Australian Energy Market Commission

# POSITION PAPER

## Connecting Embedded Generators

**Rule Proponent(s)**

ClimateWorks
Property Council of Australia
Seed Advisory

30 January 2014

For and on behalf of the Australian Energy Market Commission

Reference: ERC0147
Position paper

**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

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AEMC 20014, Connecting embedded generators, Position paper, 30 January 2014, Sydney.

**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 established the Standing Council on Energy and Resources (SCER) to replace the MCE. The AEMC has two main functions. We make and amend the national electricity, gas and energy retail rules, and we conduct independent reviews of the energy markets for the SCER.

# Summary

This position paper accompanies the proposed draft final rule for the connecting embedded generation rule change that has been published by the Australian Energy Market Commission for consultation. It outlines the policy positions that are the basis for the draft final rule.

The draft final rule is intended to reduce barriers to the connection of embedded generators to distribution networks. It establishes a clear connection process with well-defined timeframes to assist embedded generator proponents in making informed connection decisions.

To achieve this, the draft final rule includes the following features:

- a two stage connection enquiry process;
- detailed specification of information to be:
  - published by distribution network service providers;
  - provided by distribution network service providers and embedded generator proponents throughout the connection process;
- specific timeframes for various stages of the connection process that are extendable by agreement between the distribution network service provider and embedded generator proponent;
- that distribution network service providers establish and maintain a public register of completed embedded generation projects; and
- clarification that parties may access the existing Chapter 8 dispute resolution process for any dispute arising from the connection process about the technical requirements of connection.

The draft final rule for consultation includes changes from the draft rule that was published by the Commission on 27 June 2013. These changes have been made following consideration of the various issues and concerns raised by the rule change proponents and other stakeholders in submissions and at the workshops held following the publication of the draft rule.

When taken as a whole, the changes made result in the draft final rule being materially different to the draft rule, the rule proposed by the rule change proponents (the proposed rule) and the current connection process set out in Chapter 5 of the National Electricity Rules (the current rules).

The Commission acknowledges that this rule change process has been lengthy. However, in light of the proposed changes to be made and requests from stakeholders to review the rule, the Commission considers that further consultation would be prudent. This will allow stakeholders to consider the changes that are to be made to the

connection process for generators under Chapter 5 of the National Electricity Rules. It will also provide stakeholders an opportunity to raise any concerns about implementation issues arising from the rule drafting before the final rule is made.

Specifically, the Commission is seeking feedback on the changes made in the draft final rule to the technical information required to be published by distribution network service providers and the information to be provided by parties throughout the connection process.

The proposed commencement date of the final rule is 1 October 2014, approximately six months after the publication of the final rule and final rule determination. Feedback on this timing, and on whether the final rule should contain transitional arrangements, is sought from stakeholders.

**Invitation for submissions**

The Commission invites written submissions in response to this position paper by COB 20 February 2014.

**Amended timetable**

On 19 December 2013, the Commission published a notice under s. 107 of the National Electricity Law extending the time for making its final rule determination. This extension was made to allow stakeholders to comment on the draft final rule. The amended timetable is set out below.

| Milestone | Extended timetable |
|---|---|
| Publication of position paper | 30 January 2014 |
| Close of submission | 20 February 2014 |
| Publication of final rule determination | by 17 April 2014 |
| Commencement of the rule | 1 October 2014 |

# Contents

# 1 Introduction

## 1.1 Purpose of this position paper

On 19 December 2013, the Australian Energy Market Commission (AEMC) issued a notice under s. 107 of the National Electricity Law (NEL) to extend the timeframe for making its final rule determination in relation to the connecting embedded generators rule change request. The issues in this rule change are of sufficient complexity that the Commission considered additional consultation on a further draft of the rule (the draft final rule) and the transitional arrangements for its implementation would be necessary.

This position paper outlines the draft final rule developed in response to consultation on the draft rule determination, published in June 2013, and stakeholder workshops held in October and November 2013.

The Commission is interested in any implementation issues that may arise from the draft final rule described in this paper, and encourages stakeholders to make submissions on these issues.

The Commission will publish the final rule and the final rule determination by 17 April 2014.

## 1.2 The rule change request

On 18 April 2012, ClimateWorks Australia, Seed Advisory, and Property Council of Australia's (collectively, the proponents) requested the AEMC to make a rule regarding the process for connecting embedded generators to distribution networks in the National Electricity Market (NEM) (the rule change request).

Specifically, the proponents suggested a number of amendments to Chapter 5 of the National Electricity Rules (NER) to address their concerns about the current requirements and processes that are relevant to connecting embedded generators to distribution networks. The rule change request included a proposed rule.

## 1.3 Rationale for the rule change request

In this rule change request, the proponents sought to amend the existing framework for connecting embedded generators with a capacity between 10kW and 30MW to a relevant distribution network. The proponents claimed the amendments were needed because the NER is insufficient to facilitate cost effective and timely connections by embedded generators to distribution networks. In particular, the proponents identified a number of 'regulatory gaps' that have resulted in the connection process being conducted on a case-by-case basis, rather than a common approach across the NEM.

The problems identified by the proponents fall broadly into three categories: the connection process, technical requirements, and connection-related costs.

**Connection process and terms and conditions**

The proponents considered that although there are connection processes under Chapters 5 and 5A of the NER, these are not sufficiently prescriptive to provide certainty to connection applicants. In particular, the proponents stated that there is significant uncertainty with respect to whether applications may be successful, the timeframe within which applications will be considered, and the overall costs of connection. The proponents stated that the connection process can result in significant delays to embedded generation projects.[1]

The proponents also noted that the terms and conditions for connection can vary significantly between distribution network service providers (DNSPs). The absence of standard terms and conditions were considered to increase the difficulty with which embedded generators are able to anticipate the requirements and costs associated with connecting to a distribution network. The proponents also contended that the terms of connection agreements are frequently 'onerous, one sided and not negotiable'.[2]

**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 DNSPs. The proponents considered that at times these technical requirements 'are not clearly and comprehensively identified at the beginning of the connection process'. Consequently, these requirements can result in 'significant costs and undermine the viability' of a project as it impacted the ability of the embedded generator to make relevant commercial decisions.[3]

The proponents also noted that 'some technical requirements imposed by DNSPs disallow exports of electricity to the grid'.[4] This, the proponents asserted, can impact project proponents' options in regard to viable solutions they can implement, resulting in project proponents installing generators they consider are not scale efficient.

**Connection charges and shared augmentation costs**

Depending on the specific requirements of the connection application and the relevant jurisdictional provisions, embedded generators can be required to contribute to the costs to augment the shared network that arises from their proposed connection to the distribution network. The proponents considered there is 'a lack of clarity and transparency regarding responsibility for, need for and the costs of augmentation to

1 Rule change request, p11.

2 ibid, p13.

3 ibid, p12.

4 ibid.

the network'.[5] They further noted that, at times, the costs associated with a connection could be 'prohibitively expensive'.

## 1.4 Solution in the rule change request

Broadly, the rule change request proposed a number of amendments to Chapter 5 of the NER. These amendments were intended to apply to DNSPs and embedded generators in the 10kW to 30MW size range. The rule change request included a proposed rule.

The rule change request proposed to address the following:

- **Connection process and terms and conditions** - amend the connection process to include more prescriptive timeframes for DNSPs to provide responses to connection applicants; require DNSPs to publish standard information requirements; and require DNSPs to provide standard terms and conditions for embedded generation connections.

- **Technical requirements** - introduce an automatic access standard for embedded generators (although the content of such a technical standard has not been included in the rule change request or proposed rule) and introduce the right of embedded generators to export electricity to the distribution network.

- **Connection and augmentation costs** - exclude embedded generators from being required to pay shared network augmentation costs; allow network service providers to charge a fee-for-service to provide services to embedded generation proponents at the project development stage.

- **Other changes** - require DNSPs to publish annual network reports and make various consequential amendments.

## 1.5 Draft rule

There were a number of differences between the draft rule published on 27 June 2013 and the proposed rule submitted by the rule change proponents. These differences reflected policy modifications and amendments to improve the clarity and application of the connection process for embedded generators.

An important difference of note was the application of Chapter 5 of the NER to embedded generators who are not registered participants. The existing clause 5.1.2(b) was amended by the draft rule to clarify that any person who is not registered with Australian Energy Market Operator (AEMO) (nor has no intention to do so) may ask a network service provider (NSP) to comply with Part A of Chapter 5 in seeking a connection agreement. If such a request is made then the process for connection must be followed through to its completion under Chapter 5. This change sought to clarify

5 ibid, p13.

the opt-in process that existed in Chapter 5 prior to the introduction of the National Energy Consumer Framework (NECF).

As a result, the draft rule allowed persons seeking to connect embedded generators to a distribution network to use the Chapter 5 process for connection. However, it removed the ability to switch to the Chapter 5A process mid-way through, should that be available to that person. The intent of this clarification was to provide for regulatory certainty. It was not to mandate that one connection process must be used over the other.

