Australian Energy Market Commission

RULE CHANGE

DRAFT RULE DETERMINATION

National Electricity Amendment (Small Generation Aggregator Framework) Rule 2012

Rule Proponent(s)

Australian Energy Market Operator

Commissioners

Henderson
Spalding

5 July 2012

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About the AEMC

The Council of Australian Governments (COAG), through its then Ministerial Council on Energy (MCE), established the Australian Energy Market Commission (AEMC) in July 2005. In June 2011 COAG announced it would establish the new Standing Council on Energy and Resources (SCER) to replace the Ministerial Council on Energy. The AEMC has two principal functions. We make and amend the national electricity and gas rules, and we conduct independent reviews of the energy markets for the SCER.

Summary of draft rule determination

The Australian Energy Market Commission (AEMC) has determined to make this draft determination and draft rule on the Small Generation Aggregator Framework rule change request as proposed by the Australian Energy Market Operator (AEMO), with consequential amendments. This rule change seeks to reduce the barriers to entry faced by the owners of small generators in joining the National Electricity Market (NEM). This rule change will provide more flexibility for owners of small generating units and is therefore likely to result in more efficient use of generation capacity in the NEM.

On 22 December 2011 AEMO submitted the Small Generation Aggregator Framework rule change request. This rule change proposed to create a new category of Market Participant, a Small Generation Aggregator (SGA). These SGAs would be financially responsible for trading the output of small generating units in the NEM provided that the small generating units meet the exemption criteria for registration as a generator and each unit is classified as a market generating unit with its own connection point.

The proposed rule was intended to lower the administrative costs faced by small generators and in doing so increase their market participation rate. An increased penetration of small generators was envisaged to lead to more efficient use of generation capacity and hence reduce long term prices for consumers. The main cost relating to the rule change would be the expense incurred by AEMO in implementing the framework.

The AEMC broadly agrees with AEMO on the potential benefits of the rule change and this is reflected in the draft rule attached to this document. The draft rule is made with some consequential amendments.

The key difference between the proposed rule and the draft rule is the maintenance of the two participants in the National Electricity Rules: the SGA will be a new category of Registered Participant; and the Market Small Generation Aggregator (MSGA) will be the new category of Market Participant. This distinction has been made to bring the framework into line with the existing rules for other participants in the NEM.

The AEMC welcomes submissions on this draft determination or the draft rule. Submissions are due by 16 August 2012.

Contents

1 Rule change request

1.1 The rule change request

On 22 December 2011, the Australian Energy Market Operator (AEMO) (the proponent) made a request to the Australian Energy Market Commission (AEMC or Commission) for a rule change to create a new category of Market Participant called a "Small Generation Aggregator" (SGA).[1] These Market Participants would be financially responsible for the participation of one or more small generating units in the National Electricity Market (NEM), without having to register each individual unit as a Generator. The purpose of the proposed rule change was to encourage small generators to participate in the market by reducing financial barriers to entry.

1.2 Rationale for rule change request

AEMO considers that small generators face a financial barrier to entering the market because of the costs associated with classifying each unit as a market generating unit. Currently all generators that wish to sell electricity through the NEM pool must first be registered, then classified as Market Generators. The registration process for market generators is identical regardless of the size of the generator. However, much of the information collected from smaller generators is not required to maintain the secure operation of the system due to their limited impact. Therefore this process acts as an unnecessary barrier to small generators as their costs for applying are high relative to potential returns.

AEMO stated that the proposed rule change:

- should result in a reduction in costs for the owners of small generators that are participating in the market;
- could lead to lower peak prices due to more small generators operating at peak times;
- could lead to a reduction in infrastructure requirements for Distribution Network Service Providers (DNSPs) as more generation may be connected to the network near loads; and
- might provide a revenue stream for businesses that currently own small generators but do not use these for export to the grid (for example back-up generators). This could result in lower prices for the consumers of the primary product of these businesses.

AEMO estimated that removing the barriers related to classification may lead to fifty extra small generators entering the market over the next three years. AEMO estimates a

1 AEMO, *Small Generation Aggregator Framework rule change request*, December 2011.

combined monetary value of the savings from reduced infrastructure spending and a lower pool price at $5 million dollars over the next three years.[2]

1.3 Relevant background

In the *Review of Energy Market Frameworks in light of Climate Change Policies* the Commission examined a number of potential barriers to the efficient utilisation of small generators, particularly in the context of embedded generation.[3] The final report recommended that further work be undertaken on methods to remove these barriers to entry. Following this review, AEMO began a working group that included representatives from governments and industry bodies to develop ways to encourage efficient entry by small generators.

In 2010 the AEMO working group published a report detailing eleven principles that could potentially improve the participation of small generation in the NEM.[4] A number of these principles formed the basis of the rule change proposed by AEMO.

There have been other investigations by government and industry bodies on how to increase the market penetration of small and embedded generation. This includes work by the AEMC as part of the Power of Choice review.[5] The AEMC is also presently consulting on another rule change that focuses on reducing barriers to entry for embedded generators relating to the connection regime.[6] Furthermore there are ongoing investigations by a variety of government entities on ways to encourage the efficient use of small generation capacity.[7]

1.4 Solution proposed in the rule change request

AEMO proposed introducing a new category of Market Participant to reduce barriers to entry for small generators.

The specific changes that AEMO proposed were to:

- create a new category of Market Participant called a "Small Generation Aggregator";
- define an SGA as anyone who has market responsibility for a generating unit that is exempt from registering as a Market Participant or who demonstrates to AEMO that they plan to operate a generating unit which meets this requirement;

2 Ibid p10.

3 Australian Energy Market Commission, *Review of Energy Market Frameworks in light of Climate Change Policies*, Final Report, AEMC 2009, Sydney, p75.

4 AEMO, *Small Generation Framework Design*, 2010.

5 See http://www.aemc.gov.au/market-reviews/open/power-of-choice-update-page.html.

6 Australian Energy Market Commission, *Connecting embedded generators*, Consultation paper, AEMC 2012, Sydney.

- allow an SGA to have market responsibility for multiple separate "small generating units" throughout the NEM without the need to separately register each generating unit. Instead, these units would be added to an SGA's portfolio through Market Settlement and Transfer Solution (MSATS), similar to how Market Customers can change their market loads;

- require SGAs to buy and sell all electricity that flows through their registered connection points to the market. This requirement mirrors existing rules for Market Generators. AEMO proposed that these clauses be civil penalty provisions under the National Electricity Law (NEL);

- require that any connection point created meets the requirements of the jurisdiction in which it is located;

- introduce transitional arrangements to allow AEMO to begin changes to their procedures and systems prior to the AEMC's final determination so as to allow the rule to begin operation as rapidly as possible;

- exempt SGAs from the Carbon Dioxide Equivalent Intensity Index (CDEII);

- add SGAs to lists of Market Participants; and

- add the terms "Small Generation Aggregator" and "small generating unit" as defined terms in Chapter 10 of the rules.

Currently there is an option for a small generator that qualifies for exemption from registration to not participate in the NEM and instead contract directly with a retailer or market customer at the same connection point. The rule change request does not affect or remove this option.

1.5 Commencement of rule making process

On 15 March 2012, the Commission published a notice under section 95 of the NEL advising of its intention to commence the rule making process and the first round of consultation in respect of the rule change request. An AEMC staff consultation paper was also published that identified specific issues and questions for consultation. Submissions closed on 12 April 2012.

The Commission received thirteen submissions on the rule change request as part of the first round of consultation. They 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.

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7 For example the ongoing *Inquiry into Feed-in Tariffs & Barriers to Distributed Generation* by the Victorian Competition and Efficiency Commission.

8 www.aemc.gov.au

1.6 Extension of time

On 21 June 2012 the Commission published a notice under section 107 of the NEL extending the period of time for the draft rule determination by two weeks. The reason for this extension was that the draft rule raised issues of complexity and difficulty relating to how the proposed framework for a new type of Market Participant may fit within the structure of the NER. Consequently, an extension of time was required.

1.7 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 the draft rule, by 16 August 2012.

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 12 July 2012.

