29 April 2010

FROM THE OFFICE OF THE
CHIEF EXECUTIVE OFFICER

Level 12
15 William Street
Melbourne VIC 3000

Postal Address:
GPO Box 2008
Melbourne VIC 3001

T 03 9648 8777
F 03 9648 8778

Dr John Tamblyn
Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

By online submission

Dear Dr Tamblyn

Re | Amendments to PASA-related Rules

AEMO requests the AEMC consider making a Rule change under section 91 of the National Electricity Law (**NEL**). AEMO seeks to amend clauses 3.7.2(c)(2) and (f)(1) of the National Electricity Rules (**NER**) to remove its requirement to prepare and publish "for each region" the reserve requirements used in the Medium Term Projected Assessment of System Adequacy (**MTPASA**). Where it is appropriate for reserves to be shared between regions to meet a common reserve requirement, the proposed Rule change would allow AEMO to prepare and publish these inputs as a joint regional reserve requirement in accordance with the Reliability Standard to improve the quality of the MTPASA information.

Further, AEMO seeks to clarify or correct a number of other PASA-related provisions and definitions in the NER to ensure that they are consistent with the information that is required, in practice, for the efficient operation of the national electricity market. AEMO has developed these proposed Rule changes following consultation with members of the MTPASA Users Reference Group (**MURG**).

A description and drafting of the proposed Rule, a statement of the issues concerning the existing Rules, and how the proposed Rule addresses those issues consistent with the national electricity objective are in Attachment A. The list of MURG membership is in Attachment B and a draft of the proposed Rule is in Attachment C.

This letter supersedes earlier correspondence from AEMO to the AEMC dated the 10 March 2010. AEMO would appreciate if these matters could be considered by the AEMC. Please do not hesitate to contact Franc Cavoli 03 9609 8416 for further details.

Yours sincerely

M. Zema

Matt Zema
Managing Director and Chief Executive Officer

Attachment A: Rule change proposal

Attachment B: MTPASA Users Reference Group Membership

Attachment C: Draft Rule

Attachment A

1 Summary

AEMO seeks to amend clauses 3.7.2(c)(2) and (f)(1) of the National Electricity Rules (**NER**) to remove its requirement to prepare and publish "for each region" the reserve requirements used in the Medium Term Projected Assessment of System Adequacy (**MTPASA**). The proposed Rule change would allow AEMO to use reserve requirements that apply across multiple regions so that MTPASA can more optimally share medium term capacity reserves between those regions in accordance with the Reliability Standard. AEMO considers that this would improve the quality of the MTPASA information.

Initially, AEMO intends to fully optimise the South Australian and Victorian reserve requirement for the summer 2010/2011 outlook. AEMO also intends to progressively convert the single-region reserve requirements for the other regions into the fully optimised form as those reserve relationships are determined by AEMO.

AEMO also seeks to address a number of inconsistencies between the current design of the PASA processes and the relevant NER provisions. Many of these issues were identified by NEMMCO (now AEMO) in consultation with members of the MTPASA Users Reference Group (**MURG**) as part of a broad review of the medium term and short term projected assessment of system adequacy processes (**MTPASA** and **STPASA**) that was completed in March 2009. The review recommended that NEMMCO seek Rule changes to address these issues.

2 Background

Under clause 3.7.1 of the NER, AEMO is responsible for administering the STPASA and MTPASA processes. These are comprised of information collection, analysis, and disclosure of short term and medium term power system security and reliability prospects to Registered Participants.

STPASA is a seven-day half-hourly reserve outlook which AEMO publishes every two hours. MTPASA is a two-year daily peak reserve outlook[1] which AEMO publishes at least once per week. Registered Participants use this information to make decisions about supply, demand and the scheduling of planned outages in the national electricity market (**NEM**). AEMO uses this information as a trigger to intervene in the market to address forecast reserve shortfalls.

While not a NER obligation, AEMO publishes this information on its website.

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[1] Note that MTPASA considers the availability of generation that can be made available to the NEM within 24 hours (PASA availability) while STPASA only considers generation that can be made available within 30 minutes (market availability).

3 Issues with MTPASA Reserve Requirements

3.1 Background and Current Arrangements

The Reliability Panel determines the Reliability Standard in accordance with clauses 8.8.1(a)(2) and 8.8.3 of the NER. The Reliability Standard is defined as the maximum permissible unserved energy (**USE**), or the maximum allowable level of electricity at risk of not being supplied to consumers, being 0.002 % of the annual energy consumption for the associated region or regions per financial year. The Reliability Standard allows the maximum permissible USE standard to apply across one or more regions.

In practice, AEMO converts the maximum permissible USE into minimum reserve requirements[2] which are used operationally in MTPASA, including the modelling of reserve requirements across multiple regions.

The current MTPASA design only allows reserve requirements to be defined for a single region, that is, one reserve requirement applies for each region of the NEM. For the Victorian and South Australian regions a joint reserve requirement of 615 MW would ideally apply, however in practice owing to the inflexibility of the current design this must be expressed as two separate single-region reserve requirements, namely:

VIC Surplus Capacity **≥ 665 MW**

SA Surplus Capacity **≥ -50 MW**

AEMO notes that there is an approximately linear trade-off between the South Australian reserve requirement and the Victorian reserve requirement, as shown in Figure 1 below.[3] This demonstrates that there are a range of reserve requirement combinations that would deliver the minimum USE standard for those regions.

Figure 1 illustrates that the current single-region reserve requirements correspond to the point at the lower-right end of the curve and represents the most conservative overall reserve requirement; potentially a more optimal allocation of capacity reserves is achievable by moving further up this curve. The current single-region reserve requirements, while delivering the Reliability Standard of 0.002% USE in South Australia, also delivers 0.001% USE for Victoria which is much more stringent than the Reliability Standard, and hence is likely to increase the overall reserve requirement.

