Australian Energy Market Commission

RULE CHANGE

CONSULTATION PAPER

National Electricity Amendment (Connecting embedded generators) Rule 2012

Rule Proponent(s)

ClimateWorks Australia
Seed Advisory
Property Council of Australia

14 June 2012

STEVEN GRAHAM
Chief Executive
For and on behalf of the Australian Energy Market Commission

Inquiries

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

E: aemc@aemc.gov.au
T: (02) 8296 7800
F: (02) 8296 7899

Reference: ERC0147

Citation

Australian Energy Market Commission 2012, Connecting embedded generators, Consultation Paper, AEMC, 14 June 2012, Sydney

About the AEMC

The Council of Australian Governments, through its Ministerial Council on Energy (MCE), established the Australian Energy Market Commission (AEMC) in July 2005. 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 MCE.

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1 Introduction

On 18 April 2012, ClimateWorks Australia, Seed Advisory and the Property Council of Australia (proponents) submitted a rule change request to the Australian Energy Market Commission (AEMC or Commission) in relation to the connection of embedded generators in the National Electricity Market (NEM).

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

This paper:

- sets out a summary of, and a background to, the rule change request;
- 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

This rule change request relates to the process for connecting embedded generators in the NEM. Embedded generating units are electricity generating units that are connected within a distribution network and do not have direct access to a transmission network.[1] There is a variety of embedded generation technologies, many of which have the potential to provide benefits to consumers and the market. This chapter provides background information on the provisions relating to connecting embedded generators.

2.1 Connection processes provisions

A person wishing to connect to the distribution network needs to apply to the relevant distribution network service provider (DNSP or distributor). Registered participants must follow the connection enquiry and application process under Chapter 5 of the National Electricity Rules (NER or rules).[2]

Not all embedded generators would be registered participants. This is because under the provisions of the NER, persons who own, control or operate generating units with a nameplate rating of less than 5MW are exempt from registration as a generator; and those with a nameplate rating of between 5MW and 30MW may apply to the Australian Energy Market Operator (AEMO) for an exemption from registration.[3] Although the Chapter 5 connection process would not automatically apply to embedded generators that are not registered participants, the current provisions provide that any person wishing to establish a connection to a network may elect to follow the connection procedures under Chapter 5.[4]

Chapter 5A, to be introduced as a part of the National Energy Customer Framework, will have provisions for standardised offers to provide basic and standard connection services. This would cover connections for some types of embedded generators.[5]

2.2 Meeting technical requirements

One of the criteria that must be met by a connection applicant is that its installation must meet relevant technical requirements. The NER does not contain 'automatic access' or 'minimum access' technical standards that specifically apply to any type of

1 Under Chapter 10 of the NER, an embedded generating unit is defined as '[a] generating unit connected within a distribution network an not having direct access to the transmission network'.

2 The process under Chapter 5 of the NER applies to connections to both the distribution and transmission networks.

3 Clause 2.2.1 of the NER.

4 Clause 5.3.1 of the NER.

5 Additional discussion of the provisions in Chapter 5 and Chapter 5A are discussed in section 5.1 below.

embedded generation units.[6] Technical requirements that need to be met by embedded generators are those of the particular distribution network that they are seeking to connect to. These technical requirements would be determined by the relevant distributor in accordance with jurisdictional regulations and standards. As a result, there could be different technical requirements in different locations.

6 'Automatic access standard' and 'minimum access standard' are defined under Chapter 10 of the NER:
Automatic access standard: in relation to a technical requirement of access, a standard of performance, identified in a schedule of Chapter 5 as an automatic access standard for that technical requirement, such that a plant that meets that standard would not be denied access because of that technical requirement.
Minimum access standard: in relation to a technical requirement of access, a standard of performance, identified in a schedule of Chapter 5 as a minimum access standard for that technical requirement, such that a plant that does not meet that standard will be denied access because of that technical requirement.

3 Details of the rule change request

The proponents undertook a project in 2011, entitled 'Unlocking Barriers to Cogeneration', to examine barriers facing the deployment of cogeneration in the NEM. The proponents advise that this rule change request seeks to overcome the barriers in the connection process identified through that project.[7]

3.1 Perceived problems

The proponents consider there are a number of problems or barriers to the connection of embedded generators in the NEM, which they have set out in detail in the rule change request.[8] The key points are as follows.