Submissions and requests for a hearing should quote project number "ERC0141" and may be lodged online at www.aemc.gov.au or by mail to:

Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

2 Draft rule determination

2.1 Commission's draft determination

In accordance with section 99 of the NEL the Commission makes this draft rule determination in relation to the rule proposed by AEMO.

The Commission has determined it should make, with consequential amendments, a draft rule.[9]

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

The draft rule is attached to and published with this draft rule determination and its key alterations from the proposed rule 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;[10]
- the introduction of the National Energy Customer Framework (NECF);
- the conclusions of the *Review of Energy Market Frameworks in light of Climate Change Policies*;
- the conclusions of AEMO's 2010 *Small Generation Framework Design*;
- submissions received during the first round of consultation; and
- the Commission's analysis as to the ways in which the proposed rule will or is likely to contribute to the National Electricity Objective (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

9 Under section 99(3) of the NEL the draft of the rule to be made need not be the same as the draft of the proposed rule to which the notice under section 95 relates.

10 Under section 33 of the NEL the AEMC must have regard to any relevant MCE statement of policy principles in making a rule.

NEL as it relates to the "the activities of persons (including Registered Participants) participating in the National Electricity Market or involved in the operation of the national electricity system."[11] Further, the draft rule falls within the matters set out in schedule 1, item 1 of the NEL because it pertains to the registration of Registered Participants.

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, the Commission primarily considered whether the proposed framework is likely to lead to more efficient investment in and use of generation in the NEM.[12]

The Commission is satisfied that the draft rule would, or is likely to, contribute to the achievement of the NEO for the following reasons.

- The draft rule should lower barriers to small generators entering the NEM as it should:
    - reduce the costs incurred by AEMO during the present application process for registering Market Participants and so reduce the costs that are passed on to applicants;
    - lower the costs incurred by small generators in preparing the required documentation; and
    - allow entities that are not familiar with the NEM to participate through a more experienced agent.

11 NEL section34(1)(a)(iii)

12 Under section 88(2), 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.

- An increase in the amount of small generation capacity could lead to marginally lower long term prices faced by consumers due to:
    - an increase in market participation and thus more competition in peak generation capacity; and
    - improved efficiency in the use of peaking capacity.
- There are no major costs in the rule change proposal.
    - AEMO estimates that implementation costs are approximately $600,000.[13] These costs have already been budgeted for in their internal processes.[14]
    - There should be minimal impact on the security of the network as owners of small generators would be exempt from registration as a Generator by AEMO under the current rules
    - The proposed rule does not appear to impose inefficient costs on any other Market Participants.

On balance, the Commission considers that the draft rule is likely to contribute to the achievement of the NEO as it lowers costs and so provides greater flexibility for new generators to enter the market without imposing inefficient costs on other Market Participants. This is likely to enhance efficiency.

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 will not affect these functions.

13 AEMO, *Small Generation Aggregator Framework rule change request*, December 2011, p11.

14 In comparison the total expenses for AEMO in the financial year 2010-2011 were approximately $628 million. (AEMO, *Annual Report 2011*, 2011. p30)

3 Commission's reasons

The Commission has analysed and assessed the issues arising out of this rule change request. The Commission has determined that a draft rule be made. The reasons for this decision are set out in section 3.1. The differences between the draft rule and the proposed rule are laid out in section 3.2. The reasoning behind creating both a Registered Participant and a Market Participant is explained in section 3.3. Finally, section 3.4 sets out issues regarding the civil penalty provisions.

3.1 Assessment of issues

3.1.1 Current situation

Anyone that owns, controls or operates a generating system connected to a distribution or transmission network in the NEM must register as a Generator with AEMO.[15] However, AEMO has the authority to grant an exemption from registration for generators that meet certain criteria.[16] AEMO's registration guidelines set the criteria for exemption from registration as generators that have a nameplate capacity of less than 5 MW, or have a capacity of between 5 MW and 30 MW and are able to satisfy AEMO that they will export less than 20 GWh per year.[17] Under the requested rule, those generators that have the option of obtaining an exemption are defined as "small generating units".

Under the current arrangements, small generators have two options for selling their generated electricity. First, they may participate in the NEM in the same way as other Market Generators. Alternatively they may directly contract with a retailer or another customer at the same connection point to sell all their generated electricity at an agreed price. The second option avoids having to register as a Generator.

Registering and being classified as a Market Generator involves relatively large upfront administration costs. AEMO charges $5,100 for registering a generator and this price will increase to $10,000 in 2015/16.[18] This impost must be paid for every unit that is to be registered as a market generating unit and does not include the costs incurred by the applicant in the course of preparing the relevant documentation for AEMO. For a small generator this registration process represents a significant impost relative to potential revenue.

This fee is intended to cover the cost that AEMO incurs in processing the registration application subject to the registration guidelines in regards to exempt generators. AEMO is obliged to collect the same information using the same procedure for all

15 Section 2.2.1 of the NER.

16 Section 2.2.1(c) of the NER.

17 AEMO, *NEM Generator Registration Guide*, 2011. Note that generators of less than 5 MW have a standing exemption, while those between 5 and 30 MW must apply for exemption.

18 Ibid p6.

applicants. Much of the information collected from small generators in this process is of limited purpose for maintaining network security. Thus the initial registration costs create a potential barrier to market entry for small generators which does not serve any administrative purpose or help achieve system security.

The benefit of market participation is that small generators can access the spot market at times of high prices. This benefits the owner of the small generator in terms of higher revenues, and also benefits consumers as it increases competition amongst peaking plants. It allows generating capacity to be used more efficiently.

In contrast, non-market small generators are not always able to receive and therefore react to the spot price. The payment agreement between a small generator and a retailer is subject to negotiation and may not fully reflect the spot price. Hence the potential benefits to both the generator owner and the wider community of existing generation capacity are not fully realised.

The Commission therefore considers that there is a barrier to the efficient participation of small generators in the NEM and, further, that their participation would be efficiency enhancing. Consequently a rule should be made to address this barrier.

The next three subsections explain why the draft rule is likely to be efficiency enhancing and so meet the rule making test.

3.1.2 Benefits to small generators

Owners of small generation units are likely to benefit from this draft rule. The draft rule removes one existing barrier to market participation by lowering the costs associated with participating in the NEM. In doing so, the framework provides greater flexibility for small generator owners by increasing their range of choices to include a more cost effective means of entering the market. This additional option may also put pressure on retailers to offer more attractive contracts for those small generators that choose not to participate in the market.

The rule change should also remove another barrier relating to the information requirements of small generation owners. Many small generators are owned by entities whose primary focus is outside the energy industry. As a result these entities may lack knowledge of the structure and operation of the NEM, which is inherently complex. SGAs, which should have experience and knowledge of the market trading systems, should provide an alternative means for small generator owners to capture some of the benefits of participating in the NEM without the need to acquire such knowledge.

Therefore the Commission expects that this rule change should have a positive impact on reducing barriers to small generation. Any reduction in barriers should lead to an increased number of small generators participating in the NEM, although it is difficult to quantify the amount of additional generation that will enter the market due to the creation of a new Market Participant that can aggregate small generating units. This is discussed further in chapter 5.

3.1.3 Benefits to other Market Participants and consumers

The creation of the new category of Market Participant is expected to lead to an increase in market participation for small generators. Such an increase in small generator participation should have benefits for the wider market, including a more efficient market for peaking plant and increased business opportunities for Market Participants.

Aggregators of small generating units are expected to operate their portfolios as peaking plant because they generally have higher fuel cost. Therefore this new framework could lead to more competition for peaking capacity and potentially lead to marginally reduced peak prices as existing small generators enter the market. More broadly, the new framework will promote the more efficient use of existing generation capacity.

Furthermore opportunities may open for existing Market Participants to expand into the role of an SGA. An example of potential synergies is a retailer also registering as an aggregator. Doing so will allow the retailer the opportunity to 'bundle' retail electricity and an aggregation service to consumers with small generators. Having access to this peaking capacity may also improve a retailer's contract position as they will have additional independent capacity during high price periods.

3.1.4 Potential costs

The Commission considers that the potential costs from this rule change are low. The main costs associated with the draft rule are those incurred in implementing the framework. These costs primarily fall on AEMO, which will need to change a number of its systems and procedures. AEMO has estimated these costs at $600,000.