The policy modifications and amendments reflected in the draft rule are set out in detail with supporting reasoning in Chapters 5 to 8 of the draft rule determination.[6] In summary, the key features of the draft rule included:

- an obligation for DNSPs to publish an 'information pack'. This would include a practical guide on making connection enquiries and applications as well as example costs;
- an obligation on DNSPs to create and publish an 'enquiry form' which would be used at the start of the enquiry process;
- an obligation for DNSPs to publish a register of plant and equipment associated with generating plant that meets its minimum access standards for connection applicable to that DNSPs network;
- clarification of the overall application of the connection process under Chapter 5, making it apply to any applicant seeking connection under these provisions, including introduction of a two-stage enquiry process, which:
  - sets out the information that must be provided by both connection applicants and DNSPs; and
  - includes the timeframes in which each aspect of the connection process must be undertaken;
- provision that the DNSP's detailed enquiry response could be an 'agreed project', and agreed projects would be subject to a fast tracked connection application process under certain conditions;
- clarification that a DNSP may charge an enquiry fee to recover the reasonable costs of the work to be carried out by the DNSP to prepare a detailed enquiry response; and
- an obligation for DNSPs to include an itemised statement of charges in the connection offer.

6 AEMC, *Draft rule determination, Connecting Embedded Generators*, 27 June 2012, Sydney.

## 1.6 Overview of the draft final rule for consultation

### 1.6.1 Appropriate location for the connection process

With the introduction of the NECF and the insertion of Chapter 5A in the NER, there were a number of changes to the operation of Chapters 5 and 5A regarding registered and unregistered participants. In particular, in NECF jurisdictions the ability for non-registered embedded generators to elect to use the Chapter 5 connection process was removed.[7] This is because Chapter 5A does not apply to registered participants or persons seeking to become registered participants. Therefore, a non-registered embedded generator is by definition not a registered participant, and given the introduction of the NECF is no longer entitled to seek connection under Chapter 5.

Conversely, Chapter 5 includes provisions for the connection of registered participants to transmission and distribution networks. It entitles a registered participant, or a person intending to become a registered participant, to establish or modify a connection to a network.[8] Clause 5.3.1 requires those participants who wish to establish a connection to a network to follow the process in rule 5.3.

The current standing exemption threshold from the requirement to register as a generator is determined by AEMO. Therefore, those connection applicants proposing to connect a generating system of a name plate rating greater than the standing exemption (currently 5MW) must seek registration. This is consistent with the definition of Embedded Generator which, for the purposes of Chapter 5, includes "a person who is required to, or intends to, register in that capacity", that is, as a generator.[9]

The Commission considers that the current registration process provides an appropriate method of delineating which connection process will apply to each connection applicant.

That is, for connection applicants proposing the connection of a generator to a distribution network in a jurisdiction that has adopted the NECF:

- where the generating system's rating is less than the standing exemption from registration as determined by AEMO, the appropriate process is under Chapter 5A; otherwise

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7 In version 49 of the NER, clause 5.3.1(c) states that "any person wishing to establish a connection to a network may elect to follow the procedures in this rule 5.3". This rule is currently only in operation in Queensland and Victoria as these states have not adopted the NECF.

8 Clause 5.1.2(a) of the NER.

9 Under Chapter 10 of the NER, an 'Embedded Generator' is a 'Generator who own, operates or controls an embedded generating unit. A 'Generator' is a person who engages in the activity of owning, controlling or operating a generating system that is connected to, or who otherwise supplies electricity to, a transmission or distribution system and who is registered by AEMO as a Generator under Chapter 2 and, for the purposes of Chapter 5, the term includes a person who is required to, or intends to register in that capacity'.

- where the generating system is greater than the standing exemption from registration, the connection process under Chapter 5 is applicable and set out in the draft final rule.

For connection applicants proposing the connection of a generator to a distribution network in a jurisdiction that has not adopted the NECF:

- where the generating system's rating is greater than the standing exemption from registration, the connection process under Chapter 5 is applicable and set out in the draft final rule; otherwise

- where the generating system's rating is less than the standing exemption from registration, the connection applicant may elect to follow the connection process in Chapter 5; or

- the applicable process for connection of embedded generation may be in local jurisdictional instruments; or

- where no jurisdictional instruments exist, the DNSP would determine the appropriate connection process.

In summary, the draft final rule provides a new connection framework for all generation connections to distribution networks (where they are required to register as a generator) under Chapter 5 of the NER.[10] This policy setting is unchanged from the draft rule.

### 1.6.2 Draft final rule for consultation

The current policy modifications and amendments reflected in the draft final rule are set out in detail with supporting information in the following chapters of this position paper. In summary, the key amendments in the draft final rule compared with the draft rule include:

- a further obligation on DNSPs to provide the technical requirements relevant to the processing of a connection enquiry as part of the information pack;

- clarification of the overall application of the connection process under Chapter 5, making it apply to any applicant seeking connection that is above the standing exemption threshold to register as a generator with AEMO, including introduction of a two-stage enquiry process, which:

  - clarifies the information to be provided by both connection applicants and DNSPs, especially the types of information to be included in the preliminary and detailed enquiry responses from a DNSP;

10 Note that the draft final rule only amends the process for connecting generation to distribution networks, and does not affect the process for the connection of load.

  - clarifies that the timeframe for each aspect of the connection process may be extended if a DNSP provides a written statement outlining the reasons why an extension is required and the extension is not unreasonably withheld by the connection applicant;

  - removes the agreed project and fast-tracked timeframes from the connection process;

- removal of the validity periods between the preliminary response, detailed response and application to connect, although the ability for connection applicants and DNSPs to agree to a validity period at the conclusion of the detailed response has been included;

- the ability for the enquiry fee to be payable to a DNSP in component parts;

- clarification of the technical information to be included in the register of completed projects; and

- clarifying that connection applicants and DNSPs may use the Chapter 8 dispute resolution process for any disputes arising from the connection process about the technical requirements (in addition to other matters).

## 1.7 Timeframes and next steps

Close of submissions on this position paper is COB 20 February 2014.

After considering submissions in response to this position paper, the Commission will make a final rule determination. The Commission intends to publish the final rule and associated final rule determination by 17 April 2014.

## 1.8 Process for making a submission

Submission should quote project number "ERC0147" 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

All enquiries on this project should be addressed to James Eastcott on (02) 8296 7800.

# 2 Connection process

## 2.1 Availability of upfront information

The Commission considers there is value in providing upfront information to connection applicants that provides them with an understanding of the overall connection requirements and allows them to participate more effectively in the connection process. Such information should improve the transparency of the connection requirements and help connection applicants to define the connection requirements and feasibility of their intended project at an early stage. Accordingly, the draft final rule requires DNSPs to publish information that:

- provides a practical guide that steps through the process of how to lodge connection enquiries and applications;
- outlines what an applicant can expect to happen at each stage of the connection process;
- includes single line diagrams of the DNSP's preferred connection arrangements;
- includes a sample schematic diagram of the protection and control systems;
- contains examples of possible connection charges that would be incurred for connection;
- outlines relevant minimum access standards and plant standards;
- outlines the technical requirements that a connection applicant will need to consider when planning to connect an embedded generating system; and
- provides a model connection agreement.

### 2.1.1 Comparison of the draft rule with draft final rule

The following table provides an overview of the changes relating to the provision of upfront information between the current provisions in the NER, the draft rule and the draft final rule.

The draft final rule column provides a high level overview of the obligations on connection applicants and DNSPs under the draft final rule. It also provides a reference to the applicable clause in the draft final rule.

| Current NER provisions | Draft rule | Draft final rule |
|---|---|---|
| **Upfront information requirements** | | |
| DNSPs are required to publish the demand side engagement document and the distribution annual planning report (DAPR), which includes information on network constraints. | DNSPs (not NSPs) would be required to publish an 'information pack'. The information pack would include a practical guide on making connection enquiries and applications, and example costs. It would complement the demand side engagement document which already includes details about the connection process and basis for calculating charges. | The draft final rule is unchanged from the draft rule.<br><br>Draft clause 5.3A.3(b) requires DNSPs to publish an information pack. |
| Schedule 5.6 sets out the minimum terms and conditions that are to be agreed to in connection agreements and to be set out in the connection offer. Principles relating to connection under Chapter 5 include that the terms and conditions for connection are to be set out in commercial terms between network service providers and registered participants. | The information pack would include a model connection agreement to provide an example of the final connection agreement that applicants would need to enter into.<br><br>Clarification of the connection process under Chapter 5 on whether provisions would apply to any applicant seeking connection. | The obligations relating to the information pack are in draft clause 5.3A.3(b) and include:<br><br>• a description of the process;<br><br>• single line diagrams and schematic representation of protection and control systems;<br><br>• worked examples of connection service charges;<br><br>• details of any minimum access or plant standards;<br><br>• technical requirements relevant to the processing of a connection enquiry; and<br><br>• a model connection agreement. |
| The offer to connect must define the basis for determining any distribution and transmission services charges (and other details). | DNSPs would include an itemised statement of connection costs in the connection offer. | The elements of the itemised statement of connection costs have been amended following consideration of stakeholder feedback in submissions and at workshops. The obligations relating to the itemised statement of connection costs are outlined in draft clause 5.3.6(b2). |

### 2.1.2 Context for policy changes

#### Information pack

Consistent with the draft rule, the draft final rule obliges DNSPs to publish an information pack. However, the draft final rule requires more upfront information on the technical requirements for the connection of embedded generation to be published.

