



Ref: ERC0104

23 April 2010

Dr J Tamblyn  
Australian Energy Market Commission  
PO Box A2449  
Sydney South, NSW, 1235

Dear Dr Tamblyn

**NATIONAL ELECTRICITY RULES AMENDMENT  
AGGREGATION OF ANCILLARY SERVICE LOADS**

Aurora Energy Tamar Valley Power (AETVP) is pleased to make the following submission in response to the Australian Energy Market Commission's (AEMC) notice of 25 March 2010 commencing consultation on a Rule change request from the Australian Energy Market Operator (AEMO). The Rule change seeks to remove barriers to the aggregation of ancillary service loads (ASL) for Market Ancillary Services (MAS).

AETVP is a market generator and owns and operates the Tasmanian Tamar Valley Power Station (TVPS) which is a fully owned subsidiary of Aurora Energy Pty Ltd. AETV supports the proposed Rule Change and is of the view that the change would contribute to the National Electricity Objective by promoting efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers.

We note that the Rule change request proposes to amend Rules' clause 3.8.3 to:

- allow Market Customers to aggregate ancillary services loads for the purpose of providing MAS without requiring the load to be scheduled;
- remove the requirement for aggregated ancillary services loads to be located at a single connection point; and
- allow Market Customers to make a single application to register multiple market loads as an aggregated ancillary service load.

We also note that it is proposed that any single aggregation of ASLs would be confined to participate within a single region and would be operated by a single Market Customer.

The following commentary is structured to address the questions posed by the AEMC in framing its request for submissions. We also encourage every effort to minimise the costs associated with the provision of ASLs in particular the costs of services required to support their delivery and the costs of compliance through targeted Market Ancillary Service Specification (MASS) provisions.

### ***Administrative arrangements***

#### ***How, and to what extent, do the current registration and administrative requirements create an inefficient administrative burden for aggregated MAS providers?***

Market Customers who wish to aggregate loads to provide MAS are required to separately classify and administer each market load. This requires systems and processes for each scheduled load to cover the requirements of Rules' clauses 3.8.4 Notification of scheduled capacity, 3.8.7 Bids for scheduled load, and 3.8.7A Market ancillary services offers. This burden would be reduced should non-scheduled loads be permitted to provide MAS.

A key system requirement for each scheduled load is the necessary ControlNet interfaces with AEMO's Market Management System (MMS) to provide AEMO with visibility for the central dispatch processes. This visibility is not required for either non-scheduled loads or ASLs which represents considerable savings in both implementation and operational costs to the ASL providers. However; it does place a stronger onus on the ASL provider to ensure that the ASL can follow MAS enablement dispatch instructions.

An aggregator will however require systems to receive MAS enablement dispatch instructions either directly from the MMS or, with permission from AEMO, via ControlNet utilising the local network service provider's communications network or other communications. In addition the ASL aggregator will need to have an arming "disaggregator" and communications to each of its ASLs for arming of the requisite loads.

An aggregator of ASL would require the appropriate visibility of each of its aggregated ASLs to monitor the correlation of available ASL with their MAS bids and re-bids to ensure that adequate ASL can be enabled for delivery of MAS in accordance with dispatch instructions.

Again on the cost saving side, we agree with AEMO that administering a single aggregated ASL would incur lesser implementation and operational costs than the aggregate costs associated with each individual ASL.

Providing loads of less than 1MW access to the provision of MAS through aggregation and thus reducing the impact of Rules' clause 3.8.7A(i) would appear to remove a significant barrier to entry and provide opportunities for broader benefits. As observed by AEMO it "is likely to encourage participation of loads in the NEM which may increase competition for the provision of MAS. This is likely to reduce MAS prices and the costs of acquiring MAS, leading to lower prices for customers." It is noted that market raise service costs are recovered from generators and hence the savings to customers are not as direct as any savings for market lower services costs that are recovered from customers.

However; the MASS requirement for complex verification of performance does represent a barrier to entry for small loads. This is further discussed in a later section of this submission.

***How, and to what extent, would AEMO's proposed Rule minimise the costs for Market Customers to aggregate ancillary service loads?***

Aggregation could provide opportunities to minimise the implementation costs through scope efficiencies although it is difficult to be definitive in regard to these costs. The significant cost savings for Market Customers who wish to aggregate ASLs would be related to administrative savings as discussed in Section 1 above.

***Impacts on system security, reliability and quality of supply***

***Are there any implications for system security, reliability and quality of supply from the use of aggregated ancillary service loads?***

As indicated above, AEMO would essentially lose minute-to-minute visibility of aggregated MAS providers (which is similar to the current situation for non-scheduled load single ASL MAS providers) and rely totally on each ASL to perform as per enablement dispatch instructions. This could represent a potential small but manageable reduction in power system security.

On the other hand, as provided in the Rules' definition of "power system security and reliability standards", the proposed Rule Change would encourage an increase in available loads that can provide MAS thereby increasing *contingency capacity reserves* and hence assisting AEMO in meeting power system security requirements in the event of any shortfalls in supply.