There do not appear to be any additional costs imposed on other Market Participants or consumers as a result of the draft rule.

Furthermore, there are no major network or system security concerns raised by the draft rule. Small generators covered by this rule change are already able to be connected to the network without registering with AEMO. There should be minimal impact as a result of these generators selling their generation in the market compared to contracting directly with a retailer.

3.2 Key features of the draft rule

As described in section 3.1 the Commission broadly agrees with AEMO's views on the need for a rule. The Commission further considers that the framework for introducing a new Market Participant that was proposed by AEMO and summarised in section 1.4 is broadly appropriate. However in the draft rule the following amendments have been made:

- The draft rule clarifies that a Small Generation Aggregator is a Registered Participant who has one or more small generating units. The Market Small

Generation Aggregator (MSGA) is a Market Participant with each small generating unit classified as a market generating unit. Each market generating unit has its own connection point. These provisions are necessary and consequential on the creation of the SGA and the MSGA. This is discussed further in section 3.3.

- The draft rule states that for the purposes of Chapter 5A of the NER the MSGA is deemed to be an agent of a retail customer[19] where there is an agreement relating to the customer's small generating unit. This alteration is to indicate there should be no change to the connection regime between embedded generators and DNSPs if the embedded generator is part of an MSGA (see section 6.2).

- The draft rule provides that an MSGA must comply with the metering installation requirements of non-market generating units under clause 7.3.1(i). This provision is necessary to ensure that the MSGA's metering requirements are appropriate (see section 7.2).

- The draft rule provides that the dispute resolution provisions in Chapter 8 of the rules do not apply for a notice for deregistration of an MSGA. This provision is consequential on creating the MSGA as a Market Participant.

- The draft rule does not include small generating units in the calculation of distribution loss factors as proposed because the existing reference to embedded generating units is sufficient.[20]

- The draft rule clarifies that for the definition of generating unit, a generating unit is also a small generating unit. This provision is consequential on creating small generating units under the Small Generator Aggregator Framework.

- The draft rule provides that AEMO is to make a number of changes to facilitate the introduction of the MSGAs in the NEM. These changes include alterations to ancillary services transactions and amendment of the metrology procedures to take into account the draft rule (see section 8.1).

In making the draft rule, the Commission relies upon its consequential rule making powers in section 91B of the NEL.

3.3 Market Small Generation Aggregator

The draft rule amends the structure of the new participant proposed by AEMO in the rule change request. AEMO's proposal includes the creation of a single participant category; a "Small Generation Aggregator". This entity would be both a Registered Participant and a Market Participant. However the Commission considers that this

19 In Chapter 5A of the NER a retail customer "includes a non-registered embedded generator and a micro embedded generator."

20 NER 3.6.3(b)(2).

structure is not consistent with the existing rules and definitions for other categories in the NER. For all current categories the Registered Participant (for example Generator or Customer) is classified separately from the Market Participant (Market Generator or Market Customer). For these other categories it is possible to be a non-market Registered Participant body and be subject to the NER. Additional standards such as prudential requirements are placed on entities that are Market Participants but not Registered Participants.

The Commission considers that this rule change should follow the structure for the other participants. The reasoning behind this decision is to make the NER consistent across all categories so as to ease future interpretation. Thus the draft rule includes a Registered Participant which is the SGA and a Market Participant which is the MSGA.

The existence of the SGA and the MSGA should have limited impact in practical terms for the operation of the new framework. As the primary reason of the rule change is to allow small generators to have access to the market, the existence of an MSGA does not imply the existence of a non-Market Small Generation Aggregator. This issue is elaborated in Section 9. The draft rule in placing the registration of SGAs and MSGAs under one clause allows AEMO to make to the process of applying to be an SGA/MSGA a single step process. The AEMC does not expect that there will be an SGA that is not an MSGA.

The Commission agrees that MSGAs should be administered in a manner similar to Market Customers. In the draft rule each MSGA will be able to add small generating units to its portfolio through MSATS in the same method as Market Customers currently add loads. To emphasise that the MSGA is a body that is analogous to a Market Customer, the draft rule change places the framework after the customer section of Chapter 2 in the NER.

3.4 Civil Penalties

AEMO's proposed rule included two clauses which the proponent considered should be civil penalty provisions. AEMO also stated that the Australian Energy Regulator (AER) has agreed that these civil penalty provisions are required. These provisions relate to a requirement for all MSGAs to sell all their exported electricity to AEMO and to purchase all their imported electricity from AEMO.[21] These provisions are the equivalent to the current clauses for the operation of other Generators in the NEM.[22]

The Commission considers that these civil penalty provisions are appropriate. Hence if the final rule is made the Commission will recommend to the Standing Council on Energy and Resources (SCER) that these provisions be classified as civil penalty provisions.[23]

21 AEMO, *Small Generation Aggregator Framework rule change request*, December 2011 p9.

22 NER sections 2.2.4(c) and 2.2.4(d).

23 Draft rule 2.3A.1(g) and 2.3A.1(h).

In the consultation paper, the AEMC requested stakeholder views on any risks if these provisions come into force after the commencement of the rule. Stakeholders who commented were in favour of the rule not being delayed because of concerns relating to these civil penalty provisions being delayed.[24] The Commission agrees the risks are likely to be minimal if the rule comes into force before the MCE has determined whether the civil penalty provisions should apply and thus will not delay the rule for this reason.

24 City of Sydney, Consultation paper submission, p2; Clean Energy Council (CEC) , Consultation paper submission, p5; EnerNOC, Consultation paper submission, p3; LMS, Consultation paper submission, p3; TRUenergy, Consultation paper submission, p3; United Energy, Consultation paper submission, p5.

4 Commission's assessment approach

This chapter describes the analytical framework that the Commission has applied to assess the rule change request in accordance with the requirements set out in the NEL (and explained in Chapter 2). To assess this rule change the Commission examined whether the proposed new framework could lead to:

- lower administrative costs for AEMO (and therefore Market Participants) as well as small generators, reducing barriers to entry; and
- more efficient use of and investment in generation, through more efficient participation of small generators in the NEM.

We also considered:

- the potential use of small generators as peaking plant to reduce peak price and potentially demand; and
- a possible reduction in the need for network infrastructure and hence network charges for customers.

Any cost reduction must be balanced against security, reliability and safety issues, including AEMO's ability to manage network security issues and DNSPs' ability to manage reliability requirements.

The Commission has focussed on this set of issues because they represent the most likely effects of the rule change.

Generally, the Commission considers that where a proposed rule provides increased flexibility and reduces barriers to entry to a group of participants without imposing inefficient costs on other participants, the proposed rule is likely to enhance efficiency.

The following chapters outline the specific issues examined in this rule change request, including those raised by stakeholders. These issues include:

- the participation of small generators in the NEM;
- connecting small generating units;
- implementation issues, including the operation of the Carbon Dioxide Equivalent Intensity Index (CDEII), metering and ancillary services fees;
- the transitional arrangements that will be necessary; and
- the requirement for certain small generators to request an exemption from registration from AEMO.

5 Participation of small generators

5.1 Rule Proponent's view

The rule proponent considers that there are currently barriers to entry for small generators, as described in section 1.2. Permitting an SGA to add additional generating units to its portfolio without the need to classify each unit as a market generating unit should reduce this barrier and so increase the market participation of small generators. AEMO estimates there may be fifty new small generators in the NEM with a combined capacity of 150MW over the next three years.[25]

5.2 Stakeholder views

5.2.1 Barriers to Entry

A number of a stakeholders agreed with the proponent that there are currently barriers to small generators becoming market generators.