Connection process and terms & conditions

The proponents consider that, although there are connection processes under Chapters 5 and 5A, they are not sufficiently prescriptive to provide certainty to connection applicants. There is uncertainty with respect to whether applications would be successful, the timeframe within which applications would be considered and the overall costs of connection. The proponents note that the connection process can result in significant delays to embedded generation projects.[9]

The proponents also note that the terms and conditions for connection can vary significantly between distributors. The absence of standards terms and conditions are considered to increase the difficulty with which embedded generators are able to anticipate the requirements and costs associated with connections. The proponents also contend that the terms of connection agreements are frequently 'onerous, one sided and not negotiable'.[10]

Technical requirements

Technical requirements or standards for distribution networks are determined in accordance with jurisdictional and local requirements. As a result, the technical standards that apply to embedded generator connections vary between distributors. The proponents consider that at times these technical requirements 'are not clearly and comprehensively identified at the beginning of the connection process' and can therefore result in 'significant costs and undermine the viability' of a project as it

7 Rule change request, pp. 6-7. The 'Unlocking Barriers to Cogeneration' report is published on the proponents' websites including at http://www.climateworksaustralia.org/ClimateWorks_Unlocking_Barriers_to_Cogeneration_Report.pdf.

8 Rule change request pp. 10-13.

9 ibid, p. 11.

10 ibid, p. 13.

impacts the ability of the embedded generator to make relevant commercial decisions.[11]

The proponents also note that 'some technical requirements imposed by DNSPs disallow exports of electricity to the grid'.[12] This can impact project proponents' options with regards to viable solutions they can implement and has resulted in project proponents installing units they consider are not scale efficient.

Connection and augmentation costs

Depending on the specific requirements of the connection application and jurisdictional provisions, embedded generators could be required to contribute to costs to augment the shared network arising from their connection to the network. The proponents consider there is 'a lack of clarity and transparency regarding responsibility for, need for and the costs of augmentation to the network'.[13] They further note that, at times, the costs associated with a connection could be 'prohibitively expensive'.[14]

3.2 Proposed changes and rationale

To address the issues they have identified, the proponents propose a number of amendments to Chapter 5 of the NER. The rule change request includes a proposed rule.

The rule change request proposes to address the following:

- **Connection process and terms & conditions** - amend the connection process to have more prescriptive timeframes for distributors to provide responses; require distributors to publish standard information requirements; and require distributors to set out standard terms for embedded generation connections.[15]
- **Technical requirements** - introduce an automatic access standard for embedded generators;[16] and give embedded generators the right to export electricity to the network.
- **Connection and augmentation costs** - exclude embedded generators from paying shared network augmentation costs; allow network service providers the option to charge a fee for service to provide services to embedded generation proponents at the project development stage.

11 ibid, p. 12.

12 ibid

13 ibid, p. 13.

14 ibid

15 The rule change request focusses on provisions as applied to distributors. However, the proposed rule is drafted to apply generally to 'network service providers'.

16 The content of such a technical standard has not been included in the rule change request. The technical standard requirements are discussed further below in section 5.2.

- **Other changes** - require distributors to publish annual network reports.[17] and make various other consequential amendments.

In the rule change request the proponents provide their rationale for the rule change. A number of key points raised in the rule change request are summarised as follows:[18]

- The proposed changes would improve the efficiency of the connection process and thereby improve static efficiency and reduce transaction costs for demand side proponents as well as distributors. The potential for greater innovation in the financing and operation of cogeneration would also be improved by providing clearer timeframes for connection and transparency on the scope of costs.

- Cogeneration is an efficient form of energy supply and can reduce overall energy consumption and energy costs to customers of the cogeneration installation and to electricity customers more generally. Cogeneration also produces fewer carbon emissions compared to coal and they can also increase the security of supply in some cases. This rule change request reduces unnecessary barriers to the adoption of cogeneration and encourages investment by providing lower costs and better investment returns.

- The current approach to shared network augmentation costs is inequitable as it is on a 'last in, worst dressed' basis. Connection applicants that require marginal augmentation are penalised and consideration is not given to the contribution to network requirements of previous connections.