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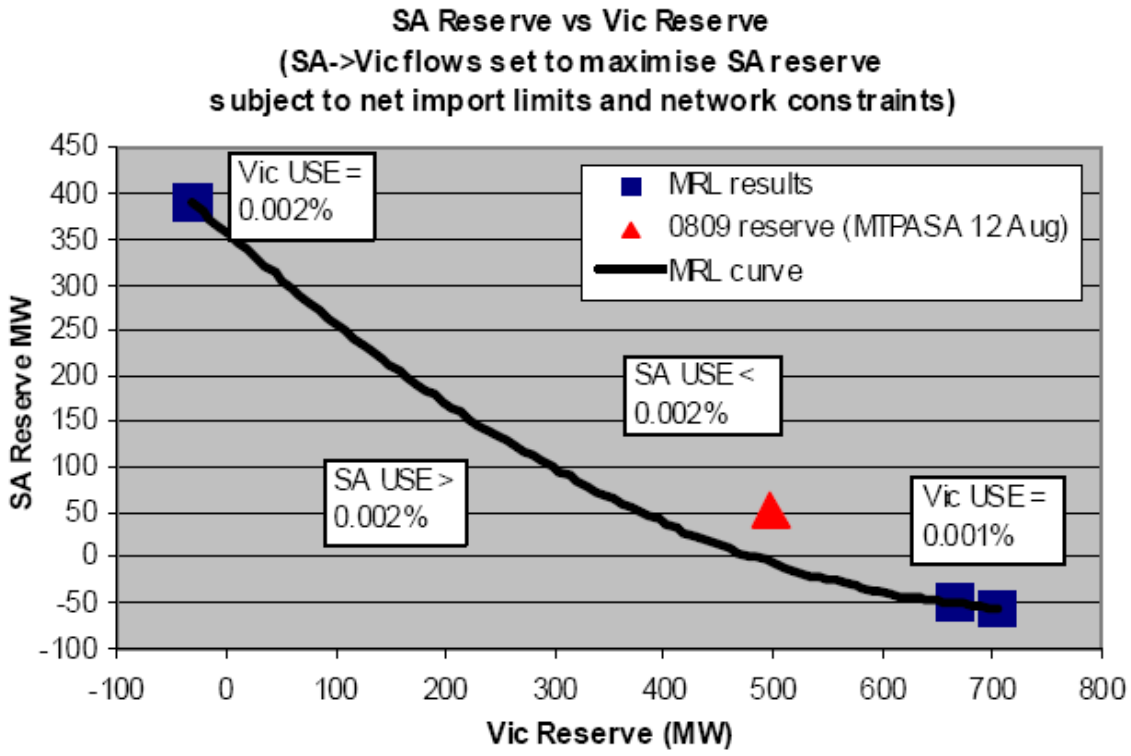
[2] Referred to as reserve requirements throughout this document. Also referred to as minimum reserve levels (**MRLs**).

[3] ROAM Consulting report to NEMMCO, *Minimum Reserve Level Recalculation 2006*, 8 September 2006, Figure 8.3.3.

Figure 1: Relationship between the SA and VIC Reserve Requirement



AEMO has indicated to the market[4] that a more optimal sourcing of Victorian versus South Australian capacity reserves could be found that would lower the overall reserve requirement for the two regions. This would avoid the over-estimation of reserve shortfalls and potentially avert the need for AEMO to resort to reserve trading or directions.

AEMO also notes that this issue was raised in the Reliability Panel's review of the Operational Arrangements for the Reliability Standard, and the Reliability Panel recommended that:

> …AEMO considers developing the ability to use dynamic joint regional reserve requirements, where reserves can be shared between regions, as this would improve the quality of the information provided by medium-term PASA.[5]

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4 NEMMCO Communication No.3028, issued 1 September 2008.

5 AEMC Reliability Panel, *Review of the Operational Arrangements for the Reliability Standard: Final Report*, 21 December 2009, p. 28.

3.2 Statement of Issues

AEMO considers that its obligation under clauses 3.7.2(c)(2) and (f)(1) of the NER to prepare and publish the reserve requirements "of each region**"** restricts AEMO to only formulating single-region reserve requirements for input to MTPASA. This prevents AEMO from using reserve requirements that can be sourced from multiple regions when these would better reflect the reliability of capacity reserves in those regions where reserve requirements are able to be traded-off. This in turn prevents the MTPASA from determining a more optimal allocation of capacity reserves between regions that would still meet the Reliability Standard and thus limits the usefulness of the MTPASA information in determining reserve shortfalls.

AEMO notes that as a result of the current design of using single-region reserve requirements, the MTPASA results for late summer 2009 indicated a reserve shortfall in the Victorian region even though there were no planned outages of relevant generating capacity. AEMO further notes that the reserve shortfall would not have been reported had MTPASA used a joint reserve requirement instead of the single-region requirements for Victoria and South Australia.[6]

AEMO also considers that its obligation under clause 3.7.2(f)(1) of the NER to publish the most probable peak power system load plus required scheduled reserve[7] "for each region" further reinforces the restriction to single-region reserve requirements and prevents AEMO from reporting the reserve requirement relationships in a way that is meaningful to the market.

3.3 Description of Proposed Rule

The proposed Rule would:

- amend AEMO's obligation under clause 3.7.2(c)(2) of the NER to prepare reserve requirements for each region**,** to allow AEMO to prepare shared reserve requirements between regions; and
- remove AEMO's NER obligation to publish the "*peak load* plus required *scheduled reserve* … for each *region* and the total *power system*", and replace it with obligations to separately publish:
    - "*peak load*", under proposed amendments to clause 3.7.2(f)(1); and
    - "*reserve* requirements determined in accordance with the *medium term capacity reserve standards*", under proposed new clause 3.7.2(f)(1A).

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6 Ibid.

7 Required scheduled reserve is also referred to as "reserve requirement" in the NER.

4 Minor PASA-Related Issues

4.1 Review of PASA-Related Rules

In July 2008, at the request of Registered Participants, NEMMCO (now AEMO) commenced a review of the design and documentation of the MTPASA process including the NER underpinning its design and operation. The review was subsequently broadened to include the STPASA. The majority of the PASA-related Rules were in place at the start of the NEM and had not been comprehensively reviewed since.[8]

In March 2009, NEMMCO (now AEMO) completed its review of the PASA-related Rules in consultation with the MURG.

The review assessed each PASA-related Rule requirement with respect to:

- its application to, and alignment with, AEMO's current market processes; and
- the accuracy and clarity of NER definitions used.

AEMO has consulted with members of the MURG on the issues regarding rule 3.7, rule 3.7A and clause 4.9.1 (refer to Appendix B for MURG membership details).

The members of the MURG have agreed in principle with the proposed Rule changes, and since then AEMO has developed the Rule change proposal further.

4.2 Findings and Recommendations of the Review

The review revealed that while the PASA processes had undergone a number of improvements over time the related NER provisions have not been developed further than the minimum National Electricity Code requirements that existed at the start of the NEM.