The benefit of this additional information for DNSPs would be to minimise the requirement to educate prospective connection applicants who may not be aware of these technical requirements, but need to have a perspective of the individual DNSP's technical requirements before investing time and money into the development of their business case. That is, it will help connection applicants understand how the DNSP's network operates and the requirements for the integration of embedded generation into their networks. This added transparency would lead to more efficient investment in embedded generation.

These technical requirements may include protection systems and protection schemes, fault level management principles, reactive power capability and power factor correction; power quality and how limits are allocated, responses to frequency and voltage disturbances, voltage control and regulation, remote monitoring equipment, control and communication, earthing requirements and other relevant safety requirements and commissioning and testing requirements. While these technical requirements are expected to be made available during the connection process, most likely as part of the preliminary enquiry response, the Commission considers there is merit in providing it earlier.

Furthermore, the Commission notes that Energex and Ausgrid already publish information of this type in their connection guidelines.[11] Therefore, the Commission does not consider that it will be excessively onerous for DNSPs to comply with this new obligation.

As a result, DNSPs would be required to publish an information pack with those items specified in the draft rule with the addition of:

- single line diagrams of the DNSPs preferred connection arrangements, and a range of other possible connection arrangements for the integration of embedded generation to their distribution network;
- a sample schematic diagram of the protection and control systems relevant to the connection of an embedded generating unit to the distribution network; and
- the technical requirements relevant to the processing of a connection enquiry or an application to connect.

11 Energex, Customer standard for small to medium scale embedded generation, January 2012 and Ausgrid, NS194 - Protection requirements of embedded generators greater than 30kW, December 2013.

The requirements for the information pack are specified in clause 5.3A.3(b) of the draft final rule.

### Itemised statement of connection costs

While the NER specifies that an offer to connect must contain the basis, and the terms and conditions, for determining distribution service charges, it does not specify how this information is presented. The draft rule addressed this by including an obligation for DNSPs to provide an itemised statement of charges, limited to the extent that they are relevant.

However, where there are contestable services, the DNSP would be obliged to inform the connection applicant that it may obtain its own quotes from suitably qualified accredited service providers for the provision of these particular services. As such, where contestability arrangements are in place, a DNSP would only be required to provide an itemised statement of costs for the monopoly services that it will provide.

The draft final rule requires a DNSP to provide connection applicants with an itemised statement of connection costs. This statement of connection costs must be provided as part of both the detailed enquiry response and the connection offer. The list of connection costs in the draft final rule differs slightly from the draft rule. The draft final rule includes the addition of: interface equipment costs and a description of any ongoing operational and maintenance costs and charges where undertaken by the DNSP. In the Commission's opinion including these items will provide greater transparency on the costs applicable to a connection applicant in planning and connecting an embedded generator to a distribution network. Accordingly, the itemised statement of connection costs in the draft final rule contains the following items:

- connection services charges;
- costs associated with metering requirements contained in the offer to connect;
- costs of network extension;
- details of augmentation required to provide the connection and associated costs;
- costs of interface equipment contained in the offer to connect; and
- details of any ongoing operational maintenance costs and charges to be undertaken by the Distribution Network Service Provider; and
- other incidental costs and their basis of calculation.

The obligations relating to the itemised statement of connection costs may be found in draft clauses 5.3.6(b2)(1) and Schedule 5.4B(h) of the draft final rule.

In relation to other items that have been suggested, the draft final rule does not contain additional items relating to 'a scope of work required to facilitate the connection' or 'a

statement of the basis on which charges were calculated'. This is because the Commission considers that:

- in regard to the scope of work required to facilitate the connection, the draft final rule already addresses this concept because it specifies that 'the cost of network extension' and 'details of augmentation required to provide connection' are to be included in the offer to connect from a DNSP; and

- a statement of the basis on which charges were calculated is also already contained in the draft final rule. That is, the draft final rule already requires a DNSP to provide 'an explanation of the factors affecting each component of the itemised estimate of connection costs and the further information that will be taken into account by the DNSP in preparing the final itemised statement of connection charges' as part of its detailed enquiry response. Furthermore, where the itemised statement of costs differs substantially from the estimate provided as part of the detailed enquiry response, a DNSP must provide an explanation of the differences.

Accordingly, the draft final rule does not reflect these suggestions.

## 2.2 Preliminary enquiry stage

The preliminary enquiry stage was included in the draft rule to address the issue of the preliminary negotiation between DNSPs and connection applicants that occurred outside of the NER. The intent of the preliminary enquiry stage was to recognise the level of preliminary preparation required by both the applicant and the DNSP prior to an enquiry being formally lodged. The Commission understood that in some circumstances connection applicants may be considering a number of options and some preliminary discussions and exchange of information was required to enable the identification of the most efficient project for connection.

The draft rule therefore set out a two-stage enquiry process with the first stage being the 'preliminary enquiry stage' followed by the 'detailed enquiry stage'. The preliminary enquiry stage provided clear timeframes for responses and set out the requirements for both the applicant and the DNSP. The Commission still considers it beneficial that the NER provide a framework around the previous ad hoc negotiations between the parties at the outset of a connection enquiry and the two-stage enquiry process has been retained in the draft final rule.

The intent of the preliminary enquiry stage is to provide general, high level information and any project specific information that the DNSP has at hand that may help the connection applicant understand its connection options. Accordingly, the drafting of the draft final rule has been amended to specifically acknowledge that the preliminary enquiry response does not oblige a DNSP to undertake detailed design or technical analysis of the connection application. The draft final rule also outlines timeframes governing the responses from both parties during this stage of the connection process.

### 2.2.1 Comparison of the draft rule with draft final rule

The following table provides an overview of the changes relating to the preliminary enquiry stage of the connection process between the current NER provisions, the draft rule and the draft final rule.

The draft final rule column provides a high level overview of the obligations on connection applicants and DNSPs under the draft final rule. It also provides a reference to the applicable clause in the draft final rule.

| Current NER provisions | Draft rule | Draft final rule |
|---|---|---|
| **Preliminary enquiry stage** | | |
| Initiating an enquiry - Schedule 5.4 sets out the information to be included in a preliminary enquiry. | DNSPs would be required to publish an 'enquiry form' to be used at the start of the enquiry process. The enquiry form would initiate the 'preliminary enquiry'. (No requirement for a connection application form to be published). | The draft final rule is unchanged from the draft rule.<br><br>The requirements for the enquiry form are in draft clause 5.3A.3(a). |
| There is no acknowledgement provision. | DNSPs would be required to acknowledge receipt of a connection enquiry within two business days. | The draft final rule provides DNSPs with five business days to provide written acknowledge of receipt of a connection enquiry (draft clause 5.3A.5(d)). |
| The preliminary enquiry stage does not feature in the current NER. | DNSP would be required to advise the connection applicant within five business days whether the connection enquiry is deficient or requires additional information. | The draft final rule is unchanged from the draft rule.<br><br>This obligation is in draft clause 5.3A.5(f). |
| Within 20 business days, DNSPs provide technical requirements and information required to lodge a connection application.<br><br>The current enquiry process under the NER is for a single-stage process. | Within 15 business days, DNSPs provide technical requirements, information on undertaking connection enquiries, relevant example costs, relevant information on network constraints for the enquiry lodged, and information required to be submitted for a 'detailed enquiry response' to be provided and any relevant enquiry fee. This would be the DNSP's 'preliminary enquiry response'. | To account for varying sizes of embedded generation, the 15 business day timeframe in the draft final rule may be extended by agreement. Where a DNSP wishes to extend this timeframe, it must provide its reasons in writing and the extension should not be unreasonably withheld by the connection applicant (draft clause 5.3A.7(c)).<br><br>The draft final rule also clarifies that the information provided in the preliminary enquiry response is not information that requires either detailed design or technical analysis.<br><br>The information a DNSP must provide a connection applicant as part of a preliminary enquiry response in draft Schedule 5.4A. |

| Current NER provisions | Draft rule | Draft final rule |
|---|---|---|
| The ability to bypass the enquiry stage does not feature in the current NER. | This provision did not feature in the draft rule. | The draft final rule provides the ability for a connection applicant to bypass the preliminary enquiry stage.<br><br>Clause 5.3A.5(g) states that a connection applicant may request in a connection enquiry that the DNSP provide only a detailed response. However, a bypass may only occur if the DNSP agrees. |

### 2.2.2 Unchanged policy settings

The draft final rule requires a connection applicant to use the enquiry form published by a DNSP to initiate the preliminary enquiry. That is, the draft final rule requires a DNSP to publish an enquiry form on its website.

