



Australian Energy Market Commission

## DRAFT RULE DETERMINATION

# National Electricity Amendment (Aggregation of Ancillary Service Loads) Rule 2010

### Rule Proponent(s)

Australian Energy Market Operator

### Commissioners

Pierce  
Henderson

24 June 2010

### JOHN PIERCE

Chairman

For and on behalf of the Australian Energy Market Commission

RULE  
CHANGE

## **Inquiries**

Australian Energy Market Commission  
PO Box A2449  
Sydney South NSW 1235

E: [aemc@aemc.gov.au](mailto:aemc@aemc.gov.au)

T: (02) 8296 7800

F: (02) 8296 7899

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## **About the AEMC**

The Council of Australian Governments, through its Ministerial Council on Energy (MCE), established the Australian Energy Market Commission (AEMC) in July 2005 to be the rule maker for national energy markets. The AEMC is currently responsible for rules and providing advice to the MCE on matters relevant to the national energy markets. We are an independent, national body. Our key responsibilities are to consider rule change proposals, conduct energy market reviews and provide policy advice to the Ministerial Council as requested, or on AEMC initiative.

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## Summary of draft Rule determination

On 18 December 2009, the Australian Energy Market Operator (AEMO) submitted a Rule Change Request to the Australian Energy Market Commission (AEMC or Commission) in relation to the aggregation of ancillary services loads. The Rule Change Request seeks to remove barriers to the aggregation of ancillary services loads for the provision of Market Ancillary Services (MAS). The Rule Change Request proposes to achieve this by removing the requirement for aggregated ancillary services loads to be classified as scheduled loads.

The Commission considers that the requirement for aggregated ancillary services loads to be classified as scheduled loads creates a barrier to loads being used for MAS. This is because the requirements associated with being a scheduled load are either not required for the efficient and secure operation of the electricity system, or are duplicative to other requirements. The reason the requirements associated with scheduled loads are unnecessary for aggregated ancillary services loads relates to the differences in dispatch and pricing that exists between MAS and the energy market.

Under section 99 of the National Electricity Law (NEL) the Commission has determined it should make the Rule proposed by AEMO with minor amendments. The Draft Rule removes the requirement for market loads forming part of an aggregated ancillary services load to be classified as scheduled loads. Instead, Market Customers who wish to aggregate their relevant market loads for the purposes of central dispatch must apply to AEMO to do so. AEMO must approve applications for aggregation for relevant ancillary services loads as long as certain conditions are met.

The Commission is satisfied the Draft Rule meets the Rule making test under section 88 of the NEL and will, or is likely to, contribute to the achievement of the National Electricity Objective (NEO).

The Commission invites written submissions on this draft Rule determination, including the Draft Rule, by 6 August 2010.

In accordance with section 101(1a) of the NEL, any interested person or body may request that the Commission hold a hearing in relation to the draft Rule determination. Any request for a hearing must be made in writing and must be received by the Commission no later than 1 July 2010.

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# 1 AEMO's Rule change request

## 1.1 The Rule change request

On 18 December 2009, the Australian Energy Market Operator (AEMO) (Rule Proponent) made a request to the Australian Energy Market Commission (Commission) to make a rule regarding Aggregated Ancillary Service Loads (Rule Change Request). The Rule Change Request seeks to remove barriers to the aggregation of ancillary service loads for Market Ancillary Services (MAS).

## 1.2 Rule change request rationale

In this Rule Change Request AEMO contend that the National Electricity Rules (the Rules or NER) impose a barrier to loads providing MAS because:

- Aggregation of ancillary services loads is only allowable for scheduled loads; even though this is not required for loads that are not aggregated. AEMO considers that the requirement to be scheduled to aggregate for MAS is not appropriate given the differences in dispatch and pricing that exist between MAS and the energy market.<sup>1</sup>
- Clause 3.8.7A(I) requires MAS offers to only include loads that are 1 MW or more, thus loads smaller than 1 MW are prevented from participating, even where aggregation would bring those loads above the 1 MW threshold.<sup>2</sup>
- Owners of loads may be discouraged from providing MAS because the cost of doing so may be prohibitive and administratively burdensome since the Rules would require a Market Customer to classify each market load as a MAS load with AEMO and administer each load separately.<sup>3</sup>

## 1.3 Solution proposed by the Rule change Request

AEMO proposes to resolve the issues referred to above by making a Rule that amends clause 3.8.3 of the Rules to:

- allow Market Customers to aggregate ancillary service loads for the purpose of providing MAS without requiring the market loads to be scheduled;
- remove the requirement for aggregated ancillary service loads to be located at a single connection point; and

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<sup>1</sup> AEMO, Rule Change Request, p.2. The differences in dispatch and pricing that exist between MAS and the energy market are that, unlike the energy market, MAS do not use inter-regional locational price signals and do not require management of intra-regional constraints.

<sup>2</sup> *ibid.*

<sup>3</sup> *ibid.*

- allow Market Customers to make a single application to register multiple market loads as an aggregated ancillary service load (Proposed Rule).

## 1.4 Background

Clause 3.11.1(a) of the Rules provides that ancillary services are services that are essential to the management of power system security, facilitate orderly trading of electricity, and ensure that electricity supplies are of acceptable quality. There are two types of ancillary service, MAS and non-market ancillary services. This Rule Change Request relates to MAS. MAS are ancillary services which are acquired by AEMO as part of the spot market in accordance with Chapter 3 of the Rules. The prices for MAS are determined using the dispatch algorithm.<sup>4</sup> AEMO acquires MAS to maintain frequency within the normal operating band.

