



Australian Energy Market Commission

RULE DETERMINATION

National Electricity Amendment (Aggregation of Ancillary Services Loads) Rule 2010

Rule Proponent(s)

Australian Energy Market Operator

Commissioners

Pierce
Henderson

9 September 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

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

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) by removing the requirement for such 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. Due to the differences in dispatch and pricing that exists between MAS and the energy market, the requirements associated with being a scheduled load are not required for the efficient and secure operation of the electricity system.

Consistent with the Draft Rule Determination and the Draft Rule, the Commission has determined, under sections 102 and 103 of the National Electricity Law (NEL), to make the Rule proposed by AEMO with minor amendments. The Rule as Made 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 relating to system security and reliability of supply are met.

The Commission is satisfied that the Rule as Made 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). Broadly, this is because the Rule as Made:

- increases competition by removing a barrier for Market Customers seeking to aggregate their market loads to provide MAS;
- reduces administrative costs by allowing Market Customers to make a single application to register multiple market loads, and to operate these loads as a single aggregated ancillary services load; and
- contributes to system security and reliability by increasing the number and diversity of prospective providers of MAS and by requiring AEMO to approve applications for aggregation only when certain conditions relating to system security and reliability of supply are met.

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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 (AEMC or Commission) to make a Rule regarding aggregated ancillary services loads (Rule Change Request). The Rule Change Request seeks to remove barriers to the aggregation of ancillary services 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.¹
- 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.²
- 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.³

1.3 Solution proposed by the Rule Change Request

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

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

¹ 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.

² *ibid.*

³ *ibid.*

- allow Market Customers to make a single application to register multiple market loads as an aggregated ancillary services load.

1.4 Relevant 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, which are ancillary services acquired by AEMO as part of the spot market in accordance with Chapter 3 of the Rules. 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.⁴ 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.⁵

In its Rule Change Request, AEMO states that before a load can be settled in the spot market and used to provide MAS, a Market Customer must apply to AEMO to classify it as a market load and ancillary services load.⁶ 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 Specification⁷; 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 the MAS produced using that ancillary services load through the spot market in accordance with the provisions of Chapter 3 of the Rules.

⁴ 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 (National Electricity Rules 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.

⁵ NEMMCO, Market Ancillary Services Specification, Version 2.0, 5 May 2009, p.6.

⁶ AEMO Rule Change Request, p.1.

⁷ 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.

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) of the Rules. Once classified as scheduled loads under 2.3.4(e) of the Rules, 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) of the Rules. The Rule Change Request relates to these arrangements for aggregated loads.

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 change 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 which are available on the AEMC website.⁸ A summary of the issues raised in submissions and the Commission's response to each issue is contained in Appendix A.1.

1.6 Publication of draft Rule determination and Draft Rule

On 24 June 2010, the Commission published a notice under section 99 of the NEL and a draft Rule determination in relation to the Rule Change Request (Draft Rule Determination). The Draft Rule Determination included a draft Rule (Draft Rule).

Submissions on the Draft Rule Determination closed on 6 August 2010. The Commission received four submissions on the Draft Rule Determination. They are available on the AEMC website.⁹ A summary of the issues raised in submissions, and the Commission's response to each issue, is contained in Appendix A.2.

⁸ www.aemc.gov.au

⁹ Ibid.

2 Final Rule Determination

2.1 Commission's determination

In accordance with section 102 of the NEL the Commission has made this final Rule determination in relation to the Rule proposed by AEMO. In accordance with section 103 of the NEL the Commission has determined to make, with amendments, the Rule proposed by the Rule Proponent.¹⁰

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

The *National Electricity Amendment (Aggregation of Ancillary Services Loads) Rule 2010 No [11]* (Rule as Made) is published with this final Rule determination. The Rule as Made commences on 16 September 2010. The Rule as Made 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 following was material and relevant:

- the Commission's powers under the NEL to make the Rule;
- the Rule Change Request;
- that there is no relevant Ministerial Council on Energy (MCE) Statement of Policy Principles;
- submissions received during first and second rounds of consultation; and
- the Commission's analysis as to the ways in which the Proposed Rule will or is likely to, contribute to the achievement of the National Electricity Objective (NEO).