### 2.2.3 Context for policy changes

#### Timeframe for receipt of acknowledgement of enquiry

DNSPs expressed concern with the obligation in the draft rule to acknowledge receipt of a connection enquiry within two business days. They noted that DNSPs often do not have a dedicated area of their business for responding to embedded generation connections.

DNSPs also noted that currently, Chapter 5A of the NER does not have a corresponding obligation on DNSPs to acknowledge receipt of a customer enquiry within two business days. Instead, clause 5A.D.2 requires a DNSP to respond to an enquiry within five business days.

At the October 2013 stakeholder workshop, the proposal to increase the period to acknowledge receipt of a connection enquiry from two to five business days was discussed. Participants generally considered the proposed five business days for DNSPs to provide receipt of an enquiry was reasonable in the context of their business processes.

Taking these considerations into account, the draft final rule provides DNSPs with five business days to acknowledge receipt of a connection enquiry and request for a detailed enquiry. This timeframe is set out under draft clauses 5.3A.5(d) and 5.3A.8(a).

#### Timeframe for DNSP to provide a preliminary enquiry response

DNSPs noted that the draft rule applied to all generators connecting to a distribution network. As such, they considered that the 15 business day timeframe in the draft rule did not appropriately reflect the scale or complexity of embedded generation connections that may arise under the proposed connection process.

To address this issue, a number of DNSPs suggested that the maximum timeframe for providing the preliminary enquiry response should be aligned with the time required to process large or technically complex connections. They considered that this would allow the framework to be applied flexibly so that it accommodated all connection sizes.

This issue was discussed at the October 2013 stakeholder workshop. It was noted that the timeframe specified in the draft rule for the DNSP's preliminary enquiry response should be considered in light of the information (and the level of detail) to be provided.

In addition, considering the purpose of the preliminary enquiry stage, and that embedded generators do not pay a fee, DNSPs considered that only high level information could be provided within the stipulated 15 business days. Workshop participants also acknowledged that the new DAPR and demand side engagement documents to be published by DNSPs would provide some relevant information to potential embedded generators.

The November 2013 stakeholder workshop also considered changes to draft Schedule 5.4A regarding the information to be provided by DNSPs in a preliminary enquiry response (see below for the details on the information requirements). It was reiterated that the policy intent was for the preliminary enquiry response to contain information that is readily accessible by a DNSP and not require any further detailed work. Given this clarification, DNSPs considered the 15 business days to respond to the connection applicant was reasonable provided it was not a large or technically complex connection.

Taking these considerations into account, the Commission considers that the draft final rule should allow for this timeframe to be extended by mutual agreement. The DNSP would be required to outline the reasons why it is not able to respond to the connection applicant within 15 business days and in response, agreement from the applicant should not be unreasonably withheld. This position is intended to balance the need for flexibility to extend timeframes for longer projects, with the need to make sure the connection process is not extended any longer than necessary. This provision is located at draft clause 5.3A.7(c).

### Information requirements of the preliminary enquiry response

In response to the draft rule, DNSPs noted that the amount of information and level of detail set out in draft Schedule 5.4A was too onerous to provide within the stipulated 15 business day time limit. The Schedule also included a number of provisions that DNSPs considered required the completion of detailed design work. Therefore, DNSPs contended that the draft rule Schedule S5.4A and clause 5.3A.7 should be amended so that the requirement would be to provide the information where practicable. Of particular concern was the technical information to be provided by a DNSP as part of its response.

At the November 2013 stakeholder workshop, the information to be provided by a DNSP in its preliminary enquiry response (as set out in draft Schedule 5.4A) was discussed. The intent of the preliminary response was clarified that it was for the DNSP to provide information of the types outlined in draft Schedule 5.4A that is readily accessible to the DNSP without further detailed analysis. To remove any doubt regarding this policy intent, draft clause 5.3A.7(d) states that nothing in clause 5.3A.7(a) or Schedule 5.4A is to be read or construed as requiring the DNSP to undertake detailed design or to perform detailed technical studies or analysis to discharge its obligations to provide a preliminary enquiry response to a connection applicant.

Accordingly, the preliminary enquiry response is to provide as much upfront information as possible to assist the connection applicant in assessing whether it should pursue its proposed connection. The workshop participants discussed the level of detailed information that should be provided by the DNSP in its preliminary enquiry response.

Taking submissions and relevant comments into account, the information requirements under Schedule 5.4A included in the draft final rule have been amended from those included in the draft rule. The main changes are as follows:

- The leading paragraph of draft clause S5.4A(a) has been amended to remove the reference to the '...minimum requirements necessary to maintain system security and reliability of supply...'. These words have been removed from the draft final rule because to meet this requirement, DNSPs would have to undertake detailed network analysis. As previously noted, this is not the intent of the preliminary enquiry response. The leading paragraph has been amended to 'relevant technical information about the DNSP's distribution network, including guidance on how the connection applicant may meet the following requirements if it were to proceed to prepare an application to connect'. Further, the references to 'design at the connection point' and the 'physical layout adjacent to the connection point' have been removed from the list of technical information, as detailed analysis would be needed to provide this information.

- Draft clause S5.4A(d) required a DNSP to indicate to a connection applicant whether negotiated access standards are likely to be required. However, at this stage in the enquiry process, the connection applicant will not have undertaken any power system studies. Consequently, it will be unclear whether negotiated access standards are required or what aspects of the access standard would be relevant for negotiation. This requirement has been moved to the detailed enquiry response which is a more appropriate location.

- Draft clause S5.4A(j) outlined whether network augmentation would be required. Some stakeholders at the November 2013 workshop suggested that this information could be determined from information provided under draft clause S5.4A(i). While some participants agreed, others suggested that this clause may be better placed in the detailed enquiry response under draft Schedule 5.4B, as detailed site specific information could not be provided within the specified 15 business day timeframe. Nevertheless, the Commission considers it appropriate that an indication of whether network augmentation may be required is provided by a DNSP as part of its preliminary enquiry response. The draft final rule has also been amended to require DNSPs to indicate what the network augmentation may need to consist of.

- A new draft clause Schedule 5.4A(n) that requires a DNSP to provide an overview of any options for connection to a network, or relevant to an enquiry lodged at more than one connection point in a network. This overview is expected to include a single line diagram and relevant protection and control schemes for each connection point, and an overview of the different

characteristics of supply and an indication of the likely impact on terms and conditions of connection at such differing connection points. The inclusion of this provision should enable connection applicants to assess the connection options available around the proposed point of connection and any likely implications.

- Draft clause 5.4A(m) required a DNSP to provide a description of how it proposed to amend its model connection agreement to address the connection sought in the enquiry. DNSPs considered that the preliminary response was too early in the process to be able to provide a meaningful description of how a model connection agreement could be amended. However, a detailed response is to include a draft connection agreement that contains the proposed terms and conditions for connection to the network. This is more appropriate for that stage of the process and for that reason, draft clause 5.4A(m) has been removed from the draft final rule.

- Draft clause 5.4A(r) required a DNSP to provide the details of the enquiry fee payable by the connection applicant when requesting a detailed response. This is to include details of how the components of the fee were calculated. At the November 2013 stakeholder workshop, DNSPs agreed that information on the enquiry fee payable could be provided, but they were concerned about the DNSPs' abilities to obtain the relevant cost information from other parties (such as AEMO) within the 15 business day timeframe. On the other hand, embedded generation proponents noted that cost estimate information at this preliminary enquiry stage is a key decision variable. Although, connection applicants need to be aware of the limitations of the cost estimate information. Taking the above considerations into account, the draft final rule requires DNSPs to provide an estimate of the enquiry fee payable by the connection applicant. Not only must DNSPs provide an accurate estimate of the enquiry fee, they must inform the connection applicant of the component of the estimate of the enquiry fee payable by it to request the detailed response. This is to allow for the connection process to proceed on the basis of the information available to the DNSP (that is, it will be able to cost its own inputs for the detailed enquiry stage). Delays while waiting for third party information will not therefore hold up the overall process (see below for further information on the enquiry fee).

### Enquiry fee to request a detailed response from a DNSP

DNSPs noted at the November 2013 stakeholder workshop and in submissions that they were unsure whether it was possible to provide an exact enquiry fee with the preliminary response. While DNSPs agreed that information on the enquiry fee payable should be provided, they were concerned about their ability to obtain the relevant cost information from other parties (such as AEMO) within the 15 business day timeframe.