Market Customers are able to use their loads to provide MAS by rapidly increasing or decreasing demand in response to a contingency. Market Customers that wish to provide MAS need to be able to respond accurately and quickly to a contingency.<sup>5</sup> For example, two types of MAS, a fast raise service and fast lower service require the service provider to respond to a contingency within six seconds.<sup>6</sup>

In its Rule Change Request, AEMO states that before a load can be settled on market and used to provide MAS, a Market Customer must apply to AEMO to classify it as a market load and ancillary services load.<sup>7</sup> Clause 2.3.5(a) of the Rules provides that if a Market Customer in respect of a market load wishes to use that market load to provide MAS in accordance with Chapter 3 of the Rules, then the Market Customer must apply to AEMO for approval to classify the market load as an ancillary services load. Clause 2.3.5(e) of the Rules provides that if AEMO is reasonably satisfied that:

- the market load is able to be used to provide the MAS referred to in the application in accordance with the MAS Specification<sup>8</sup>; and
- 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 application in respect of the particular MAS. Clause 2.3.5(h) provides that a Market Customer with an ancillary services load must only sell

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<sup>4</sup> Clause 3.11.1(b) of the Rules.

<sup>5</sup> A Customer is a person so registered by AEMO and who engages in the activity of purchasing electricity supplied through a transmission or distribution system to a connection point (NER clause 2.3.1(a)). A Market Customer is a Customer who has classified any of its loads as a market load and who is also registered with AEMO as a Market Customer under Chapter 2 of the Rules.

<sup>6</sup> NEMMCO, Market Ancillary Services Specification, Version 2.0, 5 May 2009, p.6.

<sup>7</sup> AEMO Rule Change Request, p.1.

<sup>8</sup> According to clause 3.11.2(b) of the Rules, AEMO must publish and make a MAS Specification. It is required to contain a detailed description of each kind of MAS and the performance parameters and requirements that must be satisfied in order for a service to qualify as the relevant MAS.

the MAS produced using that ancillary services load through the spot market in accordance with the provisions of Chapter 3 of the Rules.

Aggregated loads are also able to be used to provide MAS. However, this requires a number of additional steps. First, a Market Customer would have to request AEMO to classify its market loads as scheduled loads in accordance with clause 2.3.4(d). Once classified as scheduled loads under 2.3.4(e), the Market Customer who wishes to aggregate its relevant scheduled loads for the purposes of central dispatch (i.e. for MAS) must apply to AEMO to do so under clause 3.8.3(a).

## **1.5 Commencement of Rule making process**

On 25 March 2010, the Commission published a notice under section 95 of the National Electricity Law (NEL) advising of its intention to commence the Rule making process and the first round of consultation in respect of the Rule Change Request. A consultation paper prepared by AEMC staff identifying specific issues or questions for consultation was also published with the Rule Change Request. Submissions closed on 23 April 2010.

The Commission received five submissions on the Rule Change Request as part of the first round of consultation. They are available on the AEMC website<sup>9</sup>. A summary of the issues raised in submissions and the Commission's response to each issue is contained in Appendix A.

## **1.6 Consultation on draft Rule determination**

In accordance with the notice published under section 99 of the NEL, the Commission invites submissions on this draft Rule determination, including a draft Rule, by 6 August 2010.

In accordance with section 101(1a) of the NEL, any person or body may request that the Commission hold a hearing in relation to the draft Rule determination. Any request for a hearing must be made in writing and must be received by the Commission no later than 1 July 2010.

Submissions and requests for a hearing should quote project number "ERC0104" and may be lodged online at [www.aemc.gov.au](http://www.aemc.gov.au) or by mail to:

Australian Energy Market Commission  
PO Box A2449  
SYDNEY SOUTH NSW 1235

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<sup>9</sup> [www.aemc.gov.au](http://www.aemc.gov.au)



## **2 Draft Rule Determination**

### **2.1 Commission's draft determination**

In accordance with section 99 of the NEL the Commission has made this draft Rule determination in relation to the Rule proposed by AEMO.

The Commission has determined it should make the Proposed Rule.

The Commission's reasons for making this draft Rule determination are set out in section 3.1.

A draft of the Rule that the Commission proposes to be made (Draft Rule) is attached to, and published with, this draft Rule determination. The Draft Rule makes some minor amendments to the Proposed Rule. Its key features are described in section 3.2.

### **2.2 Commission's considerations**

In assessing the Rule Change Request the Commission considered:

- the Commission's powers under the NEL to make the Rule;
- the Rule Change Request;
- the fact that there is no relevant Ministerial Council on Energy (MCE) Statement of Policy Principles;<sup>10</sup>
- submissions received during first round consultation; and
- the Commission's analysis as to the ways in which the proposed Rule will or is likely to, contribute to the NEO.

### **2.3 Commission's power to make the Rule**

The Commission is satisfied that the Draft Rule falls within the subject matter about which the Commission may make Rules. The Draft Rule falls within section 34 of the NEL as it relates to the:

- operation of the national electricity system for the purposes of the safety, security and reliability of that system (section 34(1)(a)(11)); and
- activities of persons (including Registered Participants) participating in the national electricity market or involved in the operation of the national electricity system (section 34(1)(a)(iii)).

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<sup>10</sup> Under section 33 of the NEL the AEMC must have regard to any relevant MCE Statement of Policy Principles in making a Rule.

The Commission considers the Draft Rule relates to these matters as the provision of MAS is used to ensure the safe, secure, and reliable operation of the national electricity system. The Draft Rule also relates to persons participating in the market or involved in the operation of the national electricity system as it relates to the procedures or obligations of Market Customers and AEMO.

## 2.4 Rule making test

Under section 88(1) of the NEL the Commission may only make a Rule if it is satisfied that the Rule will, or is likely to, contribute to the achievement of the NEO. This is the decision making framework that the Commission must apply.

The NEO is set out in section 7 of the NEL as follows:

“The objective of this Law 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, safety, reliability and security of supply of electricity;  
and
- (b) the reliability, safety and security of the national electricity system.”

