

# Jemena Electricity Networks (Vic) Ltd

## Embedded Generation - Description of Connection Process

Embedded Generation - 5 MW or Greater

ELE PR 0007

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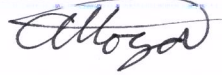

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2	28/01/2015	References added and clarifications added to description of Application Stage.	Erika Twining

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## ABBREVIATIONS

AEMO	Australian Energy Market Operator
DNSP	Distribution Network Service Provider
EG	Embedded Generator
JEN	Jemena Electricity Network (Vic) Ltd
MW	Megawatts
NER	National Electricity Rules

## 1. INTRODUCTION

The objective of this document is to provide a description of the connection process for embedded generation of greater than 5 **MW** to the Jemena Electricity Network. The document is intended to assist proponents or their agents to understand the purpose of each stage of the connection enquiry and application processes. The document describes the steps a proponent will need to follow at each stage of the connection enquiry and application processes.

As required in Chapter 5 of the National Electricity Rules, the proponent will be required to provide data on the proposed generating system at the beginning of each stage of the connection enquiry and application processes. In response, **JEN** will process the data and make certain information available to the proponent at the end of each stage of the connection enquiry and application processes. Chapter 5 of the National Electricity Rules and specifically Schedule 5.4A and 5.4B list the data and information to be exchanged between JEN and the generator proponent. The primary objective here is to have a clearer, more transparent connection process with defined timeframes.

This document also lists the factors taken into account by JEN, at each stage of the connection enquiry and application, when assessing an application to connect for an embedded generator. The document is structured as follows – Section 2 provides a high level summary of the connections process for embedded generators greater than 5 MW and a brief description of the stages involved. Sections 3 – 6 provide further details on each stage of the connection process along with a checklist for the proponent as well as JEN.

### Important Note

Embedded Generators that are greater than 5 MW (the existing threshold for standing exemption from registration with AEMO) are typically required to register with AEMO. The obligations depicted within Chapter 5 of the NER apply to such registered generators.

JEN is required to consult with AEMO on certain technical advisory matters for embedded generators greater than 5 MW. The generator is also required to provide technical data and other relevant information to AEMO. A description of AEMO's connections process is available here –

[http://www.aemo.com.au/Electricity/Network-Connections/Vic\\_Generator\\_Distribution\\_New-Connection](http://www.aemo.com.au/Electricity/Network-Connections/Vic_Generator_Distribution_New-Connection)

## 2. REFERENCES

### Jemena Documents

Jemena recommends that this document be reviewed by the proponent in conjunction with the following:

1. [Embedded Generators 5 MW or Greater - Technical Access Standards \(ELE SP 0003\)](#)
2. [Embedded Generators 5 MW or Greater - Connection Principles and Guidelines \(ELE GU 004\)](#)
3. [Embedded Generation Guidelines \(JEN GU 0020\)](#); and
4. [Tendering Guide \(JEN GU 0700\)](#)

### Regulatory Codes and Guidelines

In addition to the [National Electricity Rules \(NER\)](#), the connection of embedded generators in Victoria is governed by a number of jurisdictional codes and guidelines published by the Essential Services Commission including:

1. [Electricity Distribution Code](#)
2. [Electricity Industry Guideline No. 14: Provision of services by electricity distributors](#); and
3. [Electricity Industry Guideline No. 15: Connection of embedded generation](#).

The relationship between these codes and guidelines and the National Electricity Rules is described in detail in Jemena's Embedded Generation Guidelines.

### 3. HIGH LEVEL CONNECTION PROCESS

Chapter 5 of the NER applies to embedded generators that *do not* have a standing exemption for registration from **AEMO**. Currently the standing exemption limit is set at 5 MW and as such the processes described in this document apply to embedded generators greater than 5 MW in size.

Broadly speaking, the connection process is divided into an enquiry process and an application process.

#### **Enquiry Process**

Chapter 5 of the NER prescribes a two-stage connection enquiry process consisting of a preliminary enquiry stage (or 'Enquiry – Stage 1' in this document) followed by a detailed enquiry stage (or 'Enquiry – Stage 2' in this document).

With agreement from JEN, an embedded generator may skip the Enquiry – Stage 1. Otherwise, JEN has a set time period nominally at 15 business days (or as agreed between the parties) to provide a preliminary enquiry response to an embedded generator. JEN's response to Enquiry – Stage 2 is to be completed within a set time period nominally at 30 business days (or as agreed between the parties). The timeframes to provide enquiry responses are extendable upon agreement.

These provisions are intended to improve the timeliness and certainty of embedded generation connection enquiries. As permitted within the Rules, JEN may charge an enquiry fee for preparing a response to Enquiry – Stage 2. Any enquiry fee charged is to recover the reasonable costs incurred by JEN related to the preparation of the response.