17 The proponents acknowledge that the requirement for distributors to publish annual reports are being considered under the distribution network planning and expansion framework rule change. The proponents consider that the proposed rule under the network planning rule change would address their requirements.

18 Rule change request, pp. 20-22

4 Assessment framework

The Commission's assessment of this rule change request must consider whether the proposed rule promotes the National Electricity Objective (NEO) as set out under s.7 of the National Electricity Law (NEL). The NEO states:

> "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."

In assessing the rule change against the NEO, the Commission's consideration will include whether the proposed changes will lead to:

- lower costs for embedded generators and distributors;
- more efficient investment outcomes including providing clearer, more cost-reflective price signals;
- clearer, more transparent connection processes for connections to distribution networks to be completed in a timely manner; and
- clearer, more transparent processes for determining connection costs that are consistent with the revenue and pricing principles.

The rule change request will be compared with the status quo (or counterfactual), which in this case are the current provisions under Chapter 5 of the NER (and proposed Chapter 5A where relevant).

5 Issues for consultation

Taking into consideration the assessment framework and potential requirements to implement the proposed rule change, a number of issues for consultation appear to be relevant. These specific issues are raised giving consideration to the problems described by the proponents as well as the details of the proposed rule which has been submitted as a part of the rule change request.

These 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 including the proposed framework.

5.1 Connection process

Chapter 5 of the NER sets out, among other things, the procedure and requirements for connecting to the transmission and distribution networks. The provisions apply to registered participants or intending participants.[19] However, any person can elect to use the connection process set out under rule 5.3 (see section 5.1.1 below).[20] If a non-registered embedded generator does not elect to use the connection process under Chapter 5, jurisdictional processes would apply. The proponents note that the connection process could vary between distributors, even those in the same jurisdiction.[21]

Chapter 5A of the NER, which is to be introduced as a part of the national energy customer framework, has been developed to provide for more standardised connection processes for some types of embedded generators. Under Chapter 5A, distributors will be required to develop 'model standing offers' for micro-embedded generators, which are typically installations with a nameplate rating up to 10kW.[22] Distributors will also have the option to develop standing offers for other types of embedded generator categories (potentially categories for installations between 10kW and 30MW).[23]

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19 Under clause 2.2.1 of the NER, installations that are less than 5MW are exempt from registration and installations from 5MW to 30MW may apply to AEMO for an exemption.

20 Clause 5.3.1(c) of the NER.

21 Rule change request, pp. 10-12.

22 Under Chapter 5A a 'model standing offer' is defined as a document approved by the AER as a model standing offer to provide 'basic connection services' or as a model standing offer to provide 'standard connection services'. A basic connection service is a service provided to a micro embedded generator and a standard connection service is a connection service provided for a particular class of connection applicant for which a model standing offer has been approved by the AER.

23 Under Chapter 5A a 'micro EG connection' means 'a connection between an embedded generating unit and a distribution network of the kind contemplated by Australian Standard AS 4777 (Grid Connection of energy systems via inverters)'.

Chapter 5A also provides a negotiated connection framework, which would apply for non-registered embedded generators.[24]

The provisions of Chapter 5 compared with Chapter 5A are set out in the following table.

Table 5.1 Provisions under Chapter 5 and Chapter 5A of the NER

Type of installation	Registration requirements	Chapter 5 (connection process and technical requirements)	Chapter 5A
Less than 5MW	Exempt from registration	Chapter 5 provisions do not automatically apply. However, any person can require the network service provider to comply with Chapter 5 and/or elect to use the connection process. Otherwise, jurisdictional processes apply. (Once Chapter 5A has been implemented, a connection applicant can choose between Chapter 5 and Chapter 5A). Jurisdictional technical standards apply.	Chapter 5A applies. Under Chapter 5A distributors must develop 'model standing offers' to apply for 'micro embedded generators', which are typically installations up to 10kW.
5MW to 30MW	Can apply to AEMO for exemption to register as a market participant	If exempt from registration, same provisions as above. (Once Chapter 5A has been implemented, a connection applicant that is exempt from registration can choose between Chapter 5 and Chapter 5A). Chapter 5 provisions apply if registered as a market participant.	Chapter 5A would apply for non-registered embedded generators.
More than 30MW	Must register as a market participant	Chapter 5 applies.	Chapter 5A does not apply.