For the Rule Change Request, the Commission considers that the relevant aspects of the NEO are the efficient investment and use of electricity services with respect to the price of electricity; and the quality, reliability and security of supply of electricity, and the reliability, safety and security of the national electricity system.<sup>11</sup>

The Commission is satisfied that the Draft Rule will, or is likely to, contribute to the achievement of the NEO because:

- The Draft Rule would remove a barrier for Market Customers seeking to aggregate their market loads to provide MAS. Removing this barrier should increase the number and diversity of MAS providers and, as a consequence, also increase competition in the relevant market. Increased competition amongst ancillary services providers should lead to more efficient prices for MAS and, as a result, should be in the long term interests of consumers with respect to the price of supply of electricity.
- The Draft Rule would allow Market Customers to make a single application to register multiple market loads, and to operate these market loads as a single aggregated ancillary service load. Allowing this single application to be made would improve administrative efficiency. Efficiency in the operation of electricity services should minimise the costs incurred by the providers of MAS and,

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<sup>11</sup> Under section 88(2) of the NEL, for the purposes of section 88(1) the AEMC may give such weight to any aspect of the NEO as it considers appropriate in all the circumstances, having regard to any relevant MCE statement of policy principles.

therefore, should be in the long term interests of consumers with respect to the price of supply of electricity.

- The Draft Rule should increase the number and diversity of prospective providers of MAS. In turn, this should increase the likelihood that a suitable service provider is available to address system security or reliability concerns. As consequence, the Draft Rule should promote the efficient operation and use of electricity services for the long term interests of consumers with respect to the quality, reliability and security of the national electricity system.

Under section 91(8) of the NEL the Commission may only make a Rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed Rule is compatible with the proper performance of AEMO's declared network functions. The Draft Rule is compatible with AEMO's declared network functions because it does not impact on Rules relating to AEMO's declared network functions and transmission network suppliers specifically.

### 3 Commission's reasons

The Commission has analysed the Rule Change Request and assessed the issues/propositions arising out of this Rule Change Request. For the reasons set out below, the Commission has determined that a Draft Rule should be made. Its analysis of the Proposed Rule is also set out below.

#### 3.1 Assessment

The existing arrangements require that Market Customers classify their relevant market loads as scheduled loads prior to aggregating these market loads for MAS.<sup>12</sup> Individual ancillary services loads do not need to be classified as scheduled loads.<sup>13</sup> The requirement for aggregated ancillary services loads to be classified as scheduled loads creates a barrier to their use for MAS. This is because this requirement imposes unnecessary or duplicative costs and obligations on Market Customers who wish to aggregate loads for MAS.

Requiring aggregated loads to be classified as scheduled loads in order to provide MAS means that:

- Market Customers must apply to AEMO for scheduled load status for aggregated ancillary services loads, and to operate these loads as scheduled loads; and
- once classified as scheduled loads, Market Customers who wish to aggregate their relevant scheduled loads for the purposes of central dispatch must ensure loads adhere to the requirements of clause 3.8.3(b) which provides the arrangements for ensuring aggregation does not have an adverse impact on the security of the electricity system.

These arrangements for the aggregation of market loads relate to both MAS and the energy market. However, there are differences in the dispatch and pricing that exists between MAS and the energy market. These differences are that:

- MAS do not use intra-regional locational price signals, therefore, losses are not a factor in determining prices; and
- MAS do not require management of intra-regional constraints. This means power system security is unlikely to be materially affected by allowing MAS to be aggregated within a region, rather than at a single site and connection point.<sup>14</sup>

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<sup>12</sup> Clause 3.8.3(1) of the Rules.

<sup>13</sup> Clause 2.3.5 allows a Market Customer to apply to AEMO for approval to classify a market load as an ancillary service load. Clause 2.3.5 does not include a requirement for the market load to be classified as a scheduled load.

<sup>14</sup> Clause 3.9.2A of the Rules provides for the determination of ancillary services prices. This determination does not include a reference to intra-regional constraints.

As a consequence of the differences between dispatch and pricing that exist between MAS and the energy market, the site specific requirements for scheduled loads are unnecessary for the provision of MAS. These include:

- the requirement, in accordance with schedule 3.1 of the Rules, for Market Customers to provide data separately and in aggregate form for each load that is part of an aggregated load; and
- the requirement, in accordance with clause 3.8.3(b)(1) of the Rules that aggregated loads are to be connected at a single site with the same intra-regional loss factor.

Removing this barrier to the aggregation of market loads for the provision of MAS should increase the number and distribution of MAS providers. As a consequence, there should be an increased likelihood of a suitable service provider being available to address system security and reliability concerns. This should lead to more efficient pricing of MAS and further contribute to the security and reliability of supply.

An amendment to the Rules is required to remove the requirement for aggregated ancillary services loads to be classified as scheduled loads.

### **3.2 Draft Rule**

The Draft Rule removes the requirement for market loads forming part of an aggregated ancillary services load to be classified as scheduled loads for the provision of MAS. The requirement to adhere to the conditions for approval contained in clause 3.8.3(b) have also been removed.

The Draft Rule introduces a new application process for market loads to be aggregated as ancillary services loads for the purposes of providing MAS. The new process requires Market Customers who wish to aggregate their relevant market loads as ancillary services loads for the purpose of central dispatch to apply to AEMO to do so. The Draft Rule refers to central dispatch because MAS are acquired by AEMO as part of the spot market and prices for MAS are determined using the dispatch algorithm.<sup>15</sup> The Draft Rule is not intended to impact on scheduled loads used for other purposes in central dispatch. AEMO must approve applications for aggregation of relevant market loads as ancillary services loads if the following conditions are met:

- aggregated ancillary loads are connected within a single region and operated by a single Market Customer;
- power system security must not be materially affected by the proposed aggregation; and
- control systems must satisfy the requirements of clause 2.3.5(e) after aggregating.

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<sup>15</sup> Clause 3.11.1(b) of the Rules.