Broadly, the review revealed a number of inconsistencies between the NER's requirements and the PASA processes which required consideration of whether the NER or the process should change. Overall, the review determined that the current PASA processes were consistent with accepted market practice and met market requirements. As such, the review recommended that NEMMCO seek Rule changes to improve their transparency and consistency with the PASA processes.

4.3 Statement of Issues

The tables in sections 4.5 to 4.8 identify the minor issues found with the PASA-related Rules.

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[8] Incremental Rule changes have taken place in December 2001 (provision of PASA Availability data); June/December 2002 (REIMNS); January/July 2006 (reporting of non-scheduled generation); and May 2009 (Semi-dispatch).

4.4 Description of Proposed Rule

The tables in sections 4.5 to 4.8 describe the proposed Rule changes.

AEMO's draft Rule is in Attachment C.

4.5 Inconsistencies between the NER and the current PASA processes and minor issues

The following issues have been identified as a result of the review into the PASA-related rules.

ID	Issue	Description of Proposed Rule	Clauses affected
1	The purpose of PASA is not only to maintain "power system security", but also to maintain "reliability of supply" and hence AEMO considers that clauses 3.7.1(b) should be amended to include "reliability of supply". Note that the phrase "reliability of supply" is commonly referred to in the Reliability and Emergency Reserve Trader (**RERT**) provisions of rule 3.20.	Amend the NER to include "reliability of supply".	3.7.1(b),(c)(1)(iv), (c)(3)(ii),(d), 3.7.3(f)
2	Under the NER, only Scheduled and Semi-Scheduled Generators and Market Participants receive the results of the PASA and PASA-related information. It is accepted market practice that AEMO makes this information electronically available to all Registered Participants[9] rather than to only specific categories of Registered Participant. This is important because others use this information to make decisions. For example, the MURG found that a number of Transmission Network Service Providers **(TNSPs**) also use the PASA information that AEMO publishes to assist in their planned network outage scheduling. AEMO considers that it should make the PASA information available to all Registered Participants – that is, it should *publish* the PASA information.	Amend the NER to reflect that the PASA information is made available to all Registered Participants.	3.7.1(b),(c)(3),(d), 3.7.2(b),(g), 3.7.3(c),(j), 3.7A(a),(g),(k)(5)
3	Clauses 3.7.2(a) and 3.7.3(a) of the NER refer to AEMO "issuing" the PASA in accordance with the spot market operations timetable. AEMO considers that the defined term "publish" is more appropriate as it applies to the provision of information to all Registered Participants *(*including TNSPs) which is consistent with other Rules relating to the provision of PASA information (refer Issue ID#2).	Replace the term "issued" with the defined term "publish".	3.7.2(a), 3.7.3(a)

[9] This is equivalent in the Rules to the defined term *publish*, which (in part) states that "a document is published by [AEMO] if it is made available to *Registered Participants* electronically".

ID	Issue	Description of Proposed Rule	Clauses affected
4	Clause 3.7.2(a) describes the period that the MTPASA information must cover. AEMO considers that the drafting of this clause is ambiguous and does not reflect what occurs in practice. AEMO considers that the NER should be amended to make this clear.	Amend the NER to reflect that the MTPASA information is published every Tuesday and covers the period from the following Sunday for a further 24 months.	3.7.2(a)
5	Clause 3.7.2(c)(1) refers to the "forecast load" as not only being peak load (in MW), but a number of other items that are not strictly the "forecast load" inputs to MTPASA but are related information such as "time of the peak" and an "indicative half hourly load profile". Further, such information applies "for each region". Hence, AEMO considers that the items under this clause should be generically referred to as "forecast load information", and qualified as applying "for each region".	Replace "forecast load" with "forecast load information for each *region*".	3.7.2(c)(1)
6	The forecast load information that is prepared and published under clauses 3.7.2(c)(1), 3.7.3(d)(1), 3.7.2(f)(1), (2) and (3) excludes the 10% Probability of Exceedence (**PoE**) daily peak load. The 10% PoE forms a part of the forecast load which is required as an input to the MTPASA and STPASA and is published under clauses 3.7.2(f)(1),(2) and (3) of the NER. AEMO considers that the 10% PoE daily peak load should be included to ensure these descriptions are accurate. Further, AEMO considers that clause 3.7.2(c)(1)(i) should be amended to reflect the MTPASA input refers to daily information and the wording of this clause should be amended to be consistent with the description of the STPASA inputs under proposed clause 3.7.3(d)(1) which indicates that the timeframe of the inputs are daily.	Include the 10% PoE daily peak load in the description that forms part of the forecast load information required to be prepared and published by AEMO for MTPASA. Insert "daily" between the words "probable" and "*peak".*	3.7.2(c)(1), 3.7.3(d)(1), 3.7.2(f)(1),(2),(3) 3.7.2(c)(1)(i)
7	AEMO considers that the reference in clause 3.7.2(c)(2) to the "power system security and reliability standards" is redundant and should be deleted since the defined term "medium term capacity reserve standards" includes reference to the "power system security and reliability standards". AEMO notes that this is also consistent with what it has proposed for clause 3.7.2(f)(1A) in section 3.3.	Delete ""power system security and reliability standards".	3.7.2(c)(2)

ID	Issue	Description of Proposed Rule	Clauses affected
8	Clause 3.7.2(f)(1) requires AEMO to prepare and publish the MTPASA forecasts of the most probable peak power system load and the required scheduled reserve adjusted to make allowance of the scheduled load "for each region and for the total power system". Currently, AEMO only publishes this information on a regional basis. The NER issue identified in section 3.2 restricts AEMO to using and reporting single-region reserve requirements in MTPASA equally applies to the reporting of a "total power system" reserve requirement. If the proposed changes to the single-region reserve requirements in MTPASA (and STPASA) are not made10, then AEMO considers that making changes to the market systems to publish reserve requirements on a "total power system" basis would not materially benefit the market and is unnecessary since: • Registered Participants could readily calculate the "total power system" information by adding all the single-region reserve requirements; • where a region is islanded, this information becomes meaningless; and • it would cost the market more to do so. These reasons also apply for clauses 3.7.3(h)(1) and (3). AEMO considers that clauses 3.7.2(f)(1) and 3.7.3(h)(1) should be amended to delete "and for the total power system".	Delete "and for the total power system".	3.7.2(f)(1), 3.7.3(h)(1)
9	Clause 3.7.2(f)(4) requires AEMO to prepare and publish MTPASA forecasts of the most probable energy consumption for each region and the total power system on a daily basis (see ID#8). Currently, AEMO produces this information on a weekly basis and considers that this clause should be amended to reflect this. AEMO considers that reporting this information on a daily basis, instead of weekly, is unlikely to add significant value to the NEM. Clause 3.7.2(f) should also clarify that the information in its below paragraphs must be prepared and published each day "or as otherwise defined" as the most probable energy consumption in paragraph (f)(4) is on a weekly basis. Similarly, clause 3.7.3(h)(3) requires AEMO to prepare and publish STPASA forecasts of	Insert the word "weekly" between the words "probable" and "energy" in clause 3.7.2(f)(4). Insert the words "and trading day" after "for each region" in clause 3.7.3(h)(3). Insert the words "(or as otherwise defined)" between "each day" and "covered by" in clause 3.7.2(f), and between "trading interval" and	3.7.2(f)(4), 3.7.3(h)(3) 3.7.2(f), 3.7.3(h)