The proponents consider that Chapter 5 was drafted with large generators in mind while Chapter 5A has 'been designed predominantly to accommodate micro-embedded generators'.[25] They also note that distributors have the discretion, and not the obligation, to establish standing offers for other classes or categories of customers.[26] Consequently, the proponents consider there is a 'clear gap' in the provisions for connection for generators with a nameplate rating of between 10kW and

24 Chapter 5A defines a non-registered embedded generator as 'an embedded generator that is neither a micro embedded generator nor a registered participant'.

25 Rule change request, p. 9.

26 ibid, pp. 9-10.

30MW.[27] Given this gap, the proponents consider the provisions under the NER are 'insufficiently prescriptive to provide certainty to connection applicants'.[28]

Specific issues on the connection process are considered as follows.

5.1.1 Complying with Chapter 5

The proponents suggest that a new clause be inserted in Chapter 5 of the NER to specify that an embedded generator has the right to require a network service provider to comply with Chapter 5.[29] However, there are existing provisions under Chapter 5 that allow any person to agree with a network service provider to comply with Chapter 5 as a part of a connection agreement. The provisions under the NER also provide for any person wishing to establish a connection to a network to elect to follow the procedures under rule 5.3.[30]

Question 1 Complying with Chapter 5

(a) Currently any person can require a network service provider to comply with Chapter 5 or elect to use the connection procedure under Chapter 5. Are there any problems or barriers to how this is applied in practice?

(b) If so, what are the problems and/or barriers? What are the costs and impacts on stakeholders?

(c) How would the proposed amendment to specify that an embedded generator has the right to require a network service provider to comply with Chapter 5 resolve these problems and/or barriers?

(d) Given that any person can elect to use the connection process under Chapter 5, when, and why, do non-registered embedded generators choose not to use this process?

5.1.2 Good faith provisions

The rule change request proposes that a clause be added to Chapter 5 of the NER to require that each party in a connection process 'must act in good faith in relation to connection to a network'.[31] However, there is an existing clause in Chapter 5 that specifies network service providers and connection applicants are entitled to negotiate

27 ibid, p. 10.

28 ibid, p. 11.

29 ibid, p. 23.

30 Clause 5.1.2(b) and clause 5.3.1(c) of the NER.

31 Rule change request, p. 25.

on connection services and that each party 'must conduct such negotiations in good faith'.[32] We are interested in whether the existing 'good faith' provisions are deficient.

Question 2 Good faith provisions

(a) The current NER sets out that network service providers and connection applicants must conduct negotiations in 'good faith'. Are there any problems associated with the application of this provision?

(b) How would the proposed amendment for an additional 'good faith' impact stakeholders?

5.1.3 Information requirements

The rule change request raises a number of issues relating to information provided by distributors. Broadly, the rule change request sets out that proponents of embedded generating projects would benefit from distributors being more transparent with connection requirements. These issues are discussed below.

Publishing details of information requirements

The proponents submit that the information requirements can vary from distributor to distributor and the requirements may change during the course of a project.[33] To provide more clarity to the information requirements, the rule change request proposes that network service providers be required to publish information on their websites about the connection process.[34] This includes an 'application form', a description of the connection process, details about the application fee and how connection charges are to be calculated. In addition, the rule change request proposes that Chapter 5 of the NER specifies that each party 'must provide the other with information the other reasonably requires in order to facilitate connection to the network'.

The proposed changes apply to all network service providers.

Currently, there are no requirements under the NER for network service providers to publish any information on the connection process on their websites.[35] However, network service providers are required to provide information to a connection applicant once an enquiry has been made with them.[36]

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32 Clause 5.3.6(f) states "[b]oth the *Network Service Provider* and the *Connection Applicant* are entitled to negotiate with each other in respect of the provision of *connection* and any other matters relevant to the provision of *connection* and, if negotiation occur, the *Network Service Provider* and the *Connection Applicant* must conduct such negotiations in good faith."