The Draft Rule is different to the Rule proposed by AEMO. AEMO proposed that Market Customers who wish to aggregate their *ancillary services loads* for the purposes of central dispatch to apply to AEMO to do so.<sup>16</sup> The Commission considers that this drafting would require that each relevant market load be classified first as an ancillary services load before a Market Customer could apply to AEMO to have the market loads aggregated as ancillary services loads. The Draft Rule instead includes a reference to Market Customers who wish to aggregate their *market loads* as ancillary services loads. This amendment has been made to allow for a single application for market loads to be aggregated as ancillary services loads.

The Draft Rule also includes a new clause 3.8.3(j). The purpose of this clause is to avoid confusion with clause 2.3.1(f). Clause 2.3.1(f) states that Market Customers may also classify one or more of its market loads as an ancillary service load. This clause is not intended to refer to aggregation of ancillary services loads. Therefore, the new clause 3.8.3(j) seeks to clarify this intent.

The Consultation Paper asked stakeholders whether AEMO should have the discretion to approve an application for an aggregated ancillary services load even if all of the conditions for approval are not met. This question was raised because clause 3.8.3(c) allows AEMO to approve an application for aggregation even if all the conditions of clause 3.8.3(b) are not met provided such aggregation would not materially distort central dispatch. Stakeholders that commented on this issue indicated the existing discretion relates to loss factors. Given loss factors are not relevant for MAS, the discretion afforded to AEMO in this area is not necessary or appropriate for aggregated ancillary services loads.<sup>17</sup> The Commission agrees with submissions and has not included a discretion to AEMO for the approval of aggregated ancillary services loads in the Draft Rule.

### **3.3 Civil Penalties**

The Draft Rule does not amend any Rules that are currently classified as civil penalty provisions under the National Electricity (South Australia) Regulations. The Commission does not propose to recommend to the MCE that any of the provisions which are subject of the Draft Rule be classified as civil penalty provisions. This is because these provisions relate to an administrative process that does not relate directly to the operation of the wholesale market.

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<sup>16</sup> AEMO, Rule Change Request, p. 7.

<sup>17</sup> AETVP, submission to the first round of consultation, 23 April 2010, p. 4; and AEMO, submissions to the first round of consultation, 23 April 2010, p. 1.

## 4 Commission's assessment approach

This chapter describes the Commission's approach to assessing the Rule Change Request in accordance with the requirements set out in the NEL (and explained in Chapter 2).

In assessing any Rule Change Request against the NEL criteria the first step is to consider the existing arrangements against which the Rule change is being compared. In the present case the existing arrangement is the requirement for aggregated ancillary services loads to be classified as scheduled loads.

In assessing this Rule Change Request, the Commission has considered the following issues:

- The existence of barriers to entry - barriers to entry can create inefficiencies by limiting the amount of suppliers in a market, and hence competitive pressure on incumbent participants. Barriers exist where costs, obligations or incentives do not apply more or less equally to any participant. However, they do not include additional costs or obligations that may be necessary where participants have unique characteristics or impacts on the market. The Commission considered whether the existing Rules create a barrier to entry for Market Customers seeking to aggregate market loads to provide MAS. Where barriers exist, the Commission considered whether, and to what extent, the Proposed Rule would be efficient in redressing or removing barriers and what might be the consequent efficiency outcomes of such a Rule.
- Quality, reliability and security of supply - under the proposed Rule there may be an increase in smaller and / or geographically dispersed market loads used for MAS. With regard to the impacts on quality, reliability and security of supply, the Commission considered whether there are any impacts from an increase in smaller market loads being used for MAS. The Commission also considered whether there are any implications for quality, reliability and security of supply from aggregated loads used for MAS that are not located at a single connection point.
- Wider issues - the Commission considered whether there are any further issues or barriers relating to the aggregation of market loads for MAS that are not directly addressed by the Rule Change Request.

## 5 Barriers to entry

This Chapter sets out the Commission's considerations in relation to issues associated with barriers to entry. First it considers possible barriers related to the requirement for aggregated ancillary services loads to be classified as scheduled loads. Then it discusses possible barriers related to the technical requirements for the aggregation of ancillary services loads.

### 5.1 Requirement to apply to AEMO for scheduled load status

Clause 3.8.3(a) of the Rules allows Scheduled Generators, Semi-Scheduled Generators and Market Participants to apply to AEMO for aggregation for the purpose of central dispatch. This clause allows Market Participants to aggregate their relevant generating units, scheduled network services, or scheduled loads. Given these arrangements for aggregation, a market load must first be classified as a scheduled load before it can be aggregated for central dispatch.

#### 5.1.1 Rule change proponent's view

AEMO states that the Rules impose a barrier to loads providing MAS because aggregation of ancillary services loads is available only for scheduled loads, even though this is not required for loads that are not to be aggregated. AEMO considers that owners of loads may be discouraged from providing MAS because the cost of doing so may be prohibitive and administratively burdensome since the Rules would require a Market Customer to classify each market load as a MAS load with AEMO and administer each load separately.<sup>18</sup>

AEMO contend that removing the requirement for aggregated ancillary services loads to be scheduled loads will reduce regulatory barriers to entry for Market Customers to provide MAS load, which would enhance the efficient operation of these loads.<sup>19</sup>

#### 5.1.2 Stakeholder views

Three stakeholders commented directly on the requirement to apply for scheduled load status: Aurora Energy Tamar Valley Power (AETVP); the National Generators Forum (NGF) and AEMO.

AETVP and the NGF considered the proposed Rule would improve administrative efficiency arrangements. AETVP identified a number of administrative costs that would be removed as a result of the Rule Change Request. In particular, AETVP noted that separate classification is a burden, as is the need for systems and processes for each scheduled load.<sup>20</sup> The NGF considered that the proposal reduces the

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<sup>18</sup> AEMO Rule Change Request, p. 2.