[10] See sections 3.2 and 3.3.

ID	Issue	Description of Proposed Rule	Clauses affected
	the most probable energy consumption for each region and the total power system for each trading interval. Currently, AEMO produces this information on a trading day basis and considers that this clause should be amended to reflect this. AEMO considers that reporting this information for each trading interval, instead of for the trading day, is unlikely to add significant value to the NEM. Clause 3.7.3(h) should also clarify that the information in its below paragraphs must be prepared and published for each trading interval "or as otherwise defined" as the most probable energy consumption in paragraph (h)(3) is on a trading day basis.	"in the period" in clause 3.7.3(h).	
10	Clause 3.7.3(e)(3) requires Scheduled Generators to submit scheduled generating unit synchronisation and de-synchronisation times for slow start generating units as an input to STPASA. Since the NEM's start, these inputs have been inferred from the unit availability information provided under clauses 3.7.3(e)(1) and (2), hence, the requirement is superfluous for AEMO's operational purposes. AEMO considers that this requirement should be deleted from the NER.	Remove the requirement for Scheduled Generators to submit this information.	3.7.3(e)(3)

4.6 Incorrect or ambiguously defined terms

ID	Issue	Description of Proposed Rule	Glossary definition
11	The Glossary definition of "PASA availability" is unclear as to whether the 24-hour recall time applies to the period of time after or before the availability is required. AEMO considers the definition needs clarification about the time the 24-hour recall applies from.	Amend the definition of PASA availability to change the 24-hour recall notice description to apply for the 24-hours prior to the period that the availability is required (see Example 1 below for further explanation).	PASA availability
12	The Glossary definition of "medium term capacity reserve" implies that the reserves are only determined and reported over the period between 7 days and 12 weeks. In practice, this is not the case and is inconsistent with clause 3.7.2(a) of the NER which correctly indicates that the reporting period covers 24 months for MTPASA.	Amend the definition to remove the incorrect reporting period for medium term capacity reserves.	medium term capacity reserve

ID	Issue	Description of Proposed Rule	Glossary definition
	AEMO considers that the MTPASA reporting period referred to in the Glossary definition is incorrect and redundant and should be removed from the definition.		
13	The Glossary definition for "medium term capacity reserve" refers to Generators indicating the amount of “surplus” generating capacity. Generators are only able to indicate their available generating capacity, rather than any “surplus” generating capacity. The surplus is calculated by AEMO as part of the PASA, based on available generating capacity inputs from Generators. AEMO considers that “surplus” should be deleted from this definition because Generators are unable to indicate the “surplus” generating capacity.	Remove the reference to “surplus” in the Glossary definition of medium term capacity reserve.	medium term capacity reserve
14	The Glossary definition for “medium term capacity reserve” and “short term capacity reserve” is unclear about whether generating capacity indicated by relevant Generators is aggregated for the purposes of the PASA assessment. AEMO considers that this should be made clear.	Clarify that reserve assessments are based on aggregated amounts of generating capacity.	medium term capacity reserve and short term capacity reserve
15	The Glossary definition for “short term capacity reserve” refers to half hour periods (rather than “trading intervals”) during the next seven days (rather than “trading days”). AEMO considers that where an equivalent defined term exists it should be used.	Amend the definition to refer to the trading days and trading intervals.	short term capacity reserve

Example 1: Explanation of PASA Availability

At 10:00hrs on 10 January, Generator A submits a unit PASA availability profile to AEMO for the 12 January trading day, which includes a PASA Availability of 500 MW for the trading interval ended 14:00hrs.

Generator A is indicating that it would require at least 24 hours' notice (that is, by 14:00hrs on 11 January) to make that 500 MW available for use in trading interval ended 14:00hrs on 12 January.

4.7 Misuse of defined terms

ID	Issue	Description of Proposed Rule	Clauses affected
16	Rule 3.7 specifies that AEMO must forecast most probable power system load. The defined term "power system" includes the distribution network, so the term "power system load" incorrectly implies that AEMO forecasts all load, including that supplied by generation that is embedded in the distribution system. AEMO only includes this embedded generation in its forecasts if it is metered by AEMO. In practice, MTPASA uses native demand ("as generated" demand) which includes load supplied by metered non-scheduled generation.	Replace the term "power system load" with the term "load".	3.7.2(f)(1),(2),(3), 3.7.2(f)(5)(i), 3.7.3(h)(1), (2),(3), (4)(i),4B(i),4C(i)
17	Clause 3.7.3(b) describes the resolution of the STPASA as half hourly rather than using the equivalent defined term "trading interval". AEMO considers that AEMO considers that where an equivalent defined term exists it should be used. This would also be consistent with clause 3.8.20 which describes the pre-dispatch schedule as having a trading interval resolution.	Replace half hourly resolution with trading interval resolution.	3.7.3(b)