#### **Application Process**

Following the enquiry stages, an embedded generator proponent may lodge an application to connect with a distributor. JEN will be required to make an offer within a set time period nominally at 4 months (or as agreed between the parties) of receiving an application. An embedded generator proponent has 20 business days in which to accept this offer. These timeframes are extendable upon agreement.

#### **Pre-commissioning Activities**

Prior to commissioning and energization of the embedded generator, connection works will need to be designed, constructed and tested to assure JEN that the generator technical access standards can be complied with. The proponent is required to submit a commissioning and test plan to JEN for review at least three months prior to commissioning a generating system with a nameplate rating of 30 MW or greater. If the nameplate rating is less than 30 MW, such a plan needs to be submitted at least one month prior to commissioning.

Figure 1 below provides a high level summary of the end to end connections process.

# HIGH LEVEL CONNECTION PROCESS — 3

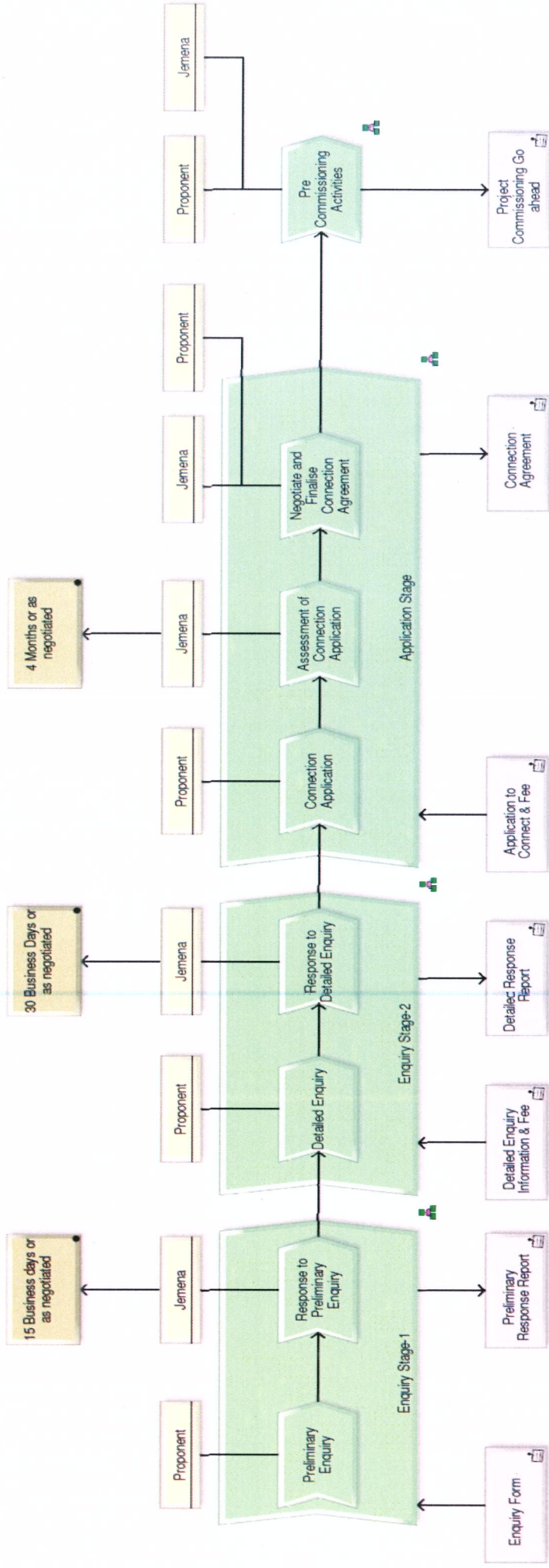


Figure 1: High Level Connections Process Map for Embedded Generators greater than 5 MW



## 4. ENQUIRY STAGE 1

The purpose of the two-stage enquiry process is to provide a framework for negotiations between the parties at the outset of a connection enquiry. In particular, it is intended to provide structure and transparency to this initial part of the connection process. The Enquiry – Stage 1 process includes providing general, high level information that is readily available to JEN without any detailed analysis and that may help the proponent develop the project connection options. The Enquiry – Stage 1 is also expected to provide improved certainty to both the applicant and JEN and improve the overall transparency of the connection process.

The following are key requirements on concerned parties for Enquiry – Stage 1.

### EG Proponent

- Provide completed Preliminary Enquiry Form with accurate information
- If appropriate, submit request to JEN if Enquiry – Stage 1 is to be skipped

### JEN

- Review completed Preliminary Enquiry Form and identify any discrepancies within 5 business days or as negotiated
- If required, liaise with AEMO and other **DNSPs** on the specific enquiry
- Provide Preliminary Enquiry response to proponent, with consideration to requirements in Schedule 5.4A of the NER within 15 business days or as negotiated. Key features of JEN's response will include:
  - Specific but readily available, network technical information as it relates to the EG's connection point
  - A description of the connection process as it may relate to the connection enquiry
  - Examples and / or estimates of fees and charges.

