Australian Energy Market Commission

RULE CHANGE

CONSULTATION PAPER

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

Rule Proponent
Australian Energy Market Operator

25 March 2010

This consultation paper has been prepared to facilitate public consultation on the Rule change request and does not represent the views of the Commission or any individual Commissioner of the Australian Energy Market Commission.

Contents

1 Introduction

On 18 December 2009, the Australian Energy Market Operator (AEMO) (Proponent) submitted a Rule change request to the Australian Energy Market Commission (AEMC or Commission) in relation to the aggregation of ancillary service loads. The Rule change request seeks to remove barriers to the aggregation of ancillary service loads for 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.

This Consultation Paper has been prepared by the staff of the AEMC to facilitate public consultation on the Rule change proposal and does not represent the views of the AEMC or any individual Commissioner of the AEMC.

This paper:

- sets out a summary of, and a background to, Aggregation of Ancillary Service Loads;
- identifies a number of questions and issues to facilitate the consultation on this Rule change request; and
- outlines the process for making submissions.

2 Background

Clause 3.11.1(a) of the National Electricity Rules (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 services, MAS and non-market ancillary services. This Rule change proposal 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.[1] AEMO acquires MAS to maintain frequency within the normal operating band, or following a contingency event, to return frequency to the normal operating band.

Market Customers[2] are able to use 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. 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.[3]

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.[4] 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 service load. Clause 2.3.5(e) of the Rules provides that if AEMO is reasonably satisfied that:

1. the market load is able to be used to provide the MAS referred to in the application in accordance with the MAS specification; and

2. the Market Customer has adequate communications and/or telemetry to support the issuing of dispatch instructions and the audit of responses,

then AEMO must approve the classification in respect of the particular MAS. Clause 2.3.5(h) provides that a Market Customer with an ancillary service load must only sell the MAS produced using that ancillary service 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. AEMO must approve an application for aggregation made

1 National Electricity Rules (NER), clause 3.11.1(b).

2 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.

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

4 AEMO Rule change request, p. 2.

under clause 3.8.3(a) if a number of technical requirements in clause 3.8.3(b) are satisfied. They include that:[5]

- the Market Customer would have to request AEMO to classify its market loads as scheduled loads in accordance with clause 2.3.4(d); and;
- once classified as scheduled loads under clause 2.3.4(e), the Market Customer who wishes to aggregate its relevant scheduled loads for the purposes of central dispatch must apply to AEMO to do so under clause 3.8.3(a).

5 NER, clause 3.8.3.

3 Details of the Rule Change Request

The Rule change request from the Proponent proposes to amend 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 load to be scheduled;
- remove the requirement for aggregated ancillary services loads to be located at a single connection point;[6] and
- allow Market Customers to make a single application to register multiple market loads as an aggregated ancillary service load.

AEMO contends that the Rules impose a barrier to loads aggregating to provide MAS because:[7]

- To provide aggregated MAS, loads are required to be scheduled loads. This is not a requirement for individual loads wishing to provide MAS. AEMO considers that the different treatment between aggregated and individual loads is not necessary given the differences in dispatch and pricing that exist between MAS and the energy market. These differences are that, unlike the energy market, MAS do not use inter-regional locational price signals and MAS do not require management of intra-regional constraints.
- Loads used for MAS are required to be 1 MW or greater in size. AEMO considers this prevents the use of aggregated loads in excess of 1 MW where individual loads may be below the threshold.
- Market Customers who wish to aggregate loads to provide MAS are required to separately classify and administer each market load. AEMO contends that these arrangements may discourage loads from providing MAS as the costs of doing so may be prohibitive and administratively burdensome.

The Rule change request includes a proposed Rule.

6 However, the proposed Rule requires that aggregated ancillary service loads be connected within a single region. This is because the most localised a frequency control event can be is within a region. Therefore, it is also the relevant boundary for the provision of aggregated MAS.

7 AEMO Rule Chang Request, p. 2.

4 Approach to Assessing the Rule Change Request

For this Rule change request we consider an important aspect of the National Electricity Objective (NEO) is efficient investment in and use of electricity services with respect to the price of electricity. Considerations relevant to assessing this aspect of the NEO include:

- 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. We will consider whether the existing Rules create a barrier to entry for aggregated MAS loads. If barriers exist, we will also consider 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.

- Administrative efficiency - the administrative costs associated with registration and market participation are necessary as they help to ensure a secure and reliable supply of electricity. However, if these costs are in excess of those required to achieve this outcome, there may be disincentives for providers of MAS to be aggregated loads. We will consider whether the current arrangements create any disincentives in this regard. If so, we will consider if the proposed Rule improves the efficiency of administrative costs for aggregated ancillary service loads.

- Cost implications from aggregated ancillary service loads - to date only generators and large loads, such as smelters, have been used to provide MAS.[8] Therefore, there is limited experience with smaller loads that may form part of an aggregated MAS offer. We will consider whether increasing the scope of MAS to allow for providers of smaller loads creates any unanticipated costs for the market, its participants, or the system operator.

The frequency control provided by MAS impacts on the quality, reliability and security of supply of electricity, and the reliability, safety and security of the national electricity system. Should the proposed Rule be made, some of the arrangements that are presently required for the classification of aggregated ancillary services loads will be removed. For instance, aggregated ancillary services loads would no longer need to be located at a single connection point. In addition, individual loads that are part of an aggregated offer could be less than 1 MW in size. This means there may be an increase in smaller and / or geographically dispersed loads used for MAS. With regard to the impacts on quality, reliability and security of supply we will consider whether there are any impacts from an increase in smaller loads being used for MAS, and if so, what

8 NEMMCO, Additional Submission to Stage 2: Issues Paper - Review of Demand-Side Participation in the National Electricity Market, p. 6.

these impacts are. We will also consider 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.