ID	Issue	Description of Proposed Rule	Clauses affected
18	Under clause 3.7.3(h)(1) *AEMO* must prepare and publish forecasts of most probable power system load plus required "scheduled reserve adjusted to make allowance for scheduled load". In practice, AEMO uses both scheduled generation and semi-scheduled generation to meet a reserve requirement, the latter representing a significant and growing portion of the total NEM generation. Hence, there is an inconsistency with the NER and AEMO's practice. AEMO considers that it is necessary to replace "required scheduled *reserve*" with "*reserve* requirement" so that semi-scheduled generation is also included.	Replace "required scheduled *reserve*" with "*reserve* requirement" to allow both scheduled and semi-scheduled reserves to be included in the STPASA outputs.	3.7.3(h)(1)
19	Clause 3.7.3(d)(1) refers to forecast load, a STPASA input, being adjusted in accordance with "dispatch offers" for scheduled loads. This is an error, only "dispatch bids" are submitted for "scheduled loads", rather than "dispatch offers".	Replace reference to "dispatch offers" with "dispatch bids".	3.7.3(d)
20	Clause 4.9.1(a)(3) refers to the defined term "peak load" without italicising these words. "Peak load" is a defined term, and neglecting to italicise it may lead to imprecise interpretations of the clauses that contain it.	Italicise the term *"*peak load".	4.9.1(a)(3)
21	Clause 3.7.2(c)(2) refers to the defined term "reserve" without italicising it. "Reserve" is a defined term, and neglecting to italicise it may lead to imprecise interpretations of the clauses that contain it.	Italicise the word "reserve".	3.7.2(c)(2)

4.8 Duplicate definitions of defined terms

ID	Issue	Description of Proposed Rule	Glossary definition
22	The Glossary definitions for medium-term PASA and short-term PASA duplicate the definitions given in clauses 3.7.2 and 3.7.3, respectively. AEMO considers that this duplication is unnecessary and should be removed.	Replace the description of medium-term PASA and short-term PASA in those defined terms with a reference to its definition in relevant clauses 3.7.2 and 3.7.3.	medium-term PASA, short-term PASA

5 Request for Proposed Rule

This section provides a description of AEMO's right to submit the proposed Rule to the AEMC, and the power that the AEMC has under the National Electricity Law (**NEL**) to consider this proposed Rule change.

5.1 AEMO's Right to Submit this Proposal

AEMO is requesting that the AEMC make this proposed Rule in accordance with section 91 of the NEL.

AEMO has the following relevant functions under the NEL:

- to operate and administer the NEM; and
- to promote the development and improve the effectiveness of the operation and administration of the NEM.

Under section 91(1) of the NEL, the AEMC may make a Rule at the request of any person, the MCE or the Reliability Panel. As such, AEMO may request the AEMC make a Rule.

5.2 Power of the AEMC to Make the Proposed Rule

The subject matter about which the AEMC may make Rules is set out in section 34 and Schedule 1 of 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.

6 How the Proposed Rules Contribute 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.

MTPASA Reserve Requirement

AEMO considers that the proposed Rule is likely to contribute to the NEO because it promotes efficient investment in, and use of electricity services for the long term interests of consumers in terms of price and reliability of supply because it would:

- allow AEMO to model the reliability of capacity reserves across regions and hence provide a more accurate medium term assessment of reserve adequacy across the NEM. This would better inform Registered Participants of periods of projected low reserves and potentially higher prices which would enhance their decision-making.[11] Further, this would assist in determining whether capacity reserves are likely to be sufficient to meet the Reliability Standard and this enhances decision-making with respect to whether intervention by AEMO is required to increase capacity reserves; and
- is likely to result in lower overall reserve requirements in the NEM, which in turn avoids over-estimation of reserve shortfalls and unnecessary outage rescheduling or capacity investment by the market or, as a last resort, by AEMO through reserve trading or directions thus reducing the overall costs in meeting the Reliability Standard.

Minor PASA-Related Issues

AEMO considers that the proposed Rule is likely to promote the NEO because it improves the consistency and clarity of the NER, which is consistent with good regulatory practice. It would achieve this by:

- correcting incorrect or ambiguously defined terms;
- addressing misuse of defined terms; and
- removing duplication from the NER.

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[11] For example, if a projected low reserve period had not been reported a Generator may have chosen to undertake planned generator maintenance and declare its capacity unavailable.

AEMO considers that greater consistency of the NER with the PASA processes is likely to contribute to the efficient operation and use of electricity services in the NEM because it is likely to reduce the potential regulatory uncertainty and inefficiency arising from such inconsistencies. While the overall NEO contribution is likely to be relatively small, these changes are important because the information from the PASA processes is relied on by Registered Participants for making operational decisions that affect the reliability and security of the electricity supply in the NEM.

7 Expected Benefits and Costs of the Proposed Rule

MTPASA Reserve Requirement

AEMO expects that the proposed Rule change would benefit Registered Participants because they would have better information on which to base their decision-making.

The majority of costs associated with implementing the proposed Rule are expected to be incurred in developing the changes to the MTPASA and associated market systems, with such changes ready for production release from May 2010. Most of these costs have already been incurred by AEMO, and Registered Participants would have incurred costs in changing their market systems to accommodate AEMO's changes.

AEMO does not expect that there will be any additional compliance, procedural or other costs arising from implementing this proposed Rule change.

In summary, AEMO considers that the benefits to the NEO in providing a more flexible framework for optimising reserve requirements in MTPASA, aligned with the approach endorsed by the Reliability Panel, far outweighs the costs in developing the required market system changes.

Minor PASA-Related Issues

AEMO does not expect that any party would be adversely affected by the proposed Rule because the proposed changes seek to clarify and align the NER with AEMO's current practices and processes.

For the same reason, AEMO does not expect that there will be any additional compliance or other costs associated with the proposed Rule changes.

Glossary

TERM OR ABBREVIATION	EXPLANATION
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
MTPASA	The medium-term projected assessment of system adequacy as described in clause 3.7.2 of the NER
MURG	MTPASA Users Reference Group
NEL	National Electricity Law
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company (now AEMO)
NEO	The national electricity objective as stated in section 7 of the NEL
NER	National Electricity Rules
PASA	Projected assessment of system adequacy as described in rule 3.7 of the NER
PoE	Probability of Exceedence
RERT	Reliability and Emergency Reserve Trader
STPASA	The short-term projected assessment of system adequacy as described in clause 3.7.3 of the NER
TNSP	Transmission Network Service Provider

Attachment B

MTPASA Users Reference Group (MURG) v7 As at 18 March 2009 (last MURG meeting)