2.3 Commission's power to make the Rule

The Commission is satisfied that the Rule as Made falls within the subject matter about which the Commission may make Rules. The Rule as Made falls within the matters set out in 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)(ii); and

¹⁰ Under section 103(3) of the NEL, the Rule that is made in accordance with section 103(1) need not be the same as the draft of the Proposed Rule to which a notice under section 95 relates or the draft of a Rule contained in a draft Rule determination.

- 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)).

The Commission considers that the Rule as Made 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 Rule as Made 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 this Rule Change Request, having regard to any relevant MCE Statement of Policy Principles, 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.¹¹

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

- removes 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, would be in the long term interests of consumers with respect to the price of supply of electricity;
- allows Market Customers to make a single application to register multiple market loads, and to operate these market loads as a single aggregated ancillary

¹¹ Under section 88(2) of the NEL, for the purposes of section 88(1) of the NEL 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.

service load. Allowing this single application to be made would decrease administrative costs. Efficiency in the operation of electricity services should minimise the costs incurred by the providers of MAS and, therefore, should be in the long term interests of consumers with respect to the price of supply of electricity; and

- 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 and reliability concerns. The Rule also includes a number of conditions that must be met so to ensure system security and reliability of supply. As a consequence, the Rule as Made 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 it is satisfied that the Proposed Rule is compatible with the proper performance of AEMO's declared network functions. The Rule as Made 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 Rule be made. Our analysis of the Rule proposed by the Rule Proponent 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.¹² Individual ancillary services loads do not need to be classified as scheduled loads.¹³ 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) of the Rules 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

¹² Clause 3.8.3(a) of the Rules.

¹³ Clause 2.3.5 of the Rules allows a Market Customer to apply to AEMO for approval to classify a market load as an ancillary services load. Clause 2.3.5 does not include a requirement for the market load to be classified as a scheduled load.

- 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.¹⁴

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.

Replacing these requirements with a new AEMO application process will remove the barriers to the aggregation of ancillary services loads. This 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 Rule as made

The Rule as Made 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) has also been removed.

The Rule as Made 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 Rule as Made 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.¹⁵ AEMO must approve applications for aggregation of relevant market loads as ancillary services loads if the following conditions are met:

¹⁴ MAS do not require management of intra-regional constraints due to the manner in which network flow limits are planned. That is, network flow limits are planned to allow for credible contingencies, and frequency response is one such credible contingency that is relevant to determining this limit.

¹⁵ Clause 3.11.1(b) of the Rules.

- aggregated ancillary services 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.

The Rule as Made is not intended to impact on scheduled loads used for other purposes in central dispatch.

The Rule as Made 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 must apply to AEMO to do so.¹⁶ 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 Rule as Made 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 Rule as Made is also different to the draft Rule. The main difference is the removal of draft clause 3.8.3(j). This clause was inserted to avoid confusion between clause 2.3.1(f) and the arrangements for the aggregation of ancillary services loads. Clause 2.3.1(f) states that Market Customers may also classify one or more of its market loads as an ancillary services load. However, this clause is not intended to refer to the aggregation of ancillary services loads. Draft clause 3.8.3(j) sought to clarify this intent. However, AEMO's second round submission suggested that adding this clause may cause confusion.¹⁷ This is because a similar provision to clause 2.3.1(f) exists for generating units (clause 2.2.1(f1)), but there is no similar avoidance of doubt clause. AEMO considered that addressing the arrangements for loads but not for generating units is likely to create doubt in its own right.

Draft clause 3.8.3(j) was an avoidance of doubt clause. In that respect it seeks to clarify an existing arrangement. It does not, of itself, create any new obligation on any party subject to the Rules. Therefore, on the basis that its inclusion could cause confusion with respect to the generating unit arrangements, the Commission has not included draft clause 3.8.3(j) in the Rule as Made.