33 Rule change request, p. 12.

34 ibid, p. 26.

35 Schedule 5.4 of the NER sets out the information to be contained in a preliminary enquiry.

36 Clause 5.3.2(b) of the NER states that '[i]f the information submitted with a *connection* enquiry is inadequate to enable the [network service provider] to process the enquiry, the provider must within 5 *business days*, advise the *Connection Applicant* what other preliminary information of the

The distribution network planning and expansion framework (distribution planning) rule change currently being considered by the AEMC may have some overlap with this aspect of this rule change request.[37] The AEMC has published a draft determination on the distribution planning rule change. The draft determination sets out the introduction of the requirement for each distributor to publish a 'demand side engagement document'.[38] The purpose of this document is to encourage distributors to engage with non-network providers in the planning and development process and provide the basis for the development of on-going working relationships between these parties.

The demand side engagement document must set out details of the distributor's processes it adopts for considering non-network solutions and include:[39]

- an outline of the process followed by distributors when negotiating with non-network providers to develop a potential non-network option;
- an outline of the information a non-network provider is to include in a non-network solution proposal including, where possible, an example of a best practice non-network proposal;
- an outline of the principles that the distributor considers in developing the payment levels for non-network solutions;
- a summary of the factors the distributor takes into account when negotiating connection agreements with embedded generators;
- the process used, and a summary of any specific regulatory requirements, for setting charges and the terms and conditions of connection agreements for embedded generating units; and
- the process for lodging a connection application for an embedded generating unit and the factors taken into account by the distributor when assessing connection applications.

kind listed in schedule 5.4 is required before the *connection* enquiry can be further processed'. Under clause 5.5(c)(2) of the NER, a distributor is also required to provide connection applicants 'such information as is reasonably requested to allow the *Connection Applicant* to fully assess the commercial significance of the distribution network user access arrangements' as a part of the offer to connect.

37 For more information on the distribution network planning and expansion framework rule change please see the AEMC website.

38 This draft determination was published on 14 June 2012 and is available on the AEMC website.

39 A select number of points that appear directly related to the issues raised in this rule change request are outlined here. The full required content of the demand side engagement document is set out in detail in the AEMC's draft determination.

Question 3 Publishing details of information requirements

(a) What are the costs and benefits to distributors and embedded generators in requiring distributors to publish information on its connection process including an application form and information on application fees and calculation of connection costs?

(b) How would the proposal to add a clause that each party 'must provide the other with information the other reasonably requires in order to facilitate connection to the network' address any problems? What are the details and examples of the current communication issues that stakeholders have experienced with the connection process?

(c) Noting that there are currently provisions under the NER for the exchange of information, what are the deficiencies of the current arrangements?

(d) Would the demand side engagement document under the distribution network planning and expansion framework rule change address these information requirements?

(e) Should the proposed changes apply generally to all network service providers?

Response to connection enquiries

Currently under the NER a network service provider must respond to a connection enquiry in writing setting out, among other things, all the further information that the connection applicant must provide to enable it to assess the application to connect.[40] We understand embedded generators have experienced the situation where there was confusion as to what information had already been provided to the distributor. To address this, the rule change request proposes that a clarification be made to this requirement so that information requests from the network service provider can only relate to 'information that has not already been provided by the *Connection Applicant* and the information is reasonably necessary to assess the application to connect'.

The proposed rule would apply to all connection enquiries.

40 Clause 5.3.3(c) of the NER.

Question 4 Response to connection enquiries

(a) In stakeholders' experience, have the response that the network service providers provided in response to connection enquiries been clear and reasonable?

(b) Have there been experiences where a connection applicant has been asked to provide information that it has already submitted and, if so, why?

(c) Have there been experiences where a connection applicant has been asked to provide information that it did not consider was 'reasonable'? How was this situation resolved?

(d) To what extent would the requirements for distributors to publish the demand side engagement document resolve any issues?

Information in offers to connect

The NER set out the specific information that must be included in a network service provider's offer to connect.[41] This includes the relevant technical requirements and 'the terms and conditions of the kind set out under schedule 5.6' of the NER.[42] The proponents consider that these provisions should be more specific to provide certainty to the connection applicant about the relevant requirements that it would need to meet. To address this, the rule change request proposes that this clause be amended such that an offer to connect must also include an itemised statement of connection costs including standard connection charges, meter type and cost, costs of system extension, details of upstream augmentation and any other incidental costs.[43] The proposed rule would apply to all network service providers and connection applicants.