Member	Company	Title	Represents	Phone	Email
Ross Gillett	NEMMCO	NEM Devt	Project Mgr	02 9239 9114	
Mark Miller	NEMMCO	GM Operations	Project Sponsor	02 8884 5020	
Sujeewa Rajapakse	NEMMCO	SOPP Mgr/Ops Planning	PASA Ops	02 8884 5316	
Abraham Yohannan	NEMMCO	NEM Devt			
Reena Kwong	NEMMCO	SOPP Ops Planning	PASA Ops		
Jonathon Dyson	LYMMCO	Pool Ops Mgr	Generator	03 5173 3262	JDyson@lymmco.com.au
Peter Tang	Delta Electricity	Energy Trading	Generator	02 9285 2749	peter.tang@de.com.au
Stephen Meiklejohn	Tarong Energy	Market Analyst	Generator	07 3228 4509	stephen.meiklejohn@tarongenergy.com.au
Mark Frewin	TRUenergy	Reg Mgr/Elect. & Gas	Generator	03 8628 1130	mark.frewin@truenergy.com.au
Chrys Chandraraj	AGL	Mgr/Strategic Analysis	Retailer	03 8633 6138	CChandra@agl.com.au
Craig Oakeshott	ESIPC	Mgr/Market Analysis	SA Jurisdiction	08 8463 4373	Craig.Oakeshott@esipc.sa.gov.au
Andrew Jelavic	Transgrid	System Operations	NSW TNSP	02 9620 0826	Andrew.Jelavic@transgrid.com.au
Stuart Lynch	Energy Response	Mgr/Dispatch & IT	Demand Aggregator	03 8643 5932	stuart.lynch@energyresponse.com

Attachment C

This draft is based on National Electricity Rules Version 35

3. Market Rules

3.7 Projected Assessment of System Adequacy

3.7.1 Administration of PASA

(a) *AEMO* must administer medium term and short term *projected assessment of system adequacy processes* to be known as *PASA*.

(b) The *PASA* is a comprehensive program of information collection, analysis, and disclosure of medium term and short term *power system security* and reliability of *supply* prospects so that ~~*Scheduled Generators* and *Market*~~ *Registered Participants* are properly informed to enable them to make decisions about *supply*, demand and *outages* of *transmission networks* in respect of periods up to 2 years in advance.

(c) On a weekly basis *AEMO* must:

(1) collect and analyse information from all *Scheduled Generators*, *Market Customers*, *Transmission Network Service Providers* and *Market Network Service Providers* about their intentions for:

(i) *generation*, *transmission* and *Market Network Service* maintenance scheduling;

(ii) intended *plant* availabilities;

(iii) *energy constraints*;

(iv) other *plant* conditions which could materially impact upon *power system security* and reliability of *supply*; and

(v) significant changes to *load* forecasts previously notified to *AEMO*,

for the following 24 months;

(2) prepare the *unconstrained intermittent generation forecasts* for the following 24 months; and

(3) following analysis and assessment referred to subparagraphs (1) and (2), *publish* information that will:

(i) assist *Registered* ~~*Scheduled Generators* and *Market*~~*Participants* to plan any scheduled work on *plant*; and

(ii) inform the *market* of possible *power system security* and reliability of *supply* problems.

(d) *AEMO* must use its reasonable endeavours to ensure that it provides to *Registered* ~~*Scheduled Generators* and *Market*~~ *Participants* sufficient

information to allow *Registered* ~~*Scheduled Generators* and *Market*~~ *Participants* to undertake maintenance and *outage* planning without violating *power system security* and reliability of *supply* and to allow the *market* to operate effectively with a minimal amount of intervention by *AEMO*.

3.7.2 Medium term PASA

(a) The *medium term PASA* covers the 24 month period commencing from the Sunday ~~the *day* 8 *days*~~ after the *day* of publication with a daily resolution, and must be reviewed and ~~issued~~ *published* every week by *AEMO* in accordance with the *timetable*.

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(b) *AEMO* may *publish* ~~additional~~ updated versions of the *medium term PASA* in the event of *changes* which, in the judgment of *AEMO*, are materially significant and should be communicated to ~~*Scheduled Generators* and *Market*~~*Registered Participants*.

(c) The following *medium term PASA* inputs are to be prepared by *AEMO*:

(1) forecast *load* information for each *region*, which is:

(i) ~~to indicate for each *region*~~ the 10% probability of exceedence daily *peak load*, most probable daily *peak load*, time of the peak, and daily *energy* on the basis of past trends, day type and special events including all anticipated *scheduled load* and other *load* except for pumped storage *loads*;

(ii) subsequently to be adjusted by an amount anticipated in the forecast as *scheduled load* by *load* bidders; and

(iii) an indicative half hourly *load* profile for each day type for each *region* for each month of the year;

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(2) *reserve* requirements ~~of each *region*~~ determined in accordance with the *medium term capacity reserve standards*~~set out in the *power system security and reliability standards*~~;

(3) forecast *network constraints* known to *AEMO* at the time; and

(4) an *unconstrained intermittent generation forecast* for each *semi-scheduled generating unit* for each *day*.

(d) The following *medium term PASA* inputs must be submitted by each relevant *Scheduled Generator* or *Market Participant* in accordance with the *timetable*:

(1) *PASA availability* of each *scheduled generating unit*, *scheduled load* or *scheduled network service* for each *day*; and

(2) weekly *energy constraints* applying to each *scheduled generating unit* or *scheduled load*.

(e) *Network Service Providers* must provide to *AEMO* an outline of planned *network outages* in accordance with the *timetable* and provide to *AEMO* any other information on planned *network outages* that is reasonably requested by *AEMO* to assist *AEMO* to meet its obligations under paragraph (f)(6).

(f) *AEMO* must prepare and *publish* the following information in respect of each day (or as otherwise defined) covered by the *medium term PASA* in accordance with clause 3.13.4:

(1) forecasts of the 10% probability of exceedence *peak load*, and most probable *peak ~~power system~~ load* ~~plus required *scheduled reserve*~~, each adjusted to make allowance for *scheduled load* ~~for each *region* and for the total *power system*~~;

(1A) *reserve* requirements determined in accordance with the *medium term capacity reserve standards;*

(2) the aggregated MW allowance (if any) made by *AEMO* for *generation* from *non-scheduled generating systems* in each of the forecasts of the 10% probability of exceedence *peak load* and most probable *peak ~~power system~~ load* referred to in subparagraph (1);

(3) in respect of each of the forecasts of the 10% probability of exceedence *peak load* and most probable *peak ~~power system~~ load* referred to in subparagraph (1), a value that is the sum of that forecast and the relevant aggregated MW allowance referred to in subparagraph (2);

(4) forecasts of the most probable weekly *energy* consumption for each *region*~~and for the total *power system*~~;

(5) aggregate *generating unit PASA availability* for each *region*, calculated by adding the following categories:

(i) the capacity of *scheduled generating units* that are able to operate at the full offered *PASA availability* on a continuous basis to meet forecast *peak ~~power system~~ load*;