The CEC (Clean Energy Council) stated that "[p]articipation costs are a clearly evident barrier".[26] Haron Robson stated that barriers to entry such as "application, ongoing compliance and unclear regulatory guidance" means that there are large numbers of small generators (specifically tri-generation) that have been constructed and do not participate in the NEM.[27]

A number of stakeholders considered that the rule proponent underestimated the costs small generators currently face. AEMO focussed solely on the costs it passes on to applicants and did not take into account the cost of preparing the relevant documentation. EnerNOC noted that some applications are over one hundred pages long.[28] TRUenergy stated that the process is unnecessarily complex and sometimes requires applicants to seek legal advice.[29]

Moreover many small generator owners have limited knowledge of how the NEM operates and this lack of information acts as a barrier to entry.[30] As a consequence Haron Robson stated that the creation of SGAs will "increase feasibility and stimulate adoption" of small generation.[31] They also stated that the existence of SGAs will

25 AEMO, *Small Generation Aggregator Framework rule change request*, p9, 2011.

26 CEC, Consultation paper submission, p2.

27 Haron Robson, Consultation paper submission, p1.

28 EnerNOC, Consultation paper submission, p1.

29 TRUenergy, Consultation paper submission, p2.

30 Haron Robson, Consultation paper submission, p1; United Energy, Consultation paper submission, pp4-5.

31 Haron Robson, Consultation paper submission, p1.

mitigate skills shortages as trained people can work with multiple different generator owners while remaining at the one company.[32]

On the other hand the National Generators Forum (NGF) were strongly opposed to the rule change on the grounds that it may lead to a cross subsidisation of small generation by scheduled generators. The NGF stated that there is already a system in place for a small generator to avoid the application fee and process by choosing to be non-market generator and contracting with a retailer.[33] The NGF further stated that if the registration process collected unnecessary information then it should be redesigned for all generators, not just small generators.[34]

5.2.2 Potential new small generators from the rule change

There were a number of differing views on the likelihood that the proposed rule would stimulate additional market entry by small generators. GlobalNRG believed that the rule change would lead to 216 new small generators which would export 119,836,800MWh per year.[35] However a number of other stakeholders indicated that the framework will not lead to a marked increase in small generation due to the existence of other barriers, although they supported this rule change as a first step.[36]

5.2.3 Impact on the wholesale market

A number of stakeholders indicated that they considered that the introduction of SGAs would increase competition in the wholesale market.[37] These stakeholders considered that as small generators will have incentives to operate during price peak periods, the average pool price may be reduced due to more competition. United Energy and Mark Johnston also considered that the rule would lead to AEMO better being able to predict demand.[38]

However the NGF was concerned that encouraging small generators to enter the market and run as peaking plant would result in productive inefficiencies because relatively high cost small generating units (eg diesel fuelled plant with variable fuel costs in the range of $400 to $500/MWh) may displace lower cost scheduled plant. The NGF considered that this does not constitute an improvement in economic efficiency even if it results in lower prices in a particular trading interval.[39]

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32 Ibid, p1.

33 Ibid, p2.

34 Ibid, p2.

35 GlobalNRG, Consultation paper submission, pp1-2 .

36 TRUenergy, Consultation paper submission, p2; LMS, Consultation paper submission, p2.

37 CEC, Consultation paper submission, p4;Energy Retailers Association of Australia (ERAA), Consultation paper submission, p1.

38 Mark Johnston, Consultation paper submission, p3; United Energy, Consultation paper submission, p4.

39 NGF, Consultation paper submission, p2.

The NGF were also concerned that AEMO is creating a perception that volatility in prices is inefficient and that they are "willing to pursue measures to decrease price volatility for the sake of delivering short term benefits to customers".[40] The NGF considered this would adversely impact investment in large scale peaking plant and so dynamic efficiency.

5.2.4 Impact on networks

A number of stakeholders supported the view that small generators could reduce long term distribution infrastructure spending.[41] They considered that many small generators would be connected to the distribution network and could operate during high price periods. This could reduce the peak requirements on DNSP network spending.

However both the NGF and Ausgrid noted that small generators may not be located near demand.[42] Furthermore Ausgrid noted that high demand periods do not necessarily coincide with high price periods and hence there is no certainty that SGAs will export their energy when it is most necessary.[43] Therefore these companies do not consider that there will be a reduction in distribution infrastructure spending as a result of this rule change.

5.3 Conclusion

5.3.1 Barriers to entry

The Commission considers that this rule change should remove one of the barriers to small generation entering the NEM. Specifically the rule change should reduce the transaction costs faced by small generators when applying to participate in the market. This reduction includes the indirect costs in collating the application documentation and the direct costs that are passed on by AEMO in processing applications.

The Commission notes that the reduction in costs for small generators from this draft rule does not represent cross subsidisation from scheduled generation. The cost reductions for small generators come from passing on registration cost savings by AEMO and not from a subsidy.

Further, much of the information collected in the registration and classification process for a Market Generator is important for determining the impact of a large plant on system security but is not relevant for a small generator. This is why such generators are permitted to be exempt from registration. Choosing to participate in the market does not change these information requirements. Consequently the Commission does

40 NGF, Consultation paper submission, p3.

41 Haron Robson, Consultation paper submission, p1; CEC, Consultation paper submission, p2.

42 Ausgrid, Consultation paper submission, pp2-3; NGF, Consultation paper submission, p4.

43 Ausgrid, Consultation paper submission, pp2-3.

not consider that the SGA framework treats small generators more favourably than large scheduled generators. If the NGF is concerned about the necessity of the information requirements during the registration process, this should be considered in a different forum.

5.3.2 Potential new small generators from the rule change

A reduction in administration costs due to this rule change may lead to more small generators participating in the market. This should lead to the more efficient use of generation capacity in the NEM. However, predicting the amount of new generation that may enter is difficult, particularly as other barriers to entry may remain. Therefore the Commission considers this draft determination to be an incremental step in the task of removing impediments to market participation for small generation. We note that there are separate processes examining these other barriers, including the AEMC's *Power of Choice* review and a rule change request on connecting embedded generation.

5.3.3 Impact on wholesale markets

The Commission considers that this draft rule may result in marginally more efficient wholesale market outcomes through increased competition as a result of additional small generators entering the NEM. However, much of the benefits stem from the more efficient use of existing generation capacity to meet peak demand. There is existing generation capacity that is currently being underutilised due to the costs of market participation. Providing a mechanism to access such generation could also delay the need for additional investment in peak capacity, lowering costs to consumers.

The Commission disagrees with the NGF's concerns regarding the impact on productive efficiency. An MSGA will only run a unit if its total revenue is higher than total costs, i.e. the spot price must be high enough before that unit will switch on. Since the spot price is set by the marginal scheduled generator (which will also only operate where it will recover its costs), it is unlikely that the small generator will offset lower cost scheduled plant unless it runs at a loss. There may be a chance of an MSGA running a unit in error, particularly where the spot price is very close to the point at which a portion of the MSGA's portfolio becomes economic to generate. However, given that this would cost the MSGA it is likely to take steps to minimise this risk.

The Commission also disagrees with the NGF's concerns regarding investment in large scale peaking plant and so dynamic efficiency. In contrast, utilising existing capacity is likely to improve dynamic efficiency because it delays the need to undertake new capital investment in peaking plant, reducing costs for consumers. However, if small generators were ultimately more expensive to use for peaking plant then the spot price would rise, signalling the need for additional investment. This simply represents the efficient operation of the market.

5.3.4 Impact on networks

While there is a potential for embedded generators to reduce some distribution infrastructure requirements, this draft rule is unlikely to contribute towards this goal. For small generators to reduce network spending, the generators must be located near loads whose demand profiles match the supply output of the generator. However the draft rule includes no locational signal for the small generating unit. Thus there is no reason for small generators to connect where benefits to the network will be maximised. The Commission notes that there is another rule change being undertaken by the AEMC which may incentivise DNSPs to consider embedded generation as an alternative to network expenditure.[44]

44 Australian Energy Market Commission, *Distribution Network Planning and Expansion Framework,*, Draft determination, AEMC 2012, Sydney..

6 Connecting small generating units to a network

6.1 Issue

The connection arrangements for small generators were not discussed as part of the rule change proposal. However there are concerns that small generators may inadvertently be excluded from connecting to the distribution network via the streamlined process proposed under the NECF framework.

On 1 July 2012 the NECF came into force in some jurisdictions in the NEM, with other jurisdictions indicating they will consider commencing the NECF at a later date. Included as part of the NECF package is the *National Electricity (Retail Connection) Amendment Rules*. This amendment inserts Chapter 5A into the NER, outlining how connection arrangements are to function between DNSPs and embedded generators.[45]Chapter 5A includes a number of requirements for connection agreements which DNSPs must offer connecting embedded generation applicants. These connection agreements relate to basic connection services, standard connection services and negotiated connection services.