AEMO also identified a typographical error in draft clause 3.8.3(a)(3) which resulted in the relevant clause referring to clause 2.3.5(e)(2) rather than referring to clause 2.3.5(e) in its entirety. The error has been addressed in the Rule as Made.

¹⁶ AEMO, Rule Change Request, p. 7.

¹⁷ AEMO, submission to the second round of consultation, 10 August 2010, p. 2.

3.3 Civil Penalties

The Rule as Made 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 Rule as Made 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.

4 Commission's analytical framework

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 the effects 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 Requirements 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 being scheduled 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.¹⁸

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.¹⁹

5.1.2 Stakeholder views

First round of consultation

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

AETVP and the NGF considered the Proposed Rule would improve the administrative efficiency of the 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

¹⁸ AEMO Rule Change Request, p. 2.

¹⁹ Ibid, p. 5.

each scheduled load.²⁰ The NGF agreed that the proposal reduces the administration costs associated with requesting AEMO to reclassify market loads as scheduled loads.²¹

Second round of consultation

Stakeholders did not comment specifically on this issue in the second round of consultation.

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 these 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 and is not the most efficient way to achieve a secure and reliable electricity system.

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, such differences may be efficient 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) of the Rules. 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 specific arrangements are not necessary for aggregated ancillary services loads which provide MAS.

²⁰ AETVP, submission to the first round of consultation, 23 April 2010, p. 2.

²¹ NGF, submission to the first round of consultation, 28 April 2010, p. 2.

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.²² 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 services loads to provide MAS, and that individual market loads do not face similar requirements, the Commission considers that these requirements create an inefficient 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) of the Rules 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;²³
- power system security must not be materially affected by the proposed aggregation; and
- control systems, such as automatic generation control systems must satisfy the Rules after aggregating.

²² Clause 2.3.5(e)(2) of the Rules.

²³ 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.

5.2.1 Rule change proponents 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.²⁴ 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) of the Rules, 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.²⁵

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.²⁶

5.2.2 Stakeholder views

First round of consultation

Only AETVP commented directly on this issue in the first round of consultation. 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.²⁷

²⁴ AEMO Rule Change Request, p. 2.

²⁵ Ibid, p. 2

²⁶ Ibid, p. 3.

²⁷ AETVP, submission to the first round of consultation, 23 April 2010, p. 2.

Second round of consultation

Only the NGF commented directly on this issue. The NGF states that while it agrees, at present, MAS does not generally require the management of intra-regional constraints, it is concerned that a footnote reference to clause 3.9.2A of the Rules to support this view could be misinterpreted as treating aspects of the MAS arrangements as if they were necessary or permanent. It considers that the assessment of this Rule change should not be based on an assumption that the application of intra-regional constraints for MAS will never be a desirable part of the market.²⁸ The NGF also raised a similar concern in relation to the treatment of loss factors for MAS. Although it acknowledges that loss factors are presently not applied to MAS, the NGF considers this should not be treated as a permanent feature of the market. The NGF states that if its concerns are taken into account the Commission should still find that the Proposed Rule change is consistent with the NEO.²⁹

5.2.3 Conclusion

The Commission considers that the condition in clause 3.8.3(b)(1) of the Rules 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 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.³⁰ 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.

With respect to the concern raised by the NGF, the Commission agrees that the footnote reference to clause 3.9.2A of the Rules was inaccurate. The reason intra-regional constraints do not require management is predominately due to the manner in which network flow limits are planned. That is, network flow limits are

²⁸ NGF, submission to the second round of consultation, 6 August 2010, p. 2.

²⁹ Ibid, p. 3.

³⁰ 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.

planned to allow for credible contingencies, and frequency response is one such credible contingency that is relevant to determining this limit. The Commission agrees, however, that this arrangement, and the arrangement for loss factors, are not necessarily permanent.

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. This chapter addresses the impact on system security, reliability and quality of supply from changes to the arrangements for the aggregation of ancillary services loads.