<sup>19</sup> AEMO Rule Change Request, p. 5.

<sup>20</sup> AETVP, submission to the first round consultation, 23 April 2010, p. 2.



administration costs associated with requesting AEMO to reclassify the market loads as scheduled loads.<sup>21</sup>

AEMO's submission sought to clarify that the proposed administrative arrangements allow persons to classify aggregated ancillary services loads with a single application.<sup>22</sup> This was in response to a suggestion in the Consultation Paper that loads would first need to be classified as ancillary services loads before an application for aggregation could be made.

### 5.1.3 Conclusion

The Commission considers that the requirements for Market Customers to apply to AEMO to classify their market loads as scheduled loads prior to making an application for those loads to be aggregated for the purposes of providing MAS creates a barrier to market loads being used for MAS. The requirement for market loads to first be classified as scheduled loads does not apply equally across all potential providers. In addition, the Commission considers that the requirements necessary for classifying market loads as scheduled loads are unnecessary for the purposes of providing MAS.

Individual market loads are not required to be classified as scheduled loads in order for these loads to be used to provide MAS. As a consequence, individual market loads have fewer obligations, and as a result, lower costs of providing MAS relative to aggregated ancillary services loads. This difference between individual and aggregated MAS providers could be classified as a barrier to entry. However, before determining that a barrier exists, it is necessary to determine if the unique characteristics associated with aggregated loads makes the additional requirements necessary for the efficient and secure operation of the market.

The requirements for scheduled loads are provided in clause 2.3.4(e). This clause states that AEMO must classify a market load as a scheduled load if it is satisfied that the Market Customer (applying on behalf of the market load) has:

- submitted data in accordance with schedule 3.1;
- adequate communications and/or telemetry to support the issuing of dispatch instructions and the audit of responses; and
- requested that the load be so classified and has not withdrawn that request.

Schedule 3.1 of the Rules requires that data must be provided separately and in aggregate form for each market load that is part of an aggregated load. The implication of this is that Market Customers are required separately to classify and administer each market load that is part of an aggregated load. However, as previously indicated differences between the way MAS and energy are dispatched mean that such site

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<sup>21</sup> NGF, submission to the first round consultation, 28 April 2010, p. 2.

<sup>22</sup> AEMO, submission to the first round consultation, 23 April 2010, pp. 1-2.

specific arrangements are not necessary for aggregated ancillary services loads which provide MAS.

The requirement for scheduled loads to have adequate communications and/or telemetry to support the issuing of dispatch instructions and the audit process is identical to a requirement placed on ancillary services loads.<sup>23</sup> Given the requirement already exists for ancillary services loads, this requirement does not provide a basis for aggregated ancillary services loads to be classified as scheduled loads.

The final requirement for AEMO approval, that the request has not been withdrawn, is a procedural requirement and does not relate to the operation or characteristics of the market load. Therefore, it is not a necessary requirement for the efficient and secure provision of MAS.

Given the requirements for scheduled loads are not necessary for aggregated ancillary service loads to provide MAS, and that individual market loads do not face similar requirements, the Commission considers that these requirements create a barrier to the aggregation of market loads for MAS. On that basis, the Commission considers that Market Customers should be able to aggregate market loads, for the purpose of providing MAS, without requiring the relevant loads first to be classified as scheduled loads. This means that Market Customers would be able to register multiple market loads in a single application as a single ancillary services load. This would reduce the administration costs associated with registration and operation of aggregated ancillary service loads.

## **5.2 Technical requirements for aggregation of loads for the provision of MAS**

The Rules include technical requirements that must be met by Market Customers that apply to AEMO to have their relevant market loads aggregated for the purposes of central dispatch. Clause 3.8.3(b) requires that AEMO must approve applications for aggregation made under clause 3.8.3(a) for the purposes of central dispatch if the following conditions are fulfilled:

- aggregated generating units or loads must be connected at a single site with the same intra-regional loss factor and be operated by a single Scheduled Generator, Semi-Scheduled Generator or Market Participant;
- aggregated scheduled network services must be connected at the same two sites, have the same intra-regional loss factors, have the same distribution loss factors where applicable and be operated by the same Generator or Market Participant<sup>24</sup>;
- power system security must not be materially affected by the proposed aggregation; and

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<sup>23</sup> Clause 2.3.5(e)(2) of the Rules.

<sup>24</sup> Given this is a requirement for scheduled network services it does not relate to the aggregation of loads. Therefore, the Commission has not considered this requirement further in the analysis.

- control systems, such as automatic generation control systems must satisfy the Rules after aggregating.

### 5.2.1 Rule change proponent's view

AEMO states that the requirement for market loads to be classified as a scheduled load so they can be aggregated for MAS is not appropriate given the differences in dispatch and pricing that exist between MAS and the energy market.<sup>25</sup> As previously indicated, these differences are that:

- MAS do not use intra-regional locational price signals, therefore, losses are not a factor in determining prices; and
- MAS do not require management of intra-regional constraints. This means power system security is unlikely to be materially affected by allowing MAS to be aggregated within a region, rather than at a single site and connection point.

It could be inferred from this that clause 3.8.3(b)(1), which requires that scheduled loads that are to be aggregated for the purposes of central dispatch must be connected at a single site with the same intra-regional loss factor, is not a necessary requirement for the aggregation of ancillary services loads. This is because this requirement is not necessary for the dispatch and pricing of MAS.