In its submission Ausgrid noted that there may be an interaction between the proposed rule and the new Chapter 5A of the NER.[46]

The Victorian Competition and Efficiency Commission (VCEC) noted this rule change as part of their *Power from the People Review*. Their assessment in the recently published draft report was that "[a]s Registered Participants, SGAs would be required to connect to the distribution network through the NER chapter 5 process."[47]

6.2 Conclusion

The Commission understands that MSGAs will not be party to the connection agreement, which will be negotiated between the retail customer as the owner of the small generating unit and the relevant network service provider. Consequently, this rule change should have no impact on the existing connection arrangements.

However, there is some concern that owners of small generating units that decide to participate in the market through an MSGA will be excluded from accessing the new chapter 5A arrangements due to the MSGA's status as a Market Participant. Market Participants are excluded from utilising the Chapter 5A connection process unless they are "acting as the agent of a retail customer".[48] Thus the proposed rule may have had

45 An embedded generating unit is defined in Chapter 10 of the NER as a "generating unit connected within a distribution network and not having direct access to the transmission network". This is not the same as a small generating unit, which may be connected to a transmission network, but there is expected to be a significant overlap between the two categories.

46 Ausgrid, Consultation paper submission, p3.

47 VCEC, *Power from the People: Inquiry into Distributed Generation,* draft report, May 2012.p158.

48 NER 5A.A.2.

the consequence of excluding any small generators which are also embedded generators from the Chapter 5A connection process. These generators would have been required to utilise the Chapter 5 connection enquiry process.

The Commission considers that there should not be a distinction between small generating units that are part of an MSGA and those that are non-market for the purpose of connections. Having such a distinction may act as deterrent for newly constructed small generators to contract with an MSGA as doing so could make the connection process more difficult.

Thus, the Commission has decided to amend the proposed rule to clarify the intention in relation to connections. In the draft rule, an MSGA is to be considered an "agent" of any small generating units under its control for the purposes of Chapter 5A.

7 Implementation

A key consideration for this rule change is the implementation of a framework for MSGAs and the obligations that will apply to them. Three key issues have been identified:

- the appropriateness of CDEII requirements for MSGAs;
- the necessary metering arrangements for small generating units classified as market generating units; and
- whether MSGAs should pay ancillary service fees.

7.1 Carbon Dioxide Equivalent Intensity Index

7.1.1 Proponent's view

Currently all market generators are required to report their carbon dioxide emission factor to AEMO, who uses the information to calculate jurisdiction and NEM wide CDEII values. AEMO proposed in their rule change request that small generating units should not be considered market generating units for the purposes of the CDEII. Thus SGAs would be exempt from CDEII reporting requirements.

The proponent stated that requiring SGAs to undertake carbon dioxide reporting would represent a costly administrative burden on both AEMO and the SGA.[49] AEMO also pointed out that currently exempt generators do not report their emissions.[50] Therefore requiring SGAs to report carbon emissions will lead to an additional cost paid by small generators under the SGA framework but not by non-market small generators.

7.1.2 Stakeholder views

Stakeholders were generally supportive of the proposal to not require SGAs to report under the CDEII. City of Sydney, EnerNOC, LMS and TRUenergy all agreed that SGAs should be exempt for the reasons given by AEMO.[51] Haron Robson and the CEC both added the view that small generators would generally have a lower carbon intensity than the grid average.[52] Hence the contribution of carbon dioxide emissions from these generators will be very small compared to the NEM total. CEC also noted that the generation and hence carbon emissions of SGAs in the NEM is expected to be low. If in

49 AEMO, *Small Generation Aggregator Framework rule change request*, December 2011, p7.

50 Ibid, p7.

51 City of Sydney, Consultation paper submission, p1; EnerNOC, Consultation paper submission, p2; LMS, Consultation paper submission, p2; TRUenergy, Consultation paper submission, p2.

52 CEC, Consultation paper submission, p3; Haron Robson, Consultation paper submission, p1.

the future SGAs become significant then the issue may need to be revisited at that point.[53]

United Energy's submission indicated broad support for the concept of exempting SGAs from the CDEII. However, United Energy was concerned that if the SGAs become a large enough proportion of the market then they may compromise the national statistics. Therefore United Energy proposed that if SGAs expand to a large enough size, as determined by exported energy, then they should report under the CDEII.[54]

7.1.3 Conclusion

The Commission has decided to include the exemption for small generation in the draft rule as proposed. The Commission agrees that placing a requirement on MSGAs to report will lead to an unreasonable level of administrative workload for the reasons stated in the proposal.

Furthermore the Commission notes that it would likely be more difficult for an MSGA to calculate the CDEII than for an equivalently sized generator. This added difficulty is because:

- an MSGA is likely to have a portfolio of multiple different small generating units with different fuel intensities and fuel types. Therefore calculating a CDEII emission factor would involve determining a separate emission factor for each technology; and
- many small generating units would be trigeneration or cogeneration facilities which generate different types of energy, such as heating, as well as electricity. It may be difficult for the operators of such units to determine what percentage of total emissions to allocate to generated electricity and thus report to AEMO.

The Commission has also decided that it will not set a limit for an MSGA's exported energy, above which the MSGA must undertake CDEII reporting as proposed by United Energy. This is because the penetration of small generators from the rule change is expected to be relatively low. In the rule change request AEMO estimates 150MW of new capacity being added in the course of the next three years due to this rule change.[55] This figure represents less than half a per cent of current NEM generation capacity. Hence it will be highly unlikely that the penetration of MSGAs will be high enough to noticeably affect the market wide CDEII figure. Even the most optimistic estimate of new entry would only result in 216 newly trading small generating units, representing less than one per cent of the NEM capacity.[56]

53 CEC, Consultation paper submission, p4.

54 United Energy Consultation paper submission, p3.

55 AEMO, *Small Generation Aggregator Framework rule change request*, December 2011, p11

56 GlobalNRG, Consultation paper submission, p1.

The Commission was also concerned that any upper limit to an exemption from the CDEII may act as a cap on the total generation traded by an MSGA. Selling any more power than the CDEII reporting limit would result in a requirement to determine emission factors for an entire portfolio. Hence a market distortion may eventuate if MSGAs were to maintain an annual power output just below the reporting requirement. For example, MSGAs may refuse to include small generating units with relatively large expected output in their portfolios. Placing an arbitrary value for inclusion in the CDEII may therefore lead to inefficient outcomes for small generation owners, MSGAs and consumers.

Note that the draft rule exempts all small generating units from the CDEII reporting requirements irrespective of whether they participate in the NEM directly or indirectly through an MSGA.

7.2 Metering

7.2.1 Proponent's view

The rule change request from AEMO stated that as SGAs would become Market Participants they would be required to:

- provide compliant metering; and
- be the Responsible Person for any metering installations in situations where the DNSP hasn't taken on the role.[57]

Hence AEMO did not propose that any different criteria apply to SGAs compared to other Market Participants in relation to metering.

7.2.2 Stakeholder views

Ausgrid noted that the rule change proposal implies that the "existing arrangements would continue to apply".[58] Mark Johnston stated that making the DNSP the Responsible Person of SGA connections may lead to a reduction of innovation.[59] The NGF were concerned that SGAs could avoid participant fees by running generation through the same meter as any serviced load and thus use the two flows to counter one another.[60]

57 AEMO, *Small Generation Aggregator Framework rule change request*, December 2011, p6

58 Ausgrid, Consultation paper submission, p2.

59 Mark Johnston, Consultation paper submission, p4.

60 NGF, Consultation paper submission, p4.

7.2.3 Conclusion

The Commission has decided to include a requirement in the draft rule that all small generating units classified as market generating units must comply with the metering requirements of non-market generating units in clause 7.3.1(i). These requirements include that the metering installation is capable of registering bi-directional flows and recording interval energy data.

As a Market Participant, the MSGA will be the Financially Responsible Market Participant of any type 1-4 metering equipment, as required by Chapter 7 of the NER. As such the MSGA can either choose to be the Responsible Person or request the local DNSP be the Responsible Person for any such metering installation.