(ii) an allocation of *generation* that cannot be *generated* continuously at the full offered *PASA availability* of the *scheduled generating units* for the period covered due to specified weekly *energy constraints*; ~~and~~

(iii) the forecast *generation* of *semi-scheduled generating units* as provided by the *unconstrained intermittent generation forecasts*; and

(6) identification and quantification of:

(i) any projected *violations* of *power system security*;

(ii) any *days* on which *low reserve* or *lack of reserve* conditions are forecast to apply;

(iii) where a projected *supply* deficit in one *region* can be supplemented by a surplus in another *region* (dependent on forecast *interconnector* transfer capabilities);

(iv) forecast *interconnector* transfer capabilities and the discrepancy between forecast *interconnector* transfer capabilities and the forecast capacity of the relevant *interconnector* in the absence of *outages* on the relevant *interconnector* only; and

(v) when and where *network constraints* may become binding on the *dispatch* of *generation* or *load*.

(g) *AEMO* must document the procedure it uses for preparation of the *medium term PASA* and make it available to all ~~*Scheduled Generators* and *Market*~~ *Registered Participants* on a cost recovery basis.

3.7.3 Short term PASA

(a) The *short term PASA* must be ~~issued~~ *published* at least daily by *AEMO* in accordance with the *timetable*.

(b) The *short term PASA* covers the period of six *trading days* starting from the end of the *trading day* covered by the most recently *published pre-dispatch schedule* with a *trading interval* ~~half hourly~~ resolution.

(c) *AEMO* may *publish* additional updated versions of the *short term PASA* in the event of *changes* which, in the judgement of *AEMO*, are materially significant and should be communicated to ~~*Scheduled Generators* and *Market*~~ *Registered Participants*.

(d) The following *short term PASA inputs* are to be prepared by *AEMO*:

(1) forecast *load* for each *region*, which is to include:

(i) the 10% probability of exceedence half-hourly *load* and most probable half hourly ~~*profile*~~ *load* on the basis of past trends, day type, and special events; and

(ii) all *scheduled load* and other *load* except for pumped storage *loads*,

which must subsequently be adjusted in accordance with *dispatch* ~~*offers*~~ *bids* for *scheduled load*;

(2) *reserve* requirements for each *region* determined in accordance with the *short term capacity reserve standards*;

(3) ~~anticipated~~ forecast *network constraints* known to *AEMO* at the time; and

(4) an *unconstrained intermittent generation forecast* for each *semi-scheduled generating unit* for each *trading interval*.

(e) The following *short term PASA* inputs must be submitted by each relevant *Scheduled Generator* and *Market Participant* in accordance with the *timetable* and must represent the *Scheduled Generator's* or *Market Participant's* current intentions and best estimates:

(1) availability of each *scheduled generating unit*, *scheduled load* or *scheduled network service* for each *trading interval* under expected *market* conditions;

(2) *PASA availability* of each *scheduled generating unit*, *scheduled load* or *scheduled network service* for each *trading interval*; and

(3) ~~*scheduled generating unit synchronisation* and *de-synchronisation* times for *slow start generating units*; and~~[deleted]

(4) projected daily *energy* availability for *energy constrained scheduled generating units* and *energy constrained scheduled loads*.

(f) If *AEMO* considers it reasonably necessary for adequate *power system* operation and the maintenance of *power system security* and reliability of *supply*, *Registered Participants* who may otherwise be exempted from providing inputs for the *PASA* process must do so to the extent specified by *AEMO*.

(g) *Network Service Providers* must provide to *AEMO* an outline of planned *network outages* in accordance with the *timetable* and provide to *AEMO* any other information on planned *network outages* that is reasonably requested by *AEMO* to assist *AEMO* to meet its obligations under clause 3.7.3(h)(5).

(h) *AEMO* must prepare and *publish* the following information as *short term PASA* outputs for each *trading interval* (or as otherwise defined) in the period covered in accordance with clause 3.13.4(c):

(1) forecasts of the most probable ~~*power system load*~~ plus ~~required *scheduled*~~ *reserve* requirement, adjusted to make allowance for *scheduled load*, for each *region*~~and for the total *power system*~~;

(2) forecasts of ~~*power system*~~ *load* for each *region* with 10% and 90% probability of exceedence;

(3) forecasts of the most probable *energy* consumption for each *region* and *trading day*~~and for the total *power system*~~;

(4) aggregate *generating unit* availability for each *region* calculated by adding the following categories:

(i) the capacity of *scheduled generating units* that are able to operate at the full offered availability on a continuous basis to meet forecast ~~*power system*~~ *load*;

(ii) an allocation of *generation* that cannot be *generated* continuously at the full offered availability of the *scheduled*

generating units for the period covered due to specified daily *energy constraints*; and

(iii) the forecast *generation* of *semi-scheduled generating units* as provided by the *unconstrained intermittent generation forecasts*;

(4A) aggregate *generating unit PASA availability* for each region;

(4B) the aggregated MW allowance (if any) made by *AEMO* for generation from *non-scheduled generating systems* in each forecast:

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(i) of the most probable *peak* ~~*power system*~~ *load* referred to in clause 3.7.3(h)(1); and

(ii) referred to in clauses 3.7.3(h)(2), (3), (4) and (4A);

(4C) in respect of each forecast:

(i) of the most probable *peak* ~~*power system*~~ *load* referred to in clause 3.7.3(h)(1);

(ii) referred to in clauses 3.7.3(h)(2), (3), (4) and (4A),

a value that is the sum of that forecast and the relevant aggregated MW allowance (if any) referred to in clause 3.7.3(4B); and

(5) identification and quantification of:

(i) any projected *violations* of *power system security*;

(ii) any *trading intervals* for which *low reserve* or *lack of reserve* conditions are forecast to apply;

(iii) where a projected *supply* deficit in one *region* can be supplemented by a surplus in another *region* (dependent on forecast *interconnector* transfer capabilities);

(iv) forecast *interconnector* transfer capabilities and the discrepancy between forecast *interconnector* transfer capabilities and the forecast capacity of the relevant *interconnector* in the absence of outages on the relevant *interconnector* only; and

(v) when and where *network constraints* may become binding on the *dispatch* of *generation* or *load*.