The Rules definition of reliability is "the probability of a system, device, plant or equipment performing its function adequately for the period of time intended, under the operating conditions encountered." The diversification of ASL would appear to improve the reliability of MAS provision.

Without the benefit of supporting detailed power system analysis it would be reasonable to expect that increasing distributed provision of MAS throughout a region would minimise local impacts on quality of supply such as voltage variations.

The impact of a high penetration of distributed small load ASLs on under frequency load shedding schemes would also need to be monitored by network service providers and appropriate mechanisms put in place. The MASS would also have to be clear as to the allocation of frequency deviation settings for aggregated switch controlled ASLs.

***Would the arrangements in AEMO's proposed Rule that require AEMO to approve applications for aggregation of ancillary services loads be necessary and appropriate to manage system security, reliability and quality of supply?***

The AEMC is also seeking stakeholder views on whether AEMO can approve an application for ASL aggregation even if all of the conditions in 3.8.3(b1) are not satisfied provided that such aggregation would not materially distort central dispatch.

The proposed Rule provides that:

- (a1) Market Customers who wish to aggregate their relevant ancillary service loads for the purpose of central dispatch must apply to AEMO to do so.
- (b1) AEMO must approve applications for aggregation made under paragraph (a1) if the following conditions are fulfilled:
  - (1) aggregated ancillary service loads must be connected within a single region and be operated by a single Market Customer;
  - (2) power system security must not be materially affected by the proposed aggregation; and
  - (3) control systems must satisfy the requirements of clause 2.3.5(e) after aggregation.

Clause 2.3.5(e) provides that:

If AEMO is reasonably satisfied that:

- (1) the *market load* is able to be used to provide the *market ancillary services* referred to in the application in accordance with the *market ancillary service specification*; and
- (2) the *Market Customer* has adequate communications and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses,

then AEMO must approve the classification in respect of the particular *market ancillary services*.

Given these provisions it is AETV's view that the arrangements in AEMO's proposed Rule are necessary and appropriate to manage system security, reliability and quality of supply.

The conditions of 3.8.3(b) are broader than those proposed in 3.8.3(b1) and are more aligned to impacts on central dispatch; in particular, references to loss factors. The provisions of 3.8.3(b1) are more related to system security and the management of inter-regional constraints giving rise to local and global market ancillary service requirements. Thus it would not appear appropriate or necessary to provide similar dispensations as per clause 3.8.3(c)

### ***Are the arrangements for developing and amending the MAS Specification appropriate for aggregated ancillary service loads?***

The process for amending the MASS is provided for in Rules' clause 3.11.2(d) requiring AEMO to comply with the Rules consultation procedures.

AETV considers that this is appropriate for the MASS and in particular ASL changes given that the MASS is a very complex document that requires considerable effort to begin to understand MASS internal inter-relationships and complexities.

#### ***Wider issues***

***Interaction between ASL and Market Customers*** The AEMC has noted that under the current Rules Market Customers apply to AEMO on behalf of end-use customers to have those end-use loads classified as ancillary service loads. The AEMC also states that it is plausible that, in some circumstances, the commercial interest of the Market Customer may not align with the commercial interests of end-use customers who wish to use their loads for MAS, or with the wider interests of the market.

AETV believes this is not a significant issue, as the end-user selects its preferred Market Customer.

#### ***Further Consideration on Administrative Costs***

Clause 2.3.5(e) requires that:

- (1) the *market load* is able to be used to provide the *market ancillary services* referred to in the application in accordance with the *market ancillary service specification*; and
- (2) the *Market Customer* has adequate communications and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses,

For small loads; for example, less than 1MW, these requirements can represent a substantial cost barrier to entry. The costs include:

- communications to the MMS via either NemNet or ControlNet,
- communications to each ASL,
- installation of ASL enabling equipment,
- installation of performance triggering equipment, and
- installation of audit equipment and systems.

To maximise the participation of ASL aggregation all efforts should be made to minimise these costs. To achieve this; the pricing of services that are essentially subject to network service provider monopoly provision due to service reliability requirements in accordance with good electricity industry practice and under AEMO's (NEMMCO's) Standard for Power System Data Communications<sup>1</sup> could be subject to regulation under the banner of negotiated transmission or distribution services rather than apparent current arrangements of being non-regulated.

It is likely that loads within an ASL aggregation will be individually controlled via "switched controllers" rather than "proportional controllers". As such the MASS could clearly recognise the diversification of service providers and set requirements for performance and audit systems and processes accordingly with the view to minimising costs.

Whilst the MASS has been the subject of extensive consultation by AEMO that commenced in September 2009 with a draft determination made in December 2009, the MASS will require significant review to maximise the participation of ASL aggregation.

If you should have any questions in relation to this submission please contact myself on 03 62372542 or shaun.oloughlin@aetvpower.com.au.

Yours sincerely

**Shaun O'Loughlin**

Connections and Regulatory Manager

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<sup>1</sup> AEMO's (NEMMCO's) Standard for Power System Data Communications V1.2 7 April 2005 (200-0129)