Furthermore the draft rule separates the role of the MSGA and the role of the retailer (for any associated load). Therefore each entity would be the Financially Responsible Market Participant for their respective meters. In situations where a load and small generator are on the same premises the MSGA would be the Financially Responsible Market Participant for the small generating unit's metering installation, while the retailer would separately be the Financially Responsible Market Participant for the load's metering installation. Hence the NGF's concerns that load could be netted off generation will not occur because the MSGA and the retailer will each be required to measure energy sent out and energy consumed, respectively.

However the rule change may make the situation where multiple Financially Responsible Market Participants use the same metering installation more likely. Depending on the physical arrangement of the premises and the type of metering installation, there may be multiple information flows through a single metering installation with two respective Financially Responsible Market Participants. Where this occurs, a single Responsible Person must be nominated. This creates the potential for conflicts where the different Market Participants cannot agree on a Responsible Person to nominate.

Resolving this issue is outside the scope of this rule change request. However, possible solutions are being considered by the AEMC as part of the *Power of Choice* review and the *Review on Energy Market Arrangements for Electric and Natural Gas Vehicles*.

7.3 Ancillary Service Fees

7.3.1 Proponent's view

AEMO proposed that the SGAs should not have to pay for ancillary services. AEMO stated that as non-market small generators do not pay ancillary service fees then requiring SGAs to do so would represent a barrier to entry for small generators intending to enter the market.[61]

61 AEMO, *Small Generation Aggregator Framework rule change request*, December 2011, p7.

7.3.2 Stakeholder views

The NGF indicated that they were concerned about the proposal from AEMO that SGAs were not to be charged for Frequency Control Ancillary Services (FCAS). They were concerned that the rapid start up and shut down of small generators may cause frequency problems that scheduled generators and Market Customers would have to pay for through increased FCAS payments.[62]

7.3.3 Conclusion

Generators in this range are already connected to the network with no ancillary service payments. Furthermore AEMO is able to place conditions on the exemption from registration as a Generator where it considers there is a potential security risk. Therefore the AEMC agrees that MSGAs should be exempt from ancillary service payments for the reasons given by AEMO.

62 NGF, Consultation paper submission, pp3-4.

8 Transition

8.1 AEMO's Procedures

8.1.1 Rule Proponent's View

AEMO has indicated that if the rule change is to come into effect then it needs to amend some of its systems and procedures.[63] AEMO proposed that for timely implementation of the rule change it should begin some changes during the rule making process.

AEMO proposed that the rule includes transitional arrangements for the alteration of:

- MSATS procedures;
- participant fees;
- CDEII procedures; and
- ancillary services fees.

MSATS

The proposal indicated that SGAs are to be administered through MSATS and hence an update will be necessary for the implementation of this rule change. AEMO proposed to begin the standard consultation for the relevant alterations before the release of the Commission's final rule determination. This would allow any necessary changes to be ready for release as part of the next tranche of updates to the procedures.

The proposed provisional arrangements had two purposes:

- to impose an obligation on AEMO to amend MSATS to take effect from the commencement date of the rule; and
- to recognise any action taken by AEMO prior to the commencement date specifically in relation to the amendment of the MSATS procedure.

Participant Fees

AEMO proposed that participant fees would not be charged to SGAs for the initial period until AEMO has done the necessary upgrades, which is expected to be the middle of 2013.[64] After this, participant fees would be calculated with SGAs treated as if they were negative Market Customers. Therefore SGAs would be charged a fee based on the amount of energy generated.

63 AEMO, *Small Generation Aggregator Framework rule change request*, December 2011, p9.

In 2015 AEMO will undertake a review of how best to calculate SGA participant fees as part of its broader 5-yearly participant fee review. The outcome of this review will determine the fees paid by SGAs from 2016 onwards.[65]

CDEII

AEMO also proposed beginning alterations to the CDEII procedures as described in section 7.1. AEMO wished to shorten the consultation process for these changes as it would be bringing the CDEII into line with the amended rules. As the AEMC is presently consulting on the rule change AEMO considered there would be no need to repeat this consultation. Hence AEMO's rule proposal would:

- impose an obligation on AEMO to amend the CDEII to take effect from the commencement date of the rule;
- remove the requirement for AEMO to consult using the rules consultation procedures in relation to changes to the CDEII procedures for this rule change; and
- recognise any action taken by AEMO prior to the commencement date specifically in relation to the amendment of the CDEII procedure.

Ancillary services fees

Excluding SGAs from ancillary services would require changes to AEMO's IT systems that will take time to complete. To resolve this issue AEMO proposed that:

- in the initial period small generators be included as market customers in the calculation of ancillary services. AEMO noted that this would lead to SGAs receiving some small payments in this time which AEMO anticipates would be less than $10,000 a year;[66] and
- when the necessary IT changes had been finalised, which is expected to be by mid 2013, AEMO would no longer include SGAs in their ancillary fee calculations. AEMO would inform all Market Participants, including SGAs, in writing when they were able to make the necessary alterations.[67]

8.1.2 Stakeholder views

The City of Sydney and the CEC stated that they were in favour of any actions that would speed up the implementation of the rule.[68] EnerNOC called the proposed

64 Ibid, p6.

65 Ibid, p7.

66 ibid, p7.

67 Ibid, p7.

68 City of Sydney, Consultation paper submission, p2; CEC, Consultation paper submission, p5.

participant fee structure "inelegant" but indicated that they were not going to raise objections as the amount of money involved is likely to be low.[69] United Energy did not oppose the transitional arrangement but stated that care must be taken to make sure there are no unintended consequences of any changes to the transitional arrangements.[70] United Energy also noted that placing many small generators under the control of an SGA may make it easier for AEMO to collect participant fees than if they were being collecting from multiple individual units.[71]

Ausgrid were opposed to the proposed transitional arrangements. They stated that it is inappropriate that the specific details of the obligations DNSPs would have in the eventuality of this rule change being accepted have not been made apparent. Ausgrid further note that a rule change request which changes the structure of the market procedures should include a summary of the details in the original proposal.[72]

8.1.3 Conclusion

The Commission considers that, in principle, it is appropriate for there to be some transitional measures to allow AEMO to begin preparation for implementing the framework before the rule change is made. AEMO is already permitted to make changes to MSATS, participant fees and CDEII procedures provided it acts in accordance with the relevant rule requirements.

Furthermore AEMO is not planning to shorten its standard consultation processes for the relevant changes to MSATS and participant fees. Therefore Registered Participants such as Ausgrid, who are concerned about potential consequences of a proposal, are able to raise their concerns with AEMO through the standard consultation procedures.

The only transitional arrangement that seeks to permit AEMO to diverge from the rules is the proposal relating to changes to the CDEII. This proposed transitional provision would allow AEMO to undertake a shortened consultation period to meet the requirements of the rule change. The Commission agrees that this approach is appropriate as the changes to the CDEII procedures are being consulted on as part of the AEMC rule making process.

The transitional arrangement proposed by AEMO regarding ancillary service fees appears appropriate. The existing IT systems must be changed before an MSGA can be exempt from paying ancillary service fees. Therefore, MSGAs can be included as market customers in the interim.

While the Commission approves of the intention of the transitional arrangements, a number of changes were made to the drafting. These changes included removing retrospective obligations on AEMO as was originally requested. This is because the Commission is unable to require entities to undertake actions prior to the

69 EnerNOC, Consultation paper submission, p3.

70 United Energy, Consultation paper submission, p5.

71 United Energy, Consultation paper submission, p4.

72 Ausgrid, Consultation paper submission, p2.

commencement of the rule. Rather, AEMO has a requirement to amend and publish its systems and procedures as soon as practicable after the commencement of the rule.

An additional transitional arrangement was included in relation to the Metrology Guidelines published by AEMO. Similar to the other transitional arrangements, the draft rule requires AEMO to amend its metrology procedures as soon as practicable after commencement of the rule so that references to a Generator also include references to SGAs.