In addition, AEMO contends that the requirement for MAS offers to only include loads that are 1 MW or more creates a barrier to entry. This is because loads that are smaller than 1 MW are prevented from participating even where aggregation would bring those loads above the 1 MW threshold.<sup>26</sup>

When describing the Proposed Rule, AEMO states that there should be no need for ancillary services loads to be located at a single connection point and instead they may be located throughout a region.<sup>27</sup>

### 5.2.2 Stakeholder views

Only AETVP commented directly on this issue. It noted that an aggregator of ancillary services loads would require the appropriate visibility of each of its aggregated loads to monitor the correlation of available ancillary services loads with their MAS bids. This would be to ensure that adequate ancillary services loads can be enabled for delivery of MAS in accordance with dispatch instructions. AETVP agreed with AEMO that providing market loads of less than 1 MW with access to the provision of MAS through aggregation is likely to encourage participation of loads in the National Electricity Market (NEM), which may increase competition for the provision of MAS.<sup>28</sup>

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<sup>25</sup> AEMO Rule Change Request, p. 2.

<sup>26</sup> AEMO Rule Change Request, p. 2

<sup>27</sup> AEMO Rule Change Request, p. 3.

<sup>28</sup> AETVP, submission to the first round of consultation, 23 April 2010, p. 2.

### 5.2.3 Conclusion

The Commission considers that the condition in clause 3.8.3(b)(1) for AEMO approval of applications for aggregated ancillary services loads is unnecessary. This is because the site specific locational factors do not apply to MAS for either system security or pricing purposes. As a result, this requirement creates a barrier to market loads aggregating for the purposes of providing MAS. Instead, the 5 region is the appropriate boundary for the aggregation of market loads for MAS. This is because MAS is priced and dispatched on a regional basis and settled without reference to loss factors.<sup>29</sup> Therefore, the Commission considers that the condition that market loads aggregated for MAS be connected at a single site with the same intra-regional loss factor should be replaced with a condition that market loads aggregated for MAS be connected within a single region.

The site specific arrangements of clause 3.8.3(b)(1) also prevent the use of aggregated loads in excess of 1 MW where individual market loads at a specific site may be below the threshold. This is because market loads at multiple sites may be individually below the threshold but, in combination, would be larger than 1 MW. Removing the requirement for aggregated loads to be connected at a single site would overcome this problem. This is because aggregated ancillary services loads in dispersed locations could be considered as a single unit for the purposes of dispatch and pricing.

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<sup>29</sup> Clause 3.8.1(a) of the Rules requires that AEMO must operate central dispatch to dispatch market ancillary services. Clause 3.9.2A(b1) of the Rules provides for ancillary service pricing on a regional basis. Clause 3.15.6A(a) of the Rules provides for the settlement of ancillary services.

## 6 Impacts on system security, reliability and quality of supply

Given MAS are used for frequency control it is important to ensure that market loads that are used to provide MAS do not have a negative influence on system security, reliability and quality of supply.

### 6.1 Rule change proponent's view

AEMO contend that encouraging new market loads into the NEM to provide MAS would promote the NEO because it supports the efficient operation and use of electricity services regarding the security of supply of electricity. This would occur because more market loads would be available to be switched off to control power system security at times when the frequency of the power system needs to be controlled.<sup>30</sup>

AEMO's Proposed Rule includes two additional obligations related to system security, reliability and quality of supply. These are that AEMO must approve an application for an aggregated ancillary service load if:

- power system security is not materially affected by the proposed aggregation; and
- control systems must satisfy the requirements of clause 2.3.5(e) after aggregating.<sup>31</sup>

### 6.2 Stakeholder views

Three submissions commented on this issue. These were from AETVP, Energy Response, and the NGF. Each of these stakeholders considered that, overall, the proposed Rule would either improve, or maintain, existing levels of system security, reliability and quality of supply. AETVP and the NGF recognised that there was a possibility for lower standards of service due to a high penetration of distributed and small market loads. However, both stakeholders offered reasons why this was unlikely to be a concern. AETVP considered that the diversification of ancillary services loads was likely to improve reliability of MAS provision.<sup>32</sup> The NGF indicated that AEMO, through the MAS Specification, should be able to ensure equivalent standards exist for aggregated ancillary services loads and existing providers.<sup>33</sup>

Energy Response stated that a larger number of smaller and distributed facilities providing ancillary services would improve the reliability of the service. Energy

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<sup>30</sup> AEMO, Rule Change Request, p. 5.

<sup>31</sup> AEMO, Rule Change Request, p. 7.

<sup>32</sup> AETVP, submission to the first round of consultation, 23 April 2010, p. 3.

<sup>33</sup> NGF, submission to the first round of consultation, 28 April 2010, pp. 1-2.

Response provided two reasons for this. First, it considered that when a large number of facilities are available the failure of a single facility will have less impact. Second, Energy Response considered that reliability would be improved as swings in power flows from a response to frequency excursion should be smaller.<sup>34</sup>

### 6.3 Conclusion

The Commission considers that an increase in the providers of MAS is likely to maintain, or improve, system security, reliability and quality of supply outcomes. The reason for this is that the proposal potentially increases the number and distribution of MAS providers. An increase in the number and distribution of MAS providers increases the likelihood that a suitable service provider is available to address system security or reliability concerns.

The Commission also considers that changes to the MAS Specification would be effective in managing any concerns that may arise with regard to smaller loads providing MAS. The MAS Specification sets the performance parameters and requirements that must be satisfied in order for a service to qualify as the relevant MAS.<sup>35</sup> Amendments to these requirements in the MAS Specification should ensure those aggregated loads that provide MAS are able to meet the security and reliability needs of the market.

AEMO proposed two additional obligations related to system security, reliability and quality of supply. These were that aggregated ancillary services loads must not be materially affected by the proposed aggregation, and control systems must satisfy the requirements of clause 2.3.5(e) after aggregating. The Commission considers that these additional requirements are necessary for aggregating market loads for MAS. It is important that aggregation of dispersed market loads does not have an adverse impact on the electrical system. Therefore, the Commission considers it is appropriate that AEMO give consideration to the impact on power system security prior to approving the aggregation of loads for MAS. In addition, adding a requirement that control systems must satisfy the requirements of clause 2.3.5(e) after aggregating would improve clarity and maintain consistency with the arrangements for other forms of aggregation.