The Commission considers it appropriate that connection applicants are provided with a reasonable estimate of the enquiry fee with the preliminary enquiry response to allow them to determine whether the project is economically viable. Following consideration

of stakeholder views and submissions, the Commission has amended how the enquiry fee should be calculated and presented. An estimate of the enquiry fee must still be provided by a DNSP in its preliminary response, including details of how components of the fee were calculated. However, where the exact amount of the enquiry fee is unable to be calculated by the DNSP, due to being unable to obtain relevant information from affected parties, the DNSP will be required to inform the connection applicant of the component of the estimate of the enquiry fee payable to request the detailed response. As a result, the connection process can still continue while information on costs from third parties is gathered.

Therefore, consistent with the draft rule, the draft final rule includes provisions that acknowledge what is currently permissible under the NER: that DNSPs are able to charge connection applicants an enquiry fee. The draft final rule also states that the fee charged should not be more than necessary to recover the reasonable costs of all work anticipated to arise from investigating and responding to a request for a detailed enquiry response.

To address the concerns of a DNSP's ability to provide an exact estimate of the enquiry fee, the draft final rule allows DNSPs to nominate a component of the estimate of the enquiry fee payable by a connection applicant to request a detailed response. This would enable the connection process to progress while allowing DNSPs additional time to obtain the relevant cost information required from third parties.

The operation of the enquiry fee under the draft final rule is governed by clauses 5.3A.4(b) and (c), and clauses S5.4A(p) and (q).

### Ability to bypass the preliminary enquiry stage

A number of stakeholders submitted that there may be instances where it is not necessary to undertake the preliminary enquiry stage. Examples included where it is a similar or repeat connection with the same or similar attributes as an existing project. These stakeholders considered that skipping the preliminary enquiry stage would allow them to reduce the overall timeframe for processing a connection.

The Commission considers that there is merit in allowing parties to bypass the initial preliminary enquiry stage. However, it is noted that despite a connection appearing to be a repeat connection with similar attributes from the perspective of the connection applicant, for the DNSP involved, each connection is unique to the relevant location. Therefore, the ability to skip the preliminary enquiry stage should only occur where both parties are in agreement that this is appropriate in the circumstances. The draft final rule provides the ability for connection applicants to request that the preliminary enquiry response be bypassed with respect to a specific proposed connection. This may occur if the relevant DNSP is in agreement.

Draft clause 5.3A.5(g) outlines the mechanism that would allow the preliminary enquiry stage to be bypassed where there is agreement between the DNSP and the connection applicant.

## 2.3 Detailed enquiry stage

The technical requirements for embedded generation connections to a distribution network may vary significantly from one connection to another. This is due to the range of available technologies, as well as the nature of distribution networks which can lead to issues specific to the location at which a connection is sought. Time and coordination between connection applicants and DNSPs is required to investigate the potential connection requirements and any alternatives. In addition, the parties seeking connection of embedded generating units can be diverse with varying levels of knowledge and expertise in power systems. This variance in resources and expertise should also be acknowledged.

The two-stage enquiry process provides a clear framework for the necessary investigations and discussions to take place. Following the receipt of the preliminary response, connection applicants would have more available information to allow them to assess their business case and determine the appropriate next steps. The subsequent detailed enquiry stage concentrates more on the specific network analysis required to assess the applicability of a network connection.

The detailed enquiry process largely reflects the current enquiry process under Chapter 5 of the NER with the addition of specific timeframes and providing greater clarity on the obligations of connection applicants and DNSPs.

### 2.3.1 Overview of the draft rule with draft final rule

The following table provides an overview of the detailed enquiry stage of the connection process as set out in the current NER provisions, the draft rule and the draft final rule.

The draft final rule column provides a high level overview of the obligations on connection applicants and DNSPs under the draft final rule. It also provides a reference to the applicable clause in the draft final rule.

| Current NER provisions | Draft rule | Draft final rule |
|---|---|---|
| **Detailed enquiry stage** | | |
| The current enquiry process under the NER is a single-stage process. | After receiving a preliminary enquiry response from a DNSP, a connection applicant may then proceed to request a detailed enquiry. The connection application is required to submit the information requested by the DNSP and, if applicable, the enquiry fee. If a request for a detailed enquiry response was lodged after three months, the DNSP may request the applicant to submit a new enquiry.<br><br>The DNSP would confirm that the request for a detailed enquiry response had been received and whether the requested information had been provided. This stage would be expected to be an iterative stage where the DNSP and applicant communicate as required on the progress of the enquiry.<br><br>For proposed connection that would not require shared network augmentation, the DNSP would need to provide the detailed enquire response within 30 business days.<br><br>Otherwise the applicant the DNSP would agree a timetable for providing a response but within a maximum of four months. | The draft final rule removes the validity period between the preliminary enquiry response and a request for a detailed enquiry response.<br><br>The draft final rule still requires a DNSP to confirm that the request has been received and all of the relevant information has been provided.<br><br>A DNSP still must provide its detailed enquiry response within 30 business days, but the draft final rule does not outline a different process where shared network augmentation is required (clause 5.3A.8(c)).<br><br>To account for both small and large-scale embedded generation, the 30 business day timeframe may be extended by agreement. Where a DNSP wishes to extend this timeframe, it must provide its reasons in writing and should not be unreasonably withheld by the connection applicant (clause 5.3A.8(e)).<br><br>While the draft final rule removes the validity period from between the detailed enquiry and application stages, it does provide the ability for DNSPs and connection applicants to agree to the detailed response remaining valid for a specified period of time to allow the connection applicant to lodge an application to connect within that time (clause S5.4B(n)). |

| Current NER provisions | Draft rule | Draft final rule |
|---|---|---|
| The current enquiry process under the NER is a single-stage process. | A DNSP's detailed enquiry would be required to contain information of the type outlined in Schedule 5.4B. | The draft final rule outlines the information to be provided by a DNSP in its detailed response in draft Schedule 5.4B. |
| There is no "agreed project" provision. | The DNSP's detailed enquiry response would form the "agreed project". Agreed projects would be subject to a fast-tracked connection application process. | As a result of the removal of the validity period between the detailed response and an application to connect and changes to when technical information is provided to a connection applicant, arriving at an "agreed project" at the end of the detailed enquiry response is expected to be unlikely.<br><br>As a result, the draft final rule does not include provision for an "agreed project" and consequently does not provide for a fast-tracked application process. |

### 2.3.2 Context for policy changes

#### Removal of the validity period between the preliminary and detailed enquiry stage

The draft rule required a preliminary enquiry response to remain valid for three months (after this time, the DNSP could request the applicant to submit a new connection enquiry). The draft rule determination noted that as project and network requirements can change, it was not expected that the information provided by a DNSP in the preliminary response would remain valid for a long period of time.

However, stakeholders considered that three months was insufficient to allow the enquirer to carry out any necessary network studies and make commercial decisions regarding design concepts. To provide connection applicants with more time, some stakeholders suggested requiring the enquirer to confirm with the DNSP at three month intervals that the enquiry is still active.

In light of this concern, the AEMC discussed extending the validity period and consulted with participants at the October 2013 stakeholder workshop. However, some participants expressed concern that there may be unintended consequences that:

- imply that DNSPs would be required to hold open space on their network for a particular connection;
- imply that DNSPs would not be able to use that space on the network for other connections (either generation or load); and
- inadvertently lead to the queuing of applications, which is not the current practice in the NEM.

Removing the validity periods in the preliminary enquiry and detailed enquiry stages would reinstate the current circumstance: that it would be in the interest of the connection applicant to carry out the required work in a timely manner in order to progress the connection process. This was discussed at the November 2013 stakeholder workshop.

In general, DNSPs were supportive of the removal of validity periods. It was noted that it was consistent with the NEM's open access market approach and reflected current practice. Workshop participants from embedded generation businesses thought the validity periods were insufficient to allow them to properly prepare a robust business case for continuation of the connection process and supported their removal.

In contrast, the rule change proponents were concerned that without these validity periods, a connection process could stall and a connection applicant would not have any recourse. However, in the event that the DNSP appears to be stalling the connection process, the connection applicant would have recourse to take the matter to the dispute resolution process as outlined in Chapter 3 of this position paper.

Taking the above considerations into account, the validity period between the preliminary enquiry response from the DNSP and a request for a detailed enquiry response from the connection applicant has been removed

### Timeframe for a DNSP to provide a detailed enquiry response

The intent behind the timeframe for the detailed enquiry response was to provide guidance on a reasonable time while allowing for the various sizes of embedded generation connections contemplated by the Chapter 5 process. For those less complex connections where no network augmentation was expected, a detailed response should be completed within the 30 business day limit set by the draft rule.