The proposed rule would apply to all network service providers and connection applicants.

41 Clause 5.3.6(b) of the NER.

42 In addition to the provisions under schedule 5.6, under clause 5.3.6(j) of the NER, offers to connect made by a distributor to an embedded generator must conform with the relevant access arrangements set out in rule 5.5.

43 Rule change request, p. 27.

Question 5 Information to be included in offers to connect

(a) In practice to date, what information on connection costs are provided in offers to connect? How are the requirement of confirming to rule 5.5 being met? How are the current arrangements deficient?

(b) How would the proposed rule to add an 'itemised statement of connection costs' improve the current arrangements? How would stakeholders be impacted if this requirement were to be introduced?

(c) Should this requirement apply to all types of connections?

5.1.4 Timeframe for completing connections

The rule change request raises two issues relating to the timeframe to complete connection requirements. These issues are discussed below.

Setting out the time to connect in the preliminary program

Currently under the NER, in response to a connection enquiry, the network service provider must provide (among other things) a preliminary program showing proposed milestones for connection and access activities.[44] This preliminary program may be modified from time to time by agreement of the parties. The rule change request proposes that an addition be made to this clause where the preliminary program must include the time by which the network service provider must make an offer to connect or reject a connection application.[45] The proponents have suggested this amendment to provide clearer timeframes to minimise situations where the timeframes for the construction and commissioning of the plants are materially misaligned with the timeframe for connection.[46]

We understand that the proponents are specifically concerned about the connection of embedded generators and hence the preliminary programs provided by distributors. However, as it is drafted, the proposed rule would apply to all connections for distributors and transmission network service providers.

44 Clause 5.3.3(b)(6) of the NER.

45 Rule change request, p. 26.

46 ibid, p. 12.

Question 6 Setting out the time to connect in the preliminary program

(a) Under the current arrangements (either under the NER or jurisdictional arrangements), what are the typical timeframes within which offers to connect are made by distributors?

(b) What are the factors that affect the timeframe for finalising an offer to connect?

(c) Is it feasible or practical to include a specific timeframe to finalise an offer to connect at the time of preparing the preliminary program? What information is currently provided in preliminary programs?

(d) If adopted, should this requirement apply to all connection enquiries?

Providing an offer to connect in 65 business days

Under the NER, a network service provider is required to make an offer to connect within the timeframe outlined in the preliminary program.[47] However, the network service provider is able to amend the timeframe if additional time is required for the negotiation of negotiated access standards.[48]

To provide more certainty to connection applicants and to reduce unnecessary delays, the rule change request proposes that any amendment to the time period for connection should be limited to be no more than 65 business days. That is, the rule change request proposes to add a clarification that any change to the connection timeframe 'must be within 65 working days from the receipt of the application to connect in all cases'. The 65 business day limit currently applies in Victoria for embedded generator connection applications.[49]

The drafting of the proposed rule would apply all connection applications.

47 Clause 5.3.6(a) of the NER. However, as mentioned above, clause 5.3.3(b)(6) provides that parties may agree to modify the proposed milestones under the preliminary program.

48 Clause 5.3.6(a1) of the NER.

49 This is a condition of under the Victorian electricity distribution licence, section 7.1, where offers to connect for embedded generators must be made within 65 business days.

Question 7 Providing an offer to connect within 65 business days

(a) What are the factors that affect the timeframe within which offers to connect may be made? What are the factors that impact the process for negotiating negotiated access standards?

(b) Have there been cases (particularly in Victoria) where 65 business days was not sufficient to finalise an offer to connect? What were the reasons for requiring more than 65 business days?

(c) How would network service providers and connection applicants be affected by the proposed amendment?

(d) Should this requirement apply to all network service providers for all connections?