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<sup>34</sup> Energy Response, submission to the first round of consultation, 23 April 2010, p. 4.

<sup>35</sup> Clause 3.11.2(b) of the Rules.

## **7 Wider Issue - Interaction between Market Customers and market loads for MAS**

The Consultation Paper identified a possible issue relating to the interaction between ancillary services loads and Market Customers. Market Customers apply to AEMO on behalf of end-use customers to have those customers' market loads classified as ancillary service loads. The Consultation Paper identified two possible issues associated with the current arrangements:

- First, a Market Customer may be reluctant to arrange for a market load to be classified as an ancillary services load if that Market Customer does not have the appropriate systems to participate, or it considers the associated demand response may have negative financial implications.
- Second, businesses specialised in load aggregation can only provide aggregated MAS if they also purchase electricity from the wholesale market for the loads. This means specialist aggregation businesses would also need to be retailers.

### **7.1 Rule change proponent's views**

The Rule Proponent did not raise this issue as part of its Rule Change Request.

### **7.2 Stakeholder views**

All first round submissions commented on this issue. Four of these, AEMO, Hydro Tasmania, Energy Response, and the NGF, consider this is an issue that requires further investigation.<sup>36</sup> Hydro Tasmania, for instance, considers that it would be in the wider interests of the market to make it easier for businesses that specialise in load aggregation to provide aggregated MAS, without also purchasing electricity from the wholesale market for loads. AETVP was of the view, however, that this was not a significant issue given end-users are able to select their preferred Market Customer.<sup>37</sup>

Differing views were offered regarding how the issue should be considered by the AEMC. Energy Response and Hydro Tasmania considered that this Rule change process was the best place to address the issue.<sup>38</sup> Hydro Tasmania indicated that addressing the issue as part of the Rule Change Request is more efficient than forcing a separate process based on a narrow terms of reference.<sup>39</sup> Alternatively, AEMO suggested that given the complexity of the issue, it should be reviewed independently

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<sup>36</sup> AEMO, submission to the first round of consultation, 23 April 2010, p. 2; Hydro Tasmania, submission to the first round of consultation, 22 April 2010, p. 1; Energy Response, submission to the first round of consultation, 23 April 2010, p. 2; and NGF, submission to the first round of consultation, 28 April 2010, p. 2.

<sup>37</sup> AETVP, submission to the first round of consultation, 23 April 2010, p. 5.

<sup>38</sup> Energy Response, submission to the first round of consultation, 23 April 2010, p. 2; and Hydro Tasmania, submission to the first round of consultation, 22 April 2010, p. 1

<sup>39</sup> Hydro Tasmania, submission to the first round of consultation, 22 April 2010, p. 1

of the Rule Change Request. AEMO stated that if the issue is to be considered part of the Rule Change Request the AEMC should undertake specific consultation on the issue in order to increase stakeholder awareness.<sup>40</sup>

### 7.3 Conclusion

The Commission considers that the issue is best addressed separately from this Rule Change Request. This is due to the size and scope of the issue and the extent of Rules that may be affected by separating energy and ancillary services markets. AEMC staff intend to assist industry in its consideration of this wider issue. Initially, AEMC staff propose to hold an informal workshop with industry stakeholders after the completion of this Rule Change Request. In that workshop AEMC staff will investigate the relevant matters further with stakeholders with a view to facilitating broader consideration of the issues so that a Rule change request could be submitted by interested stakeholders. AEMC staff will also liaise with AEMO about the best way to address a similar issue it has identified for small generators.

In order to determine the possible scope of this issue some preliminary analysis was undertaken. The following areas were identified as relevant for further investigation:

- registration requirements for a new form of market participant;
- AEMO system changes, including for the Market Settlement and Transfer System (MSATS), to accommodate MAS transfers as well as energy transfers, and Market Management Systems (MMS), to separate the energy and MAS markets;
- changes to the MAS Specification to accommodate the new market participants;
- information provision arrangements to identify connection points that have separate financially responsible participants for energy and MAS; and
- changes to metering Rules and the metrology procedures to allow two participants to have access to metering data.

AEMO recently identified similar issues associated with the separation of financial responsibility for small generation attached to loads. AEMO published a Draft Small Generator Framework Design Principles document on 24 May 2010. In that document AEMO noted that the only party able to offer MAS on behalf of a small generator is its financially responsible market participant.<sup>41</sup> AEMO noted that it may be necessary to investigate whether off-market arrangements can develop that facilitate different parties offering other services to the market, for example frequency control ancillary services. AEMO indicated it will seek to identify the most appropriate way of addressing this issue with the AEMC. In this regard, the Commission considers that there would be benefits in investigating the arrangements for loads at the same time as investigating the arrangements for small generators.

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<sup>40</sup> AEMO, submission to the first round of consultation, 23 April 2010, p. 2

<sup>41</sup> AEMO, Small Generator Framework Design Principles, 24 May 2010, p. 32.



Given the extent of potential issues for analysis, and the possibility of similar issues existing with regard to small generators, the Commission considers it is best to process this issue outside of this Rule change process.