Where shared network augmentation was required, it would be reasonable to allow more time for the relevant network analysis to be completed. For this reason, the draft rule provided the ability for the connection applicant and the DNSP to agree an alternative timeframe to complete the detailed enquiry response up to a maximum of four months.

To provide certainty to connection applicants that the connection process will not stall and progress as expected, the 30 business day timeframe has been retained in the draft final rule.

However, to provide flexibility to connection applicants of larger embedded generators, the 30 business day timeframe may be extended by agreement. Reasons for any time extension must be provided by the DNSP and such agreement must not be unreasonably withheld. This will require a DNSP to explain to the connection applicant why the extension is necessary and that the extension is not intended to frustrate the process. Equally, a connection applicant is expected to properly consider a DNSP's request and respond promptly.

The obligations relating to the timeframe for a DNSP to provide a connection applicant with a detailed enquiry response are outlined in draft clause 5.3A.8(e).

### Information to be included in the detailed enquiry response

Draft Schedule 5.4B outlined that the information that DNSPs would provide to connection applicants in a detailed enquiry response. The intent was for this information to build on information provided in the preliminary response and provide more in-depth analysis and considerations.

In response to stakeholder feedback in submissions and at the workshops, a number of changes to Schedule 5.4B have been made to bring it into line with the stage in the process where the appropriate information should be required. In some instances, this involved moving information that was specified to be included in the preliminary response into the detailed response. The main changes between the draft rule and the draft final rule are:

- Draft rule clause S5.4B(b) specified the process for determining negotiated access standards where a connection did not meet the minimum or automatic access standards. A connection applicant will not have undertaken any network studies at this point (prior to a DNSP's detailed response) in the process, it would not know whether negotiated standards are required. Therefore, it is not appropriate at this stage in the process and has been omitted from the draft final rule.

- A new clause has been added to Schedule 5.4B that replicates the information set out in clause S5.4A(c) of the draft rule, but requires written details of each technical requirement relevant to the proposed plant as relevant to the access and plant standards and voltage level, to be provided. This level of information is more appropriate for the detailed enquiry response than the preliminary enquiry response.

- A new clause has been added to Schedule 5.4B that contains the information set out in clause S5.4A(d) of the draft rule, requiring a statement from the DNSP on whether negotiated access standards may be required. This information, in conjunction with the information below, will provide the connection applicant with certainty about which access standards will need to be negotiated and is more appropriate at this stage of the process.

- A new clause has been added to Schedule 5.4B replicating the list of technical information under clause S5.4A(q)(3) of the draft rule. It is important that the connection applicant obtains this technical information at this point in the process so it is able to undertake the network studies to determine the technical access standards that it must provide the DNSP in its application to connect.

- Draft rule clause S5.4A(p) requires a DNSP to provide information on all risks and obligations in respect of the proposed connection associated with planning and environmental laws not contained in the NER. These requirements are an aspect of the general Chapter 5 connection process and have been included in the embedded generation process to mirror those obligations. This provision has been moved to the detailed enquiry response, which is a more appropriate location for this information to be provided to the connection applicant.

- A new clause has been added to Schedule 5.4B that allows a DNSP to agree to the detailed enquiry response remaining valid for a specified period of time to allow the connection applicant to lodge an application to connect within that time. This provision provides the ability for a DNSP and a connection applicant to agree to a validity period for the detailed enquiry response.

### Ability for a DNSP and connection applicant to agree to a validity period

The draft rule provided six weeks for an applicant to apply for a connection offer. The validity period acknowledged that whether a project went forward or not would impact on DNSPs, current users of the network and other connection applicants seeking to connect to the distribution network. Therefore, it was intended that

specifying a time that detailed enquiry responses are valid would improve the certainty for all parties involved in the connection process and using the network.

In response to the draft rule determination, embedded generator proponents submitted that the six week validity period was too short to allow for approvals and contracts to be signed under often complex ownership structures. These proponents suggested that the validity period be extended to 12 weeks.

Further, at the October 2013 stakeholder workshop, a large-scale embedded generator proponent noted that under the current Chapter 5 connection arrangements, a DNSP's response to a connection enquiry contains technical information that allows the connection applicant to determine the relevant technical access requirements. Without this information the connection applicant would not be able to undertake the necessary power system studies and network studies to determine those access standards.

In the draft rule much of this necessary technical information was included in the preliminary response. However, as noted in section 2.2.3 above, the intent of the preliminary response was for the DNSP to provide as much information as it had at hand, not to undertake extensive network analysis. As such, under the draft rule process, it was unclear when the connection applicant would receive the technical information necessary to determine the access standards at the right time.

At the November 2013 stakeholder workshop, removing the validity period from the draft rule was discussed. The effect of this change would be to reinstate the current circumstance: that it would be in the interest of the connection applicant to carry out the required work in a timely manner in order to progress the connection process. However, the rule change proponents considered this was a reversion to the perceived inefficient processes under Chapter 5 that the rule change sought to address and risked stalling the connection process.

The Commission acknowledges the views of the rule change proponents that for smaller embedded generators a validity period may provide more certainty for connection applicants. Rather than impose a validity period for all detailed enquiry responses, the draft final rule provides the ability for a DNSP to agree to the detailed enquiry response remaining valid for a specified period of time during which a connection applicant may lodge its application to connect. When this agreed period of time elapses, the DNSP would be able to use the apportioned network capacity to service other connection enquiries.

#### Removal of the "agreed project" concept and fast-tracked connection application process

The draft rule provided for a DNSP's final detailed enquiry response to constitute an "agreed project". The agreed project concept took into consideration the amount of analysis and discussion between the parties up to and including the detailed enquiry stage. Where the applicant wished to proceed and obtain a connection offer based on the same project parameters and requirements as the agreed project, the connection application process was expected to be completed more quickly. Therefore, the draft

rule provided that agreed projects may be 'fast tracked' under the connection application process and completed within 20 business days.

In response to the draft rule, stakeholders noted that the agreed project concept and fast-tracked connection application process were not adequately defined and should be based on performance criteria. In addition, a DNSP's preliminary enquiry response needed to include the technical information required by connection applicants to undertake power system studies. While the draft rule moved the provision of this information to the preliminary enquiry response, it requires detailed analysis by the DNSP, which was at odds with the policy intent of the preliminary enquiry stage.

Consequently, achieving an agreed project at the end of the detailed enquiry process appears unlikely. This is due to the changes in the information requirements for both a DNSP's preliminary and detailed responses and the removal of the validity periods. Therefore, the removal of the agreed project and the related fast-tracked connection application from the draft rule was considered appropriate. At the November 2013 stakeholder workshop, it was noted that removal of the agreed project did not preclude DNSPs and connection applicants from arriving at an informal agreed project through their negotiation that forms the basis of the connection application process.

Therefore, given that an agreed project is unlikely to result from the DNSP's detailed response and that for most connections greater than 5MW negotiation of the access standards will be required, the agreed project has not been included in the draft final rule. In addition, as the fast-tracked connection application process was contingent on there being an agreed project, this too has been omitted from the draft final rule.

## 2.4 Connection application process

The connection application process largely reflects the current process under Chapter 5 of the NER with the addition of specific timeframes for connection applicants and DNSPs to complete certain aspects of the process. These timeframes have been amended to take into account the variety of embedded generation connections that may be contemplated under the new connection process. In the draft final rule, a DNSP is obliged to prepare an offer to connect in the period agreed with the connection applicant being a date no later than four months from the date of receipt of the application to connect, unless otherwise agreed.

As noted above, the validity period between the detailed enquiry response from a DNSP and a connection applicant lodging its connection application has been removed from the draft final rule. However, the draft final rule provides the ability for DNSPs and connection applicants to agree to the detailed enquiry response remaining valid for a specified period of time during which a connection applicant may lodge its application to connect.

Further, the draft final rule does not allow for connection applicants to request a fast-tracked connection application from a DNSP. With the removal of the agreed project concept from the draft final rule, connection applicants would be unable to access the fast-tracked connection application process.

### 2.4.1 Overview of the draft rule with the draft final rule

The following table provides an overview of the changes relating to the connection application process between the current NER provisions, the draft rule and the draft final rule.