5.1.5 Terms and conditions

The proponents note that the terms and conditions for connection may vary significantly between distributors.[50] To provide clarity and consistency, they propose that the NER should be amended to make clear that the terms and connections that must be included in a connection agreement are those that are set out in schedule 5.6.[51] Schedule 5.6 sets out the terms and conditions which include, among other things, details of the connection point, metering arrangements, the access standards, and connection service charges.

Clause 5.3.6(b)(2) already specifies that the offer to connect must include 'the terms and conditions of the kind set out in schedule 5.6'.[52] Under this provision, the terms and conditions between distributors may vary. The proponents have identified that the variability in terms and conditions presents difficulties to potential embedded generators as it increases the uncertainty associated with the understanding the preconditions for connection.

Question 8 Terms and conditions of connection

(a) How are the current provisions under clause 5.3.6(b)(2) being applied? That is, are the terms and conditions for connection of the kind as set out in schedule 5.6?

(b) In what ways are varying terms and conditions between distributors a problem? Is it appropriate for distributors to have different terms and conditions? Does this reflect relevant differences in network requirements?

50 Rule change request, p. 13.

51 ibid, p. 24.

52 Clause 5.3.6(b)(2) of the NER.

5.2 Technical standards

Chapter 5 of the NER sets out the technical conditions for the connection of generators.[53] However, these provisions do not apply to generating systems that are subject to, or eligible for, an exemption from registration. In the case where the Chapter 5 technical conditions do not apply, the technical requirements for a connection to the distribution network would be determined by the relevant distributor in accordance with jurisdictional and local network requirements. To provide for greater certainty and timeliness in processing connection applications for embedded generators, the proponents suggest that automatic access standards for embedded generators be developed.[54] The rule change request does not include an actual proposed standard or suggestions of how it may be developed or by whom.

As the technical standard(s) themselves have not been developed, should the proposed rule be adopted, savings and transitional provisions would be required until the technical standard(s) are implemented.

Question 9 Technical standards for embedded generators

(a) Without technical standards currently being in place for embedded generators, how well has the connection process under Chapter 5 worked in practice? How urgently are standards needed?

(b) Would standards for different types/classes of embedded generators be required?

(c) What factors should be taken into consideration in developing such standards? Are there any specific jurisdictional or local requirements?

(d) What should be the scope of such standards? Can all relevant technical requirements be 'standardised'?

5.3 Right to export to the grid

The proponents submit that, in practice, distributors have imposed requirements that inappropriately disallowed embedded generators from exporting electricity to the network.[55] The proponents suggest that reasons for this have included distributors' concerns regarding safety of the network as well as for technical reasons such as there being insufficient 'fault level headroom' in the network. The proponents consider that embedded generators should have the automatic right to export electricity to the grid and propose that the NER be amended to explicitly give embedded generators this right.

53 Schedule 5.2 of the NER sets out the 'conditions for connection of generators'.

54 Rule change request, p. 14.

55 Rule change request, p. 12.

Question 10 Embedded generators having an automatic right to export to the grid

(a) Under what circumstances have embedded generators not been allowed to export electricity to the network?

(b) What are the impacts on embedded generators and other participants when exporting is not allowed?

(c) Are there circumstances where the ability of embedded generators to export electricity to the network should be limited? What conditions could be reasonably imposed to limit exporting?

(d) What are the costs and benefits of allowing, and not allowing, embedded generators to export electricity to the network?

(e) Is there any basis for embedded generators to be treated differently to load or other generators? For what reasons?

5.4 Connection fees and charges

The rule change request raises two issues relating to fees and charges.

5.4.1 Optional fee for service

Based on their experiences to date, the proponents consider that distributors do not currently have a strong incentive to collaborate in the development of a connection enquiry or application.[56] To provide an incentive to distributors to work more closely with embedded generators, the rule change request introduces an 'optional fee for service' that would be payable to distributors by connection applicants.[57] We understand that the fee for service as proposed would be in relation to work carried out prior to a connection application being lodged (i.e. during the connection enquiry stage).

The NER already provide for network service providers to charge an 'application fee' which would cover the reasonable costs to investigate an application to connect and prepare the offer to connect.[58] The proponents suggest that by distributors providing an additional service, there would be improved alignment between a project and the distributor's connection arrangements. As a result, the proponents consider that this could translate to efficiency improvements in the distributors assessment of a resulting connection application. Hence, where a distributor charges a 'fee for service', the proponents expect that the corresponding application fee would be reduced.