(i) In the event that in performing the ~~*short term*~~ *short term PASA AEMO* identifies any projected *low reserve* or *lack of reserve* conditions in respect of a *participating jurisdiction*, then *AEMO* must use its reasonable endeavours to advise the *Jurisdictional Co-ordinator* for that *participating jurisdiction* of any potential requirements during such conditions to shed *sensitive loads*.

(j) *AEMO* must document the procedure it uses for preparation of the *short term PASA* and make it available to all ~~*Scheduled Generators* and *Market*~~*Registered Participants* on a cost recovery basis.

3.7A Congestion information resource

(a) The objective of the *congestion information resource* is to provide information in a cost effective manner to ~~*Market*~~*Registered Participants* to enable them to understand patterns of *network* congestion and make projections of *market* outcomes in the presence of *network* congestion (the *congestion information resource objective*).

Development of congestion information resource

(b) To implement the *congestion information resource objective*, *AEMO* must develop and *publish*, in accordance with this rule 3.7A, an information resource comprising:

(1) information on *planned network events* that are likely to materially affect *network constraints* in relation to a *transmission system*;

(2) historical data on *mis-pricing* at *transmission network* nodes in the *national electricity market*; and

(3) any other information that *AEMO*, in its reasonable opinion, considers relevant to implement the *congestion information resource objective*, which is to be known as the *congestion information resource*.

(c) The *congestion information resource* must contain at least the same level of detail as is required to be included in the interim congestion information resource *published* under clause 11.30.2.

(d) *AEMO* must develop, and amend from time to time, the *congestion information resource*:

(1) consistently with the *congestion information resource objective*;

(2) in accordance with the *congestion information resource guidelines*; and

(3) to incorporate any new, or amend any existing, aspect of the *congestion information resource* where *AEMO* forms the view that such an amendment will improve the implementation of the *congestion information resource objective*.

(e) Subject to paragraph (f), *AEMO* must update and *publish* the information contained in the *congestion information resource* (whether in whole or in part) at intervals to be determined by *AEMO* in accordance with the *congestion information resource guidelines*.

(f) The intervals determined by *AEMO* for updating and *publishing* the *congestion information resource* must be included in the *timetable*.

(g) If there has been a material change to the information contained in the *congestion information resource* and *AEMO* considers ~~*Market*~~ *Registered Participants* require the new information prior to the next periodic update of the *congestion information resource* in accordance with paragraph (e), *AEMO* may provide ~~*Market*~~ *Registered Participants* with the new information in accordance with the *congestion information resource guidelines*.

(h) *AEMO* must *publish* the first *congestion information resource* by 1 September 2011 and there must be a *congestion information resource* available at all times after that date.

(i) For the purpose of *publishing* the first *congestion information resource* under paragraph (b), AEMO may, subject to paragraph (d), *publish* the interim congestion information resource referred to in clause 11.30.2, as the first *congestion information resource*, in whole or in part.

(j) *AEMO* must not *publish confidential information* as part of, or in connection with, the *congestion information resource*.

Congestion information resource guidelines

(k) *AEMO* must develop and *publish* guidelines (the *congestion information resource guidelines*) in relation to:

(1) the categories of information to be contained in the *congestion information resource* including the source of that information;

(2) the scope and type of information to be provided by *Transmission Network Service Providers* in accordance with paragraphs (n) and (o);

(3) the processes to be implemented by *AEMO* to obtain the information from *Transmission Network Service Providers* in accordance with paragraphs (n) and (o);

(4) the determination of the intervals for updating and *publishing* the *congestion information resource* under paragraph (e); and

(5) the processes to be implemented by *AEMO* for providing ~~*Market*~~ *Registered Participants* with information under paragraph (g).

(l) *AEMO* must develop and *publish* the first *congestion information resource guidelines* in accordance with the *Rules consultation procedures* by 1 September 2010 and there must be a set of *congestion information resource guidelines* available and up to date at all times after that date.

(m) *AEMO* must amend the *congestion information resource guidelines* in accordance with the *Rules consultation procedures*.

4. Power System Security

4.9 Power System Security Related Market Operations

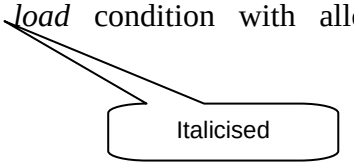
4.9.1 Load forecasting

(a) *AEMO* must produce (at the intervals indicated and in accordance with the *timetable*) an indicative *load* forecast for each *region* for the periods indicated below:

(1) each *day*, a forecast for the *day* ahead, such forecast divided into half-hourly *load* forecasts for each *trading interval*;

(2) each *day*, a forecast for 2 to 7 *days* (inclusive) ahead, the forecasts for each *day* divided into half-hourly *load* forecasts for each *trading interval*;

(3) every week, a forecast for the 24 *months* ahead of the *day* on which the forecast is produced, with a daily profile based on an estimated weekly *peak load* condition with allowances for weekends and holidays.



10. GLOSSARY

medium term capacity reserve

At any time, the aggregate amount of ~~surplus~~ generating capacity indicated by the relevant *Generators* as being available ~~for a particular~~ for any day during the period ~~of~~covered by the *medium term PASA*~~, being more than 7 *days* in the future but not more than 12 weeks,~~ and ~~which is~~ assessed by *AEMO* as being in excess of the capacity requirement to meet the forecast *peak load*~~*demand*~~, taking into account the known or historical levels of demand management.

~~medium term~~medium term PASA

The *PASA* process described in clause 3.7.2~~.in respect of the period from the 8th *day* after the current *trading day* to 24 months after the current *trading day* in accordance with~~ clause 3.7.2.

Italicise

PASA availability

The *physical plant capability* ~~of~~ a *scheduled generating unit*, *scheduled load* or *scheduled network service* available in a particular period, including any *physical plant capability*~~capability~~ that can be made available in that period given 24 hours' notice of a requirement that the relevant *scheduled generating unit*, *scheduled load* or *scheduled network service* be made available~~within 24 hours~~.

short term capacity reserve

At any time, the aggregate amount of ~~surplus or unused~~ generating capacity indicated by the relevant *Generators* as being available for any ~~half hour period~~*trading interval* during the next 7 *trading days* and ~~which is~~ assessed by *AEMO* as being in excess of the capacity requirement to meet the ~~current~~ forecast *load*~~demand~~, taking into account the known or historical levels of demand management.

~~short term~~short term PASA

The *PASA* process described in clause 3.7.3~~.in respect of the period from 2 *days* after the current *trading day* to the end of the 7th day after the current *trading day* inclusive in respect of each *trading interval* in that period.~~