The draft final rule column provides a high level overview of the obligations on connection applicants and DNSPs under the draft final rule. It also provides a reference to the applicable draft clause in the draft final rule.

| Current provisions | Draft rule | Draft final rule |
|---|---|---|
| Connection application process | | |
| An application to connect may be lodged following the completion of the enquiry process. There are no provisions about the timeframe within which applications need to be lodged. | Following receipt of the detailed enquiry response from a DNSP, the connection applicant would determine whether to proceed with the agreed project or make changes to its requirements. If the connection application is lodged after six weeks, the DNSP may request the connection applicant to lodge a new connection enquiry. | As noted in the detailed enquiry stage, the draft final rule removes the six week validity period between the detailed response and submitting an application to connect. However, the ability for a DNSP and a connection applicant to agree to the detailed response remaining valid for a specified period of time to allow the connection applicant to lodge an application to connect within that time has been included in the draft final rule (clause S5.4B(n)). |
| Following the lodgement of a connection application, the DNSP makes the connection offer within the time as set out in its program. | Where the connection applicant lodges a connection application for an agreed project, the DNSP must make an offer to connect within 20 business days.<br><br>Alternatively, where the connection application varies from the agreed project, the applicant and the DNSP would agree a timeframe for the DNSP to provide a connection offer. The applicant would be required to explain the differences and the DNSP could request that a new connection enquiry be lodged. | The fast-tracked application process has been removed from the draft final rule as a result of the removal of the agreed project concept.<br><br>The draft final rule obliges a DNSP to prepare an offer to connect in the period agreed with the connection applicant being a date no later than four months from the date of receipt of the application to connect, unless otherwise agreed. |
| There are no time limits within which the connection offer is to be accepted. | Once the DNSP has made a connection offer, the applicant would have 20 business days to accept the offer. The DNSP and the applicant could agree to extend this timeframe. | The draft final rule is unchanged from the draft rule. |

### 2.4.2 Unchanged policy settings

#### Timeframe for connection applicant to accept the offer to connect

The draft rule stated that once the DNSP has made a connection offer, the connection applicant would have 20 business days to accept the offer. The DNSP and the applicant could agree to extend this timeframe.

While some stakeholders considered that this timeframe was too short, the Commission considers that the offer to connect should remain open for acceptance for a shorter rather than longer period. This is because network conditions can change over time, which may require additional analysis to be undertaken. However, the draft final rule still allows the connection applicant and DNSP to extend this period of acceptance by agreement. This ability to extend the acceptance period would allow connection applicants and DNSPs the time to fully accept the commercial significance of an offer prior to acceptance.

### 2.4.3 Context for policy changes

#### Removal of the fast-tracked connection application process

This aspect of the draft final rule was discussed in section 2.3.2 above in relation to the removal of the agreed project concept.

#### Timeframe for a DNSP to provide an offer to connect

As discussed above, the draft final rule does not include the draft rule's agreed project concept and fast tracked connection application process. Consequently, the timeframes associated with these features do not require further consideration. Therefore, the draft final rule states that a connection application must be completed within four months, although this may be extended by agreement of both parties. The obligation relating to this aspect of the draft final rule may be found in draft clause 5.3.6(a)(2).

The draft rule also included a stop-the-clock mechanism to account for the time required by the DNSP to consult with AEMO or a TNSP under the fast-tracked and normal application processes. This consultation was expected to be more time critical under the fast-tracked process. However, as the agreed project and fast-tracked application processes have been removed from the draft final rule, the Commission considers that any analysis required by a DNSP at this stage should be subject to the four month timeframe. Further, as this timeframe is extendable by agreement between the parties, there does not appear to be need for retaining the stop-the-clock mechanism.

# 3 Dispute resolution

The draft rule provided for the appointment of an independent engineering expert to assess the reasonableness of any technical requirements arising out of the Chapter 5 connection process.

The expert appraisal process was proposed to address concerns communicated by some embedded generator proponents that such a process would be useful to assist in de-escalating technical disputes from having to be resolved under the Chapter 8 dispute resolution process. Some embedded generator proponents raised concerns that existing dispute resolution process could adversely affect the working relationships of embedded generator connection applicants and DNSPs and they were hesitant to utilise this process.

Following consideration of the available dispute resolution processes under the NER, the draft final rule has been amended to remove the expert appraisal process. Instead, the draft final rule directs connection applicants and DNSPs to use the dispute resolution process under Chapter 8 of the NER, which has been amended to clarify that technical disputes may be mediated through this process.

## 3.1 Comparison of the draft rule with the draft final rule

To address concerns relating to the application and scope of the existing dispute resolution process, the draft final rule includes an amended rule 8.2 clarifying that the technical requirements to establish or modify a connection sought by a connection applicant in a connection enquiry or an application may be the subject of a dispute for the purposes of Chapter 8 of the NER (without limiting any other subject matter for dispute under rule 8.2).

| Current NER provisions | Draft rule | Draft final rule |
|---|---|---|
| Part B of Chapter 8 of the NER sets out the general processes and procedures for resolution of disputes between registered Participants (including connection applicants). Part L of Chapter 6 provides for a dispute resolution process for access disputes under clause 5.5. | The draft rule proposed a new expert appraisal process in which eligible parties can appoint an independent engineering expert to assess the reasonableness of technical requirements arising out of the connection process. The expert appraisal process was additional to the existing dispute resolution processes (and was intended to be an input to it). | The draft final rule maintains the existing dispute resolution process in Chapter 8 and provides greater clarity on the scope and application of the dispute resolution process to the embedded generation connection process, including disputes as to the technical requirements to establish or modify a connection to the network.<br><br>The obligations in the draft final rule are under clause 5.3A.11. |

## 3.2 Context for policy changes

### 3.2.1 Removal of proposed independent expert appraisal process

The draft rule introduced an expert appraisal process that provided for the ability of eligible parties to appoint an independent engineering expert to assess the reasonableness of any technical requirements arising out of the Chapter 5 connection process. It was additional to the existing dispute resolution process and intended to act as an input to it (if the appraisal process was unsuccessful in resolving the issue in dispute).

At the November 2013 stakeholder workshop, the scope and application of the existing dispute resolution process was discussed. This discussion has informed the Commission's view that the current dispute resolution regime provides a workable process for evaluating and resolving technical and other connection-related disputes. The stages within the dispute resolution process, the involvement of the wholesale energy market dispute resolution advisor (WEMDRA), and the availability of a broad range of alternative dispute resolution mechanisms (including expert appraisal and mediation) provide sufficient scope of applicability to the range of technical disputes that may occur as part of the connection process.

That is, the existing dispute resolution provisions provide an appropriate and flexible framework, process and set of procedures to enable the resolution of technical disputes and are capable of accommodating an expert appraisal process where parties elect to utilise this approach.

The additional independent expert appraisal process proposed in the draft rule has been removed in the draft final rule.

# 4 Technical requirements for connection

In the absence of nationally consistent technical standards, but with a view to increasing the information available to embedded generator applicants, the Commission determined as part of the draft rule that some improvements could be made to the NER. One important element to increase available information that has been maintained in the draft final rule is an obligation for DNSPs to establish a public register of completed projects. This register will contain information on the generating plant and associated equipment that has been connected to a DNSP's network in the previous five years.

The Commission considers that publishing this information will promote efficiency in investment decisions by allowing connection applicants to identify earlier projects that may not be commercially feasible and so reduce the unnecessary commitment of resources. The register will also allow connection applicants to make more informed connection enquiries, and should therefore reduce the time and resources required by DNSPs to respond.

Importantly, the register is only a guide for potential connection applicants and DNSPs are not obliged to accept an application based on information in the register. This is due to the potential for specific locational, or other requirements that may be unique to a particular connection. Similarly, connection applicants are not limited to the use of equipment listed on the register of completed projects.

## 4.1 Overview of the draft rule with the draft final rule

The following table provides an overview of the changes relating to the technical requirements for connection between the current provisions, the draft rule and the draft final rule.

The column under the draft final rule provides a high level overview of the obligations on connection applicants and DNSPs under the draft final rule. It also provides a reference to the applicable draft clause in the draft final rule.

| Current NER provisions | Draft rule | Draft final rule |
|---|---|---|
| **Technical requirements for connection** | | |
| The specific technical requirements that connection applicants must adhere to are located in the schedules to Chapter 5. Schedule 5.2 specifically outlines the conditions for connection of generators. However, this schedule does not apply to generators that are exempt from registration. As such, it does not apply to embedded generators with a nameplate rating of less than 5 MW. Technical requirements for these generators are determined by DNSPs based on network and jurisdictional requirements. | The draft rule did not provide for a technical standard to apply to embedded generators, or an automatic access standard. However, for generating plant that meets minimum access standards, the draft rule placed an obligation on DNSPs to publish a register of this equipment that has been connected to its network. This equipment must also comply with the DNSP's reasonable design and technical requirements of plant. The register needed to be updated at least every two years.<br><br>Further, to cover those aspects of Schedule 5.2 relevant to the connection of embedded generators, the preliminary enquiry response must include details of the technical requirements relevant to the connection applicant. | The draft final rule does not provide for a technical standard to apply to embedded generators or an automatic access standard. However, it requires each DNSP to publish a register of completed projects that identifies the type of embedded generating plant and associated connection equipment that has been connected to the network in the last five years. DNSPs are required to update the register annually on a rolling five year basis. The obligations relating to the register of completed projects may be found in clause 5.4.5 of the draft final rule.<br><br>Further, to cover those aspects of Schedule 5.2 relevant to the connection of embedded generators, the preliminary detailed enquiry response must include details of the technical requirements relevant to the connection applicant. The technical requirements in the preliminary enquiry response may be found in Schedule 5.4A of the draft final rule. |

## 4.2 Unchanged policy settings

### 4.2.1 Automatic right to export electricity

In the draft determination, the Commission considered that any export of electricity from an embedded generator to the distribution network should be based on explicit agreement between both parties. Where there is agreement that exports from the proposed connection will not adversely affect network stability, power quality, supply reliability, or safety (or all necessary shared network augmentation has been completed to avoid these adverse outcomes) then export can occur.