6.1 Rule Change proponent's view

AEMO contends 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.³¹

AEMO's Proposed Rule includes two obligations based on the existing arrangements related to system security, reliability and quality of supply. These are that AEMO must approve an application for an aggregated ancillary services 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) of the Rules after aggregating.³²

6.2 Stakeholder views

6.2.1 First round of consultation

Three submissions commented on this issue in the first round of consultation. 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

³¹ AEMO, Rule Change Request, p. 5.

³² AEMO, Rule Change Request, p. 7. Clause 2.3.5(e) of the Rules requires that AEMO must be reasonably satisfied that market loads are reasonably able to provide MAS in accordance with the MAS Specification and that the Market Customer has adequate communications or telemetry to support the issuing of dispatch instructions and the audit of responses.

provision.³³ 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.³⁴

Energy Response stated that there are two reasons why a larger number of smaller and distributed facilities providing ancillary services would improve the reliability of the service. 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.³⁵

6.2.2 Second round of consultation

Only the NGF commented specifically on this issue. In its second round submission the NGF noted that it wished for the AEMC and AEMO to ensure there is an equivalent standard of service applied to provision of frequency response from the demand side as there is from the supply side. The NGF stated that overall it is satisfied the AEMC has considered its view in making the draft Rule determination.³⁶

6.3 Conclusion

The Commission agrees with stakeholders and considers that an increase in the providers of MAS is likely to maintain, or improve, system security, reliability and quality of supply outcomes. This is because 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, as identified by AEMO in its Rule Change Request,³⁷ 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.³⁸ 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.

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

³³ AETVP, submission to the first round of consultation, 23 April 2010, p. 3.

³⁴ NGF, submission to the first round of consultation, 28 April 2010, pp. 1-2.

³⁵ Energy Response, submission to the first round of consultation, 23 April 2010, p. 4.

³⁶ NGF, submission to the second round of consultation, 6 August 2010, p.1.

³⁷ AEMO Rule Change Request, p. 5.

³⁸ Clause 3.11.2(b) of the Rules.

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) of the Rules after aggregating would improve clarity and maintain consistency with the arrangements for other forms of aggregation.

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

The Consultation Paper identified a wider 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 services 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 view

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

7.2 Stakeholder views

7.2.1 First round of consultation

All first round submissions commented on this issue. Four of these submissions, AEMO, Hydro Tasmania, Energy Response, and the NGF, considered that this is an issue that requires further investigation.³⁹ Hydro Tasmania, for instance, considered 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.⁴⁰

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.⁴¹ Hydro Tasmania indicated that

³⁹ 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.

⁴⁰ AETVP, submission to the first round of consultation, 23 April 2010, p. 5.

⁴¹ 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

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.⁴² Alternatively, AEMO suggested that given the complexity of the issue, it should be reviewed independently 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.⁴³

7.2.2 Second round of consultation

Three submissions commented on this issue. These were AETVP, AEMO and Energy Response. Each of these submissions supported the Commission's proposed approach of addressing the issue through a workshop with interested stakeholders and AEMC staff to address the issue.⁴⁴

7.3 Conclusion

Consistent with the Draft Rule Determination, the Commission has decided to address the issue 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. Initially, AEMC staff will hold a 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.

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.

⁴² Hydro Tasmania, submission to the first round of consultation, 22 April 2010, p. 1

⁴³ AEMO, submission to the first round of consultation, 23 April 2010, p. 2

⁴⁴ AEMO, submission to the second round of consultation, 10 August 2010, p.1; AETVP, submission to the second round of consultation, 12 July 2010, p. 1; Energy Response, submission to the second round of consultation, 19 July 2010, p. 1.

AEMO published a Small Generator Framework Design document on 2 August 2010 which identified similar issues associated with the separation of financial responsibility for small generation attached to loads. 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.⁴⁵ AEMO noted that off-market arrangements may develop to separate financial responsibility for different energy market services. 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. AEMC staff will liaise with AEMO about the best way to address the issue it has identified for small generators.