8.2 Transferring from non-market to market generation

8.2.1 Stakeholder views

TRUenergy and LMS raised concerns that the owners of small generators may have difficulties in transferring from a direct non market contract with a retailer to being part of an SGA. These businesses were concerned that the exemption from registration from AEMO for generators in the 5-30MW band were sometimes held by an intermediary (the retailer). If a small generator wanted to contract with an SGA the small generator might be required to reapply for exemption from registration which could be a barrier to market participation. Hence TRUenergy and LMS proposed that the exemption from registration should automatically switch over from the intermediary to an SGA as a transitional arrangement.[73]

8.2.2 Conclusion

The Commission has decided not to include a transitional arrangement that allows automatic transfers of exemptions from intermediaries to MSGAs. The generation profile for a small generating unit may be different, depending on whether the generator is market based or directly contracted with a retailer. Hence it is appropriate for AEMO to be able to re-examine the conditions of the exemption from registration when the generator's category changes. Therefore any generators that are currently non-market that wish to transfer from a retailer contract to an MSGA will have to reapply for an exemption where it is required.

73 TRUenergy, Consultation paper submission, p3; LMS, Consultation paper submission, p2 .

9 Request for exemption from registration

9.1 Rule Proponent's view

As part of the proposal AEMO indicated that "where AEMO is require [sic] to approve the exemption of a small generating unit (currently for those units above 5MW and less than 30MW), a fee to approve the exemption would still apply".[74] Therefore the rule change proposal was explicit that the intention was to retain the current requirement for applicants to apply for exemption from registration from AEMO.

9.2 Stakeholder views

Origin considered that all small generators that registered through an MSGA should have a standing exemption from registration. Origin noted that information on such generators would be available to AEMO through MSATS. This proposal was intended to further reduce costs for small generators.[75]

Furthermore Origin proposed that SGAs should have a non-market option. This would allow small generators to have their details registered in MSATS by the SGA and avoid having to undertake the exemption process, while also avoiding any additional costs associated with market participation.

The purpose of Origin's proposed changes to the rule would be to reduce the administrative load on small generators between 5MW and 30MW that do not want to participate in the market. Under Origin's proposal, neither the SGA nor the small generator would need to request an exemption from AEMO for the relevant small generator. Origin stated this would lead to lower barriers for small generators to undertake non-market contracts.

9.3 Conclusion

The Commission is not including any provisions to allow automatic exemption for small generators as part of this rule change. The primary reason for this decision is the potential for system security to be negatively affected.

The application for exemption for registration by a generator with a capacity of 5-30MW but with an output less than 20GWh a year is important for the maintenance of system security. The request for exemption provides AEMO with important information about the location and capacity of small generators and allows them to assess any impact on system security. Furthermore, the ability to impose conditions on any exemptions allows AEMO to consider individual cases, taking into account factors such as the expected impact of that generator at the location, and maintain system security.

74 AEMO, *Small Generation Aggregator Framework rule change request* , December 2011, p7

75 Origin, Consultation paper submission, p2

Under Origin's proposal, AEMO would have limited information on small generators, in the range that currently require an exemption application and would not have any control over the conditions under which the generators operated.

Consequently, the Commission has determined that the draft rule will require all generators between 5-30MW with generation less than 20GWh a year to continue to request an exemption from AEMO. MSGAs will only have the ability of adding generators with a capacity less than 5MW without seeking exemption. As a consequence there is no reason for non-market MSGAs to be created as these will not serve any purpose.

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CDEII	Carbon Dioxide Equivalent Intensity Index
CEC	Clean Energy Council
DNSP	Distribution Network Service Provider
ERAA	Energy Retailers Association of Australia
FCAS	Frequency Control Ancillary Services
MCE	Ministerial Council on Energy
MSATS	Market Settlement and Transfer Solution
MSGA	Market Small Generation Aggregator
NECF	National Energy Customer Framework
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NGF	National Generators Forum
SCER	Standing Council on Energy and Resources
SGA	Small Generation Aggregator
VCEC	Victorian Competition and Efficiency Commission

A Summary of issues raised in submissions

Stakeholder	Issue	AEMC Response
Ausgrid	Note that the current metering arrangement will apply for SGAs. p2	The draft rule includes some clarification on how metering shall operate for MSGAs. See section 7.2 for details.
Ausgrid	Do not approve of the transitional arrangements. Believes that AEMO should of been specific on the details of possible alterations to MSATS procedures in the proposal. p2	For all the transitional arrangements except to those to the CDEII, AEMO will be following its standard consultation procedure as discussed in section 8.1. Therefore there will be opportunities for Ausgrid or any other participant to raise concerns with the details. The CDEII changes are being consulted on as part of the rule change procedure.
Ausgrid	Uncertain on how the AEMC will assess any reduction in infrastructure spending by DNSPs, as demand may not be in the same time or place as generation. pp2-3	As elaborated in section 5.3.4 the Commission considers that there will be no significant reduction in infrastructure spending due to this rule change. This is because there shall be no locational signal for the small generating unit as a result of the rule change. Furthermore peak network demand is not always at the same time as the peak spot price.
Ausgrid	Concerned about the potential for contradiction between the proposed rule and the NECF connection rules.	The Commission has clarified the MSGAs' role in Chapter 5A of the NER which is being introduced as part of NECF. As section 6 discusses MSGAs will be defined as agents of the small generating units. This should allow the small generating units to connect using Chapter 5A if appropriate.
Ausgrid	Notes that while it is outside the scope of the rule change, increasing the number of embedded generators may lead to a number of complications for networks. Recommends that a review of the impacts of embedded generation on networks be undertaken. Further note that responsibility for network reliability lies with the DNSP. This is why they closely monitor any new connections from	Agree that these issues are out of scope of the rule change. However we note that the issue of deep connection costs and who will fund them is being examined as part of the *Connecting embedded generators* rule change process.

Stakeholder	Issue	AEMC Response
	embedded generators pp3-4	
Ausgrid	The NER does not adequately address embedded networks. AEMO recommended that the MCE conduct a review on the issue in 2010. Since this time no action has been taken and the rule change may exacerbate these existing issues around embedded networks. p4	This issue is outside the scope of the rule change and it is also being considered as part of the *Power of Choice* and *Energy Market Arrangements for Electric and Natural Gas Vehicles* reviews
Clean Energy Council	The SGAs should not be included in the CDEII. This is as SGAs will be low emitting technology types and the low expected penetration of small generators in the NEM. pp3-4.	As examined in section 7.1 the AEMC agrees that MSGAs should be exempt from CDEII requirements.
Clean Energy Council	The NECF framework will allow DNSPs to recover network costs from embedded generators. Hence any costs to DNSPs should be offset. p4	The issue of deep connection costs and who will fund them is being examined as part of the *Connecting embedded generators* rule change process.
Clean Energy Council	There may be a small decrease in air quality in central business districts if many diesel generators are simultaneously operating to sell electricity during a peak price period. p5	The rules are technology neutral.
Clean Energy Council	The risk of problems occurring during a delay after rule implementation but before the civil penalty provisions are approved is minimal. p5	The AEMC notes the point.
EnerNOC	The rule change only deals with three of the principles outlined by AEMO in the *Small Generator Framework Design*. p2	The AEMC notes this point.
EnerNOC	The rule change will benefit other Market Participants by reducing AEMO's workload, lowering pool price and reducing the amount of	The rule change may lead to a reduction in AEMO's workload and costs as it will no longer have to register individual small generating units. However any reduction in pool price and infrastructure requirements

Stakeholder	Issue	AEMC Response
	necessary spending by DNSP. pp1-2	would likely be minimal. For more details on these points see section 5
EnerNOC	Even if a small generator doesn't join an SGA, the ability to do so gives a better negotiating position with retailers. p2	The Commission agrees that the draft rule should provide greater flexibility for small generator owners.
EnerNOC	AEMO may need to improve its modelling to account for additional embedded generation. However such work is already underway. p3	The AEMC notes this point.
EnerNOC	Agrees with AEMO's proposed transitional arrangements but believes the participant fee structure is inelegant. p3	Noted. For a full discussion of the transitional arrangement for AEMO's procedures see section 8.1.
GlobalNRG	216 generators with a combined capacity of 119,836,800MWh would be expected to enter the market over the next three years. pp1-2	The AEMC considers that there could be an increase in small generation in the market from this rule change but it is difficult to predict due to the existence of other barriers. This issue is discussed in section 5.3.2.
Haron Robson	There are barriers to entry for trigeneration into the NEM due to the complexity of the process. Hence many generators have been installed but are islanded.p1	The AEMC agrees that the current system includes barriers to the market participation of small generation. The Commission's considerations are elaborated in section 5.3.1.
Haron Robson	There is a shortage of qualified staff. SGAs will allow their knowledge to be spread more evenly across the market. p1	The AEMC notes this point.
Haron Robson	The majority of small generators will be located near demand centres. This should reduce required network infrastructure spending.	As elaborated in section 5.3.4 the Commission considers that there will be no significant reduction in infrastructure spending due to this rule change. This is because there shall be no locational signal for the small generating unit as a result of the rule change. Furthermore peak network demand is not always at the same time as the peak spot price.