## Abbreviations

AEMC	Australian Energy Market Commission
AEMO	the Australian Energy Market Operator
AETVP	Aurora Energy Tamar Valley Power
MAS	Market Ancillary Services
MCE	Ministerial Council on Energy
MMS	Market Management Systems
MSATS	Market Settlement and Transfer System
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NGF	National Generators Forum

## A Summary of issues raised in submissions

Stakeholder	Issue	AEMC Response
Hydro Tasmania	Agree that the proposal will further the NEO by creating a more open market for ancillary services and remove a barrier to the provision of these services by loads. p.1	Comments have been noted.
Hydro Tasmania	Consider there is merit in removing the barriers associated with the interaction between Market Customers and loads for MAS in this Rule change. Consider this is more efficient than forcing a separate process. p. 1	Comments have been noted. The Commission considers that given the scope of relevant considerations, and that similar issues may also exist for small generators that this issue is best progressed through a Rule change request from industry. The Commission intends to assist with this process through an informal workshop.
Hydro Tasmania	Consider wider market interests are served by making it easier for aggregators to provide aggregated MAS without needing to purchase energy for the load. p. 1.	Comments have been noted. This issue can be considered as part of the separate process for this issue.
AEMO	Consider including a discretion for approval when all of the criteria are not met is unnecessary as it would never be used. p. 1.	Comments have been noted. The Commission agrees with stakeholders on this issue and has not included this discretion in the Draft Rule.
AEMO	Sought to clarify that the Rule change proposal would allow aggregation to occur with a single application to be an ancillary services load. pp.1-2.	The Commission agrees with AEMO that Market Customers should be able to make a single application for market loads to be classified as aggregated ancillary services loads. The Draft Rule has been amended to clarify this arrangement.
AEMO	On the wider issue, AEMO acknowledge that the issue warrants further consideration. However, given the complexity, it considers the issue should be reviewed independently of this Rule change.	Comments have been noted. The Commission considers that given the scope of relevant considerations, and that similar issues may also exist for small generators that this issue is best progressed through a Rule change request from industry. The Commission intends to assist with this

Stakeholder	Issue	AEMC Response
	p.2.	process through an informal workshop.
AETVP	Support the proposed Rule change as it would promote efficient investment, operation and use of electricity services. p. 1.	Comments have been noted.
AETVP	Note some of the burdens associated with the existing arrangements. These include the systems and processes for scheduled loads such as 3.8.7, 3.8.7A and 3.8.4. Note that these burdens would be reduced through the Rule change. p. 2.	Comments have been noted.
AETVP	Note that aggregators will still require some systems, however, it agrees that administering a single aggregated ancillary services load would incur lower implementation and operation costs compared to the costs associated with each individual aggregated ancillary services load. p. 2.	Comments have been noted.
AETVP	Consider that allowing aggregated loads with individual loads less than 1 MW to provide MAS will reduce MAS prices and the costs of acquiring MAS, leading to lower prices for customers. p. 2.	Comments have been noted.
AETVP	Note that there may be a small but manageable reduction in power system security as AEMO would lose minute-to-minute visibility of aggregated MAS providers. p. 3.	Comments have been noted. The Commission considers that necessary amendments to the MAS Specification should address concerns in this regard.
AETVP	Consider that the increase in available loads increases the contingency of reserves and hence assists AEMO in meeting power system security requirements. p. 3.	Comments have been noted.

Stakeholder	Issue	AEMC Response
AETVP	Consider including a discretion for approval when all of the criteria are not met is unnecessary as it relates largely to loss factors. p. 4.	Comments have been noted. The Commission agrees with stakeholders on this issue and has not included this discretion in the Draft Rule.
AETVP	Consider the arrangements for amending and developing the MAS Specification are appropriate. p. 5.	Comments have been noted.
AETVP	On the wider issue of interactions between Market Customers and loads, consider it is not a significant issue as the end-user selects its preferred Market Customer. p. 5.	Comments have been noted. This issue can be considered as part of the separate process for this issue.
AETVP	Consider relevant services that are provided by network businesses should be subject to regulation under the banner of negotiated transmission or distribution services rather than being non-regulated. p. 6.	Comments have been noted. While the Commission considers this issue is not within the scope of this Rule Change Request, it is noted that such services will be classified as a negotiated transmission service until an arbitrator determines that the service is genuinely competitive.
Energy Response	Consider that in principle, allowing aggregation of ancillary services facilities should improve the reliability of FCAS services, while reducing prices and hence costs to end users. p. 1.	Comments have been noted.
Energy Response	The compulsory bundling of MAS and energy markets is unnecessary and prevents competitive sourcing of FCAS. The effect of this is to limit participation severely. p. 2.	Comments have been noted. This issue can be considered as part of the separate process for this issue.
Energy Response	Electricity end-users are extremely unlikely to choose their retailer on the basis of how they deal with FCAS, they are more likely to choose their retailer based on a better energy rate. p. 2.	Comments have been noted. This issue can be considered as part of the separate process for this issue.

Stakeholder	Issue	AEMC Response
Energy Response	If there is no technical reason why some services cannot be treated independently they should be. Any purely bureaucratic obstacles should be removed. p. 2.	Comments have been noted. This issue can be considered as part of the separate process for this issue.
Energy Response	Expect that the aggregation of a large number of facilities will provide ancillary services which are more reliable and secure than could be achieved by sourcing from a small number of large facilities. Additionally, moving towards distributed sources of FCAS should improve system reliability, as the swings in power flow resulting from the response to a frequency excursion should be smaller. p. 4.	Comments have been noted.
NGF	The concept of aggregating smaller loads should not reduce the confidence that the service will be provided when necessary. It appears through the drafting of the Rule change it should allow AEMO, through the MAS specification, to ensure equivalent standards are met for aggregated ancillary services loads and existing providers. pp. 1-2	Comments have been noted.
NGF	Don't consider the proposal will greatly reduce administrative burden for ancillary services loads providing FCAS. Admittedly, it reduces the administration associated with requesting AEMO to reclassify the loads as scheduled. Assume the administrative burden is somewhat shifted from the load itself to the aggregator. However, this should prove to be more efficient. p. 2.	Comments have been noted.
NGF	On the wider issue, does not consider the	Comments have been noted. This issue can be considered as part of the

Stakeholder	Issue	AEMC Response
	differences in incentives between retailers and end-users to be a material issue. However, consider independent aggregators could play a role in these arrangements, and in principle, have no concerns over dispatch offers being submitted by an independent aggregator rather than a retailer. p. 2.	separate process for this issue.