⁴⁵ AEMO, Small Generator Framework Design, 2 August 2010, p. 59.

Abbreviations

AEMC or Commission	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AETVP	Aurora Energy Tamara 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
NGF	National Generators Forum
the Rules or NER	National Electricity Rules

A Summary of issues raised in submissions

A.1 First round of consultation

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	Agreed
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 industry 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	Comments have been noted. The Commission considers that given

Stakeholder	Issue	AEMC Response
	issue warrants further consideration. However, given the complexity, it considers the issue should be reviewed independently of this Rule change. p.2.	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 industry 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.

Stakeholder	Issue	AEMC Response
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.
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	Comments have been noted. This issue can be considered as part of the separate process for this issue.

Stakeholder	Issue	AEMC Response
	is to limit participation severely. p. 2.	
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.
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	Do not consider the proposal will greatly reduce administrative burden for ancillary services loads providing FCAS. Admittedly, it reduces the	Comments have been noted.

Stakeholder	Issue	AEMC Response
	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.	
NGF	On the wider issue, does not consider the 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.	Comments have been noted. This issue can be considered as part of the separate process for this issue.

A.2 Second round of consultation

Stakeholder	Issue	AEMC response
AEMO	Supports the Draft Rule Determination subject to a clarification and suggestion regarding the draft Rule.	Comments have been noted
AEMO	Welcomes the opportunity to participate in an informal workshop to consider broader issues regarding the separation of energy and ancillary services markets.	Comments have been noted.
AEMO	Considers that draft clause 3.8.3(a)(3) should refer to existing clauses 2.3.5(e)(1) and (2).	This was a typographical error in the Draft Rule and has been addressed for the Rule as Made.

Stakeholder	Issue	AEMC response
AEMO	Suggests removing draft clause 3.8.3(j) on the basis that its inclusion may create doubt in its own right by creating a different set of rules for classification and aggregation of loads and generating units.	Agreed. The Commission has decided not to include the draft clause in the Rule as Made.
AETVP	Support the Rule Change as proposed along with the arguments presented by the Commission in consideration of the draft determination.	Comments have been noted.
AETVP	Look forward to a further review by the AEMC in its consideration of the interaction between ancillary services loads and Market Customers.	Comments have been noted.
Energy Response	Wholeheartedly supports the changes that have been proposed in the Draft Rule Determination.	Comments have been noted.
Energy Response	Consider that the ability for end-users to choose their market customer does not mean there is no misalignment between the commercial interests of the Market Customer and end-user. Consider in most circumstances the end-user will choose the retailer which offers a more competitive energy price. Therefore, there is no competitive pressure on retailers to procure FCAS services on sensible terms.	Comments have been noted. This issue will be addressed as part of the separate process to consider the interaction between ancillary services loads and Market Customers.
Energy Response	Note the Commission's conclusion that it would be beneficial to investigate FCAS arrangements for loads and small generators concurrently. Identify proposal in AEMO's Small Generation consultation of allowing the aggregation of loads and generators together for the provision of MAS.	Comments have been noted. This issue will be addressed as part of the separate process to consider the interaction between ancillary services loads and Market Customers.

Stakeholder	Issue	AEMC response
NGF	In response to the original consultation the NGF wished for the AEMC and AEMO to ensure there is an equivalent standard of service applied to the provision of frequency response from the demand side as there is from the supply side. Overall the NGF is satisfied the AEMC has considered its view in making the Draft Rule Determination.	Comments have been noted.
NGF	While it agrees that, at present, MAS does not generally require the management of intra-regional constraints, it is concerned that a footnote reference could be misinterpreted as treating aspects of the MAS arrangements as if they were necessary or permanent.	Comments have been noted. The Final Rule Determination has been amended to better reflect the treatment of intra-regional constraints with respect to MAS.
NGF	Acknowledge that loss factors are presently not applied to MAS. However, it considers this should not be treated as a permanent feature of the market.	Comments have been noted.