Stakeholder	Issue	AEMC Response
Haron Robson	Doesn't believe there will be any adverse impact on the business model of any NEM participant. p1	The AEMC notes this point.
LMS	Every time the Financially Responsible Market Participant of a generator changes it must be reregistered. This makes it difficult for small generators to transfer to a more preferable direct contract. p1.	The AEMC notes this point.
LMS	Lowering market barriers may increase innovation in small generators. p3	The AEMC notes this point.
LMS	An additional transitional arrangement should be added to allow currently exempt generation to automatically transfer their exemption from an intermediary retailer to an SGA. p3	The AEMC has not included an automatic transition of exemption from registrations. See section 8.2 for more detail.
Mark Johnston	Agrees with the intent of the rule change but has reservations that it is too focussed on the Market Participant and not on the owner of the generating unit. p1	The AEMC notes this point but considers that the structure of the draft rule is appropriate.
Mark Johnston	The owner of both a generating unit and a load should have the option of having separate bodies be the load's retailer and the generating unit's SGA. p1, p3	Agreed. This principle is consistent with the draft rule.
Mark Johnston	Potentially a sliding scale of fees depending on generation size could be used in generation registrations. p2	Undertaking such a scheme will require AEMO to examine generators at a different level of thoroughness for each point on the scale. Therefore a examination of the requirements will be needed and transitional costs may be large. There is no evidence that making such a change will better meet the NEO then the draft rule.

Stakeholder	Issue	AEMC Response
Mark Johnston	Questions whether SGAs be trading their energy on the spot market or contracting for network services. p3	Expect that SGAs will be operating on the spot market because of the diversity in the location of individual generating units.
Mark Johnston	Enquires how the rule change will affect the current arrangements for exempt generation with direct contracts with retailers. p3	Generators that are exempt from registration will continue to be able to contract directly with retailers for a fixed price for their electricity.
Mark Johnston	Metering arrangements will have to be considered. A type 4 or better meter will be necessary for all small generating units. If DNSPs is the Responsible Person there will be low drivers of ongoing improvements p4	The Commission has decided that the accuracy requirements must be equivalent to a type 1-4 meter, though we note that some type 5 meters meet these requirements. An MSGA can install a type 1-4 meter and nominate themselves as the Responsible Person. Metering is discussed in section 7.2.
Mark Johnston	The rule change could allow AEMO to better forecast demand. p4	The AEMC notes this point in section 5.
National Generators Forum	If the costs of registration for generators are too high then it should be reviewed for all generators. p2	The reason the cost is too high for small generators is that their size does not justify the expense of the information collected by AEMO in the registration process. This is why they have the option of being exempt from registration. If there are concerns on the information collected for larger generation then this could be the grounds of a separate rule change request. This issue is examined in greater detail in section 5.2.1.
National Generators Forum	Volatility in the wholesale market is beneficial. Peak prices drive investment in generation technologies and hence introducing small generation peaking plant may lead to a loss in dynamic efficiency. p2	As described in section 5.3.3 if the existing capacity of a small generating unit is used instead of investing in more expensive peaking pant, then dynamic efficiency is improved.
National Generators Forum	This rule change implies the removal of the connection technical requirements in the NER for some generators. However no assessment was	The connection requirements for small generating units are unaltered by this rule change.

Stakeholder	Issue	AEMC Response
	stated in the rule change request on the potential impacts of such with connections. p3	
National Generators Forum	It is not clear what technical standards will apply to small generating units. Of particular note is fault ride through. p3	The current standards for exempt from registration generation will continue to apply.
National Generators Forum	Concerned about AEMO's capacity to identify issues in dispatch with limited information. This could make the process for directing SGAs difficult. Enquires whether the SGA get payment if given a direction. p3	It is not envisaged that AEMO will give directions to MSGAs.
National Generators Forum	The rule change may cause frequency problems as small generators are turned on/off en masse to meet peak prices. If they are not charged for FCAS these costs could be passed on to other Market Participants. p3	Generators that are exempt from registration are currently not charged for FCAS with minimal security concerns. The size of small generators should mean that their impact on ancillary markets should be minimal. This is elaborated in section 7.3.
National Generators Forum	Concerned with the possibility that SGAs may alternate between generating and purchasing electricity to avoid paying participant fees. p4	This behaviour should not be possible as the load for a retailer and the MSGA's generation shall be metered separately. See section 7.2 for details.
National Generators Forum	If the AEMC determines there is a social good in small generation, then the small generators should be directly subsidised by customers. p4	This rule change includes no subsidy.
Origin	Many small generators are currently on non-market fixed price contracts with retailers which provide certainty of returns to the generators.p1	The AEMC notes this point.
Origin	Being a Market Participant adds compliance costs to small generators. p1	Owners of small generators will continue to have a choice to contract directly with a retailer. If they opt to contract with an MSGA, it is the

Stakeholder	Issue	AEMC Response
		MSGA that will be responsible for any compliance costs.
Origin	Considers that small generating units as part of an SGA should not have to register with AEMO if they meet the exemption criteria. Furthermore there should be a non market options for SGA to undertake direct contracts with retailers. p2	The draft rule does not alter the requirement for a generator between 5-30MW to request an exemption from AEMO. This requirement is necessary for system security. Small generators that do not wish to participate in the spot market can continue to contract directly with a retailer. See section 9 for more detail on this issue.
Origin	The 20GWh/year generation limit for exempt generators means that small generators will be unable to operate with a high capacity factor. Thus this limit should be raised. pp2-3	The 20GWh/year requirement is at the discretion of AEMO as per NER2.2.1(c). Any request to alter this criteria should be made to AEMO.
TRUenergy	Every time the Financially Responsible Market Participant of a generator changes it must be reregistered. This makes it difficult for small generators to transfer to a more preferable direct contract. p1	The AEMC notes this point.
TRUenergy	Do not believe that the rule change will in its own right increase participation. However even a competition benefit will meet the NEO. pp1-2.	The AEMC considers that there could be an increase in small generation in the market from this rule change but it is difficult to predict due to the existence of other barriers. This issue is discussed in section 5.3.2.
TRUenergy	Believes that SGAs should not be included in CDEII. p3	As examined in section 7.1 the AEMC agrees that MSGAs should be exempt from CDEII requirements.
TRUenergy	Full benefits on wholesale price may not be seen if the small generating units aren't in the central dispatch. p2	The AEMC considers that including SGAs in central dispatch may be difficult due to the geographical spread of their portfolio.
TRUenergy	An additional transitional arrangement should be added to allow current exempt generation to automatically transfer their exemption from an	The AEMC has not included an automatic transition of exemption from registrations. See section 8.2 for more detail.

Stakeholder	Issue	AEMC Response
	intermediary retailer to an SGA. p3	
United Energy	Exemption of small generators from the CDEII may be inappropriate if they become a large enough part of the market. Recommend there be a maximum generation for any exclusion from CDEII. pp3-4	The Commission has decided not to place a maximum generation value on the exemption to report CDEII values. This is because such an action may result in a cap on the size of MSGAs. This issue is elaborated in section 7.1
United Energy	The SGA framework may lead to some embedded generators being paid twice due to payments received through the Reliability and Emergency Reserve Trader. p5	Currently AEMO is required to be satisfied that no entities that receive payment due to the Reliability and Emergency Reserve Trader also receive payment from the market (see NER 3.20.8(3)). This requirement will not change.
United Energy	Care should be taken with any amendment to market procedures made as part of the transitional arrangements.	Noted. The transitional arrangements are described in section 8.1.