The Commission considers that augmentation of the network may be required to enable the unconstrained export of electricity. The costs of such augmentation should be borne by the primary beneficiary of the augmentation, who, with the DNSP, is best placed to manage them. If all consumers are left bearing augmentation costs associated with an embedded generator's automatic right to export electricity, this is unlikely to lead to efficient investment in the distribution network or embedded generation, or be in the long term interests of consumers.

Therefore, where there is agreement that the proposed connection will not adversely affect network stability, power quality, supply reliability, or safety (or all necessary network augmentation has been completed to avoid these adverse outcomes), exports can occur. Where an embedded generator is a non-market exporting generator, it is required to sell electricity to either the local retailer or local customers at the generator's point of connection. Alternatively, embedded generators may also be market generators. In these circumstances, an embedded generator would also be required to sign a power purchasing agreement with its local retailer, or have appropriate contractual agreements in place with local load customers for the sale of exported electricity.[12]

In light of the above analysis and feedback from stakeholder submissions, the Commission maintains its view, that any export of electricity from an embedded generator to a distribution network should be based on explicit agreement between the relevant parties.

### 4.2.2 Publication of system fault level limitations

With the publication of the distribution network planning and expansion framework rule in October 2012, DNSPs now have an obligation to publish a distribution annual planning report (DAPR). These reports must include a description of any factors that may have a material impact on a network including among other things, fault levels, voltage levels, and the quality of supply to other network users.

12 An embedded generator may also be able to be aggregated as a small generator and its exported electricity sold into the market.

At the March 2013 stakeholder workshop, the proponents and other stakeholders commented that they expected the new DAPR rule requirements would achieve the objective in the rule change request for constraint information to be published. Therefore, as this aspect of the proponent's rule change request was already addressed under the NER, the draft rule did not include any other provisions relating to this issue. This policy setting remains in place for the draft final rule.

## 4.3 Context for policy changes

### 4.3.1 Register of completed projects

After considering stakeholder feedback on the register of compliant equipment included in the draft rule, the Commission has made a number of changes in the draft final rule. While the reason for requiring DNSPs to publish a register of generating plant and associated equipment remains largely unchanged, the refinements made are intended to minimise the burden on DNSPs and maximise the usefulness of the information to potential connection applicants.

The draft final rule requires DNSPs to publish on their website a register of all embedded generating plant and associated equipment that has been connected to their networks in the previous five years. The register will be updated annually on a rolling five year basis from commencement of this rule.

The purpose of the register is to provide potential connection applicants with up-to-date information on the type of generating plant, including connection configuration that has been connected to a DNSP's network. In doing so, the register will allow potential connection applicants to make more informed decisions with respect to their prospective embedded generation projects at an earlier stage than is currently possible.

Importantly, the register of completed projects is only intended as a guide for connection applicants and DNSPs are not obliged to accept an application to connect based on a configuration outlined in their register. This is due to the potential for specific locational, or other requirements that may be unique to a particular connection. Similarly, connection applicants are not limited to using only the equipment listed on the register.

The minimum level of information DNSPs will be required to publish in the register of completed projects is:

- technology of generating unit (for example, synchronous generating unit, induction generator, photovoltaic array etc);
- maximum power generation capacity of all generating units of the system;
- contribution to fault levels;
- the size and rating of the transformer;

- a single line diagram of the connection arrangement;
- protection systems;
- voltage control and reactive power capability; and
- details specific to the location of a facility connected to the network that are relevant to any of the details above.

Some of the information proposed to be included in the register may be confidential information. Unless an exemption to publish confidential information as set out in clause 8.6.2 can be relied on,[13] the DNSP will not be obliged to publish such information as part of the register.

The obligations relating to the register of completed projects may be found in clause 5.4.5 of the draft final rule.

13 For example, the information is in the public domain (clause 8.6.2(a)), the relevant connection applicant has consented to publication (clause 8.6.2(e)), the information is trivial (clause 8.6.2(f)).

# 5 Connection charges and the cost of network augmentation

The draft final rule:

- clarifies that DNSPs may charge an enquiry fee that is no more than necessary to recover the reasonable costs of all work anticipated to arise from investigating and responding to a request for a detailed enquiry response;
- does not exempt embedded generators from paying for shared network augmentation; and
- obliges DNSPs to provide an itemised statement of connection costs in its detailed enquiry response and offer to connect.

## 5.1 Unchanged policy settings

### 5.1.1 Augmentation of the shared network

The draft rule determination noted that if the current NER provisions were to be amended to exempt embedded generators from paying shared network augmentation, then the cost of connecting the embedded generator would be paid by other network users creating a cross subsidy. Depending on the relevant service classification and the details of the revenue determination, the burden may lie entirely with the other users of the network. This would dilute the cost-reflective price signals for a connection applicant.

Further, the benefits of embedded generation may not be maximised if generators receive locational signals based only on the costs of shallow augmentation as these signals may not account for a substantial part of the full connection costs.

Therefore, the Commission remains of the view that requiring embedded generators to contribute to shared network augmentation recognises that they are treated the same as load. Also, that allocating costs to the party that benefits from the expenditure is likely to provide appropriate price signals for generators to locate efficiently and, is therefore desirable.

For these reasons, the draft final rule does not make any change to the arrangements regarding the recovery of costs for shared network augmentation.

## 5.2 Context for policy changes

### 5.2.1 Connection charges

The context for the policy changes relating to connection charges and specifically the enquiry fee to be paid by a connection applicant to request a detailed enquiry response from a DNSP is discussed in section 2.2.3 above.

### 5.2.2 Itemised statement of connection costs

The context for the policy changes relating to itemised statement of connection costs to be included in a detailed enquiry response and an offer to connect from a DNSP is discussed in section 2.1.3 above.

# 6 Commencement date of final rule and transitional arrangements

## 6.1 Implementation of the new arrangements

The draft final rule modifies the current framework for the connection of embedded generators to distribution networks. These amendments will confer a number of obligations on DNSPs to improve the provision of information to the public and connection applicants to facilitate more timely connections. The modifications to the NER outlined in the draft final rule are as follows:

- **DNSPs to publish and maintain an information pack**: the information relevant to the making of an application to connect is required to be published by a DNSP under clause 5.3A.3. The information made available must include: a description of the process for lodging an application to connect for an embedded generating unit; a single line diagram of the DNSP's preferred connection arrangements and a range of other possible connection arrangements; a sample schematic diagram of the protection and control systems; worked examples of connection service charges, enquiry and application fees for the connection of embedded generation units (based on a range of connections with varying technical characteristics); details of any minimum access standards or plant standards the DNSP considers is applicable to embedded generation units and generating plant; technical requirements relevant to the processing of a connection enquiry or application to connect; and model connection agreements used by the DNSP.

- **DNSPs to create and publish an enquiry form**: a form specifying the information the DNSP requires from a connection applicant for connection of an embedded generator.

- **DNSPs to publish and maintain a register of completed projects**: a register of embedded generating plant or associated equipment that has been successfully connected to the DNSP's network over the preceding five years.

- **DNSPs to prepare for connection enquiries under the new framework**: DNSPs will need to update their IT and other systems to prepare for preliminary and detailed enquiry responses under the new process for connecting embedded generators.

The rule will commence six months from the publication of the final rule determination. The Commission considers that six months should provide stakeholders with sufficient time to prepare and publish the relevant information required under the new process.

## 6.2 Transition to the new arrangements

In the draft rule determination, the Commission considered that to transition to the new arrangements the approach would be:

- if a person has made a connection enquiry under the current clause 5.3.2; where:
  - the time under clause 5.3.2(c) has not elapsed, the connection enquiry should transition to the process under rule 5.3A; or
  - the time under clause 5.3.2(c) has elapsed, the connection enquiry should continue under old rule 5.3 unless the parties agree to re-start the connection enquiry under rule 5.3A;
- if a person has made an application to connect in accordance with the current clause 5.3.4, this application should be completed under rule 5.3 except that, if the embedded generator is less than 30 MW, then the offer to connect must contain an itemised statement of changes.

No submissions to the draft rule determination responded to the proposed approach. The Commission considers that it may be appropriate for the draft final rule to require enquiries and connection applications on foot to continue under the existing framework unless both the DNSP and the connection applicant agree otherwise.

Stakeholders are encouraged to raise any implementation issues that may need to be dealt with on a transitional basis.