5 Issues for Consultation

Taking into consideration our approach to assessing this Rule change request, we have identified a number of issues for consultation.

The issues outlined below are provided for guidance. Stakeholders are encouraged to comment on these issues as well as any other aspect of the Rule change request or this paper.

5.1 Administrative arrangement

AEMO has indicated that the current arrangements regarding classification and administration of loads may be administratively burdensome for aggregated ancillary service loads.[9]

AEMO has proposed that Market Customers can apply to AEMO to have a group of ancillary service loads classified as an aggregated ancillary services load.[10] This means that an aggregated ancillary services load could be operated and administered as a single unit. However, Market Customers would first need to arrange for these loads to be individually classified as ancillary services loads before they could apply to AEMO to have the loads aggregated for the purposes of central dispatch.

Whether the existing administrative arrangements increase the costs of aggregation, and whether the proposed arrangements in the Rule change request improve efficiency in this regard is a matter relevant to this Rule change request.

- How, and to what extent, do the current registration and administrative requirements create an inefficient administrative burden for aggregated MAS providers?
- How, and to what extent, would AEMO's proposed Rule minimise the costs for Market Customers to aggregate ancillary service loads?

5.2 Impacts on system security, reliability and quality of supply

Given MAS are used for frequency control it is important to ensure that loads that are used for MAS do not have a negative influence on system security, reliability and quality of supply. The proposed Rule would require AEMO to determine whether power system security is materially affected by the proposed aggregation. We note that AEMO does not have a similar discretion when considering applications for non-aggregated ancillary services loads.

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

9 AEMO Rule change request, p. 2.

10 AEMO Rule change request, p. 7.

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

According to clause 3.11.2(b) of the Rules, AEMO must publish and make a MAS Specification. The MAS Specification 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.

AEMO indicates in its Rule change request that it would incur minor costs associated with conducting a Rules consultation to amend the MAS Specification.[11] This change would be to accommodate smaller loads that would form part of an aggregated MAS offer.

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

5.3 Aggregation approval by AEMO

Clause 3.8.3(c) allows AEMO to approve an application for aggregation even if all of the conditions in 3.8.3(b) are not satisfied provided that such aggregation would not materially distort central dispatch. We are seeking stakeholder views on whether this arrangement should be included for aggregated ancillary service loads. This would require a reference in clause 3.8.3(c) to the proposed new clause 3.8.3(b1).

5.4 Wider issues

AEMO's Rule change request seeks to remove what it considers to be barriers to providers of aggregated ancillary service loads for MAS. However, there may other issues or barriers relating to the aggregation of ancillary service loads for MAS that are not directly addressed in the Rule change request. For instance, below we have identified a possible issue relating to the interaction between ancillary service loads and Market Customers. Therefore, we are seeking your views about any other issues that should be considered as part of this Rule change.

Market Customer's apply to AEMO on behalf of end-use customers to have those customers' loads classified as ancillary service loads. The benefit of this arrangement is that AEMO interacts with only one Market Participant with respect to a load. However, it is plausible that, in some circumstances, the commercial interest of the Market Customer may not align with the commercial interests of end-use customers that wish to use their loads for MAS, or with the wider interests of the market. For instance, a Market Customer may be reluctant to arrange for a load to be classified as an ancillary services load if it does not have the appropriate systems to participate, or it considers

11 AEMO Rule change request, p. 5.

the associated demand response may have negative financial implications. In addition, businesses that specialise 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.

We would welcome views on the materiality of this issue, and the likely costs and risks associated with measures that may address it. We would also welcome submissions identifying any other issues or barriers that may impact on efficiency with respect to aggregated ancillary service loads.

6 Lodging a Submissions

The Commission has published a notice under section 95 of the National Electricity Law (NEL) for this Rule change proposal inviting written submission. Submissions are to be lodged online or by mail by 23 April 2010 in accordance with the following requirements.

Where practicable, submissions should be prepared in accordance with the Commission's Guidelines for making written submissions on Rule change proposals.[12] The Commission publishes all submissions on its website subject to a claim of confidentiality.

All enquiries on this project should be addressed to Scott Stacey on (02) 8296 7800.

6.1 Lodging a submission electronically

Electronic submissions must be lodged online via the Commission's website, www.aemc.gov.au, using the "lodge a submission" function and selecting the project reference code ["ERC0104"]. The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

Upon receipt of the electronic submission, the Commission will issue a confirmation email. If this confirmation email is not received within 3 business days, it is the submitter's responsibility to ensure the submission has been delivered successfully.

6.2 Lodging a submission by mail

The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated. The submission should be sent by mail to:

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Or by Fax to (02) 8296 7899.

The envelope must be clearly marked with the project reference code: ERC0104.

Except in circumstances where the submission has been received electronically, upon receipt of the hardcopy submission the Commission will issue a confirmation letter.

If this confirmation letter is not received within 3 business days, it is the submitter's responsibility to ensure successful delivery of the submission has occurred.

12 This guideline is available on the Commission's website.

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
Commission	See AEMC
MAS	Market Ancillary Services
NEL	National Electricity Law
NEO	National Electricity Objective
NER	National Electricity Rules