and an increase in competitive pressure during the acquisition of these services is likely to reduce the prices offered by NSCAS providers. AEMO also expects that there will be administrative costs involved in extending current contracts while transitioning to the proposed arrangements but that these will be offset by the benefits of increasing competition in the provision of these services.

AEMO also expects that there are market benefits involved in AEMO publishing details of the actual and estimated annual costs and quantities of NSCAS provided by each facility under an ancillary service agreement. This change is expected to increase market transparency and assist the AER in assessing a TNSP's forecast revenue requirements for a regulatory control period by reducing the risk of over-recovering the cost of TNSP assets that have been rolled into the regulatory asset base, for the long term benefit of consumers. AEMO expects that it will incur minor costs in changes to market systems to allow publishing of NSCAS details.

Finally, AEMO expects that it would incur administrative costs associated with developing the NSCAS quantity procedure, NMAS Tender Guidelines and the new regional benefit ancillary services procedures in accordance with the Rules consultation procedure.

12.3. Service Deployment

The proposed Rule places obligations on TNSPs to provide sufficient information to AEMO on each facility that provides NSCAS to TNSPs under network support agreements to allow AEMO to deploy these services within the central dispatch and PASA processes. AEMO notes that much of this information is provided to it informally and the proposed Rule change seeks to formalise this practice. Given this, AEMO does not expect that there will be a significant increase in costs to TNSPs or AEMO regarding the provision of this information. The expected benefit to the NEM is that greater certainty of these services would allow AEMO to dispatch these services more efficiently and this would improve pricing outcomes, thereby enhancing investment outcomes.

AEMO also expects that it would incur administrative costs associated with amending the guidelines for NSCAS dispatch in accordance with the Rules consultation procedure.

12.4. Service Cost Recovery

AEMO expects that the proposed Rule would benefit Market Customers in regions that AEMO determines do not benefit from the provision of NSCAS under an ancillary services agreement, as the relevant NSCAS costs would no longer be recovered from those Market Customers. Conversely, Market Customers in beneficiary regions would incur increased costs because these NSCAS costs would no longer be recovered from all regions.

In transitioning to the proposed cost recovery approach, AEMO expects to incur the following costs:

- costs of changes to settlements systems required so that NSCAS costs can be recovered from Market Customers in benefitting regions. AEMO estimates that these changes would cost approximately \$50 000; and
- administrative costs associated with developing the regional benefit ancillary services procedures in accordance with the Rules consultation procedures.

12.5. Addressing Minor issues

The proposed Rule identifies a number of minor and consequential changes. AEMO does not expect that these changes would result in material costs to the market.

GLOSSARY

TERM OR ABBREVIATION	EXPLANATION
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
DSP	Demand-Side Participation, Demand-Side Participant
EOI	Expressions of interest
ITT	Invitation to tender
LRPP	Last Resort Planning Power of the AEMC
MCE	Ministerial Council on Energy
NCAS	Network Control Ancillary Service
NEL	National Electricity Law
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
NEO	National Electricity Objective
NER	National Electricity Rules
NGF	National Generators Forum
NLCAS	Network Loading Control Ancillary Service
NMAS	Non-Market Ancillary Services
NSCAS	Network Support and Control Ancillary Services
NSCAS needs	The location and quantity of the NSCAS required.
NSCS	Network Support and Control Service
NSCS Review	The Network Support and Control Services Review required under clause 3.1.4(a1)(4) of the National Electricity Rules.

NSP	Network Service Provider
NSS	Network Support Service
NTFP	National Transmission Flow Path
NTNDP	National Transmission Network Development Plan
NTP	National Transmission Planner
RERT	Reliability and Emergency Reserve Trader
RIT-T	Regulatory Investment Test – Transmission
RPAS	Reactive Power Ancillary Service
SRAS	System Restart Ancillary Service
TNSP	Transmission Network Service Provider