56 ibid, p. 17.

57 ibid

58 Clause 5.3.3(c)(5) of the NER.

However, under the current regulatory arrangements, distributors do not appear to be prohibited from charging a fee to provide advice as a part of its connection services.

Question 11 Allowing distributors to charge an optional fee for service

(a) What are the barriers that prevent network service providers from charging a 'fee for service' under the current arrangements?

(b) Is the proposed rule sufficient in identifying what services would be provided for the 'fee for service'? If not, how should the relevant service be specified?

(c) What factors should be considered on how such a service should be classified? That is should it be a direct control service or negotiated service?[59] Should the service be on a cost recovery basis only?

(d) Should the NER provide any guidelines on how such a fee should be determined or should it be negotiated between a distributor and embedded generator? Should the fee be approved by the AER and, if so, on what basis?

5.4.2 Shared network augmentation costs

The proponents consider that the current approach to attributing connection costs are inefficient, inequitable and not cost-reflective.[60] They consider that the current approach to determining attribution of shared network augmentation costs is that only cogeneration projects contribute to network congestion, which they consider to be incorrect.[61] To address this, they propose that the NER be amended such that all embedded generators are exempt from paying shared network augmentation costs. This would be consistent with the provisions that apply in Victoria.[62]

Connection charges, including any shared network augmentation costs, are currently determined by distributors in accordance with the NER and the specific provisions under their regulatory determinations made by the AER. In making these determinations, the AER takes into consideration any relevant jurisdictional requirements. Also, under the requirements of Chapter 5A, the AER is required to

59 **In accordance with its obligations under the NEL and NER, distribution services are classified by the AER. There are three classes of distribution services - direct control services; negotiated distribution services and unclassified services. Direct control services are further categorised under clause 6.2.3 of the NER as either standard control services or alternate control services. As a part of each distributor's distribution determination, the AER classifies distribution services and decides upon the appropriate form of control to apply to the distribution service.**

60 Rule change request, p. 22.

61 ibid

62 ibid, p. 16.

develop connection charging guidelines to be applied by distributors in relation to 'basic connections' and non-registered embedded generators.[63]

Question 12 Shared network augmentation costs

(a) Is the current approach to attributing connection costs, particularly in relation to shared network augmentation costs, inefficient, inequitable and not cost-reflective? For what reasons?

(b) Should embedded generators (noting that embedded generating installations can encompass a broad range of installations) be exempt from paying shared network augmentation costs? Why or why not?

(c) If embedded generators are exempt from shared network augmentation costs, how should these costs be allocated?

5.5 Other issues

The rule change request, either directly or indirectly, raises a number of other issues. These include:

- **Impacts on transmission network service providers (TNSPs) and other participants** - We understand the focus of this rule change request to be on the provisions for the connection of embedded generators. However, as outlined throughout relevant sections of this chapter, some aspects of the proposed rule apply to all 'network service providers' and 'connection applicants'. This expands the potential impact of the rule change request to include TNSPs and all connection applicants.

- **Distributors publishing annual reports** - The rule change request proposes that distributors should be required to publish annual reports identifying capacity constraints in their networks. The rule change request considers that the proposed provisions being considered by the AEMC under the distribution network planning and expansion framework rule change, if adopted, would be sufficient to meet the objectives of the rule change proposal.[64]

63 The AER's work on this guideline can be found on its website www.aer.gov.au.

64 Rule change request, p. 18.

6 Lodging a Submission

The Commission has published a notice under s.95 of the NEL for this rule change proposal inviting written submission. Submissions are to be lodged online or by mail by **9 August 2012** 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.[65] The Commission publishes all submissions on its website subject to a claim of confidentiality.

All enquiries on this project should be addressed to Anita Lai 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 "ERC0147". 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 three 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: ERC0147.

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 three business days, it is the submitter's responsibility to ensure successful delivery of the submission has occurred.

65 This guideline is available on the AEMC website.

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
Commission	See AEMC
distributor	See DNSP
DNSP	distribution network service provider
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
rules	See NER
TNSP	transmission service network provider