A detailed process map on how JEN will manage Enquiry – Stage 1 is depicted here –

<http://jemena.com.au/Assets/What-We-Do/Assets/Jemena-Electricity-Network/Enquiry%20Stage-1.pdf>

## 5. ENQUIRY STAGE 2

This chapter sets out a description of the Enquiry – Stage 2 or detailed enquiry stage of the new two part enquiry process. Per the Rules, JEN will commence its activities within the Enquiry – Stage 2 process on receipt of all requisite information from the proponent and when the enquiry fee is paid. It is expected that JEN's response to the proponent's detailed enquiry will involve detailed technical analysis on the site-specific aspects of the proposed generating system. JEN will prepare specific automatic and minimum access standards, as well as conduct a technical and commercial review of the impact of the EG.

The intent behind the timeframe in the NER 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. In case of some enquiries, for example where shared network augmentation is required or multiple DNSPs are involved, JEN will require more time for the relevant network analysis to be completed and cost estimates to be developed. It is expected that the proponent and JEN will negotiate in good faith and agree to an alternative timeframe of greater than 30 business days to complete the detailed enquiry response.

The following are key requirements on concerned parties for Enquiry – Stage 2.

### EG Proponent

- Notify JEN of intent to proceed with Enquiry - Stage 2
  - Provide information on the generating system as outlined in the Preliminary Enquiry response
  - Pay the requisite Detailed Enquiry fee

### JEN

- Review the information provided by the proponent and identify any discrepancies within 10 business days or as negotiated
- Provide Detailed Enquiry response to proponent, with consideration to requirements in Schedule 5.4B of the NER within 30 business days or as negotiated. Key features of JEN's response will include:
  - A description of the project being considered including the point of connection and the facilities.
  - Details of each technical requirement (access standards and plant standards) relevant to the proposed generating plant
  - A statement about which negotiated access standards may require the involvement of AEMO.
  - Estimates of fees and charges including an explanation of impacting factors
  - Technical data, design reports and system study reports to be included with the application to connect
  - A description of the connection process as it may relate to the connection application
  - Validity period of the detailed enquiry response

A detailed process map on how JEN will manage Enquiry – Stage 2 is depicted here

<http://jemena.com.au/Assets/What-We-Do/Assets/Jemena-Electricity-Network/Enquiry%20Stage-2.pdf>

## 6. APPLICATION STAGE

This chapter sets out a description of the connection application stage of the connection process for EG greater than 5 MW. To initiate the Application Stage the proponent is required to provide all necessary information as identified in the Detailed Enquiry response and pay an application fee.

The proponent's submission should include a Technical Compliance report that documents the analysis performed to evaluate compliance with JEN's automatic access standards as described in Jemena's 'Embedded Generators 5 MW or Greater - Technical Access Standards (ELE-SP-003)'. In cases where the proponent cannot meet the automatic access standards, suitable negotiated standards should be nominated such that these are as close to the automatic standards as reasonably possible. It should be noted that a negotiated access standard must be no less onerous than the corresponding minimum access standard. JEN will assess the technical data, Design Report and Technical Compliance to establish its position on technical matters pertaining to the connection application.

The negotiations on technical access standards will be performed in accordance with Section 5.3.4A of the NER. JEN will advise the proponent if the proposed negotiated access standards have been accepted or rejected within 30 business days. JEN will reject a proposed negotiated access standard if it is JEN's reasonable opinion that the connection will adversely affect power system security or the quality of supply for other Network Users. If a proposed negotiated access standard is rejected, JEN will advise the proponent of an acceptable negotiated access standard. It is important to note that during the Application Stage, JEN may need to liaise with AEMO on the AEMO advisory matters and with other NSPs on technical matters related to the connection application.

JEN will undertake a similar effort to establish a commercial position as part of the draft Connection Agreement and Connection Works Offer, together forming an Offer to Connect. Per the NER, JEN is required to provide an Offer to Connect within 4 months of the application or a larger time period as negotiated with the proponent. In case of some applications, for example where shared network augmentation is required or multiple DNSPs are involved, JEN will require more time for the relevant network analysis to be completed and detailed cost estimates to be developed for the Connection Works Offer. It is expected that the proponent and JEN will negotiate in good faith and agree to an alternative timeframe of greater than 4 months to provide an Offer to Connect.

If connection of the EG requires alteration or augmentation of the shared network, a number of contestability or tendering options will be made available to the proponent as described in Jemena's Tendering Guide. These options are intended to provide the proponent with the opportunity to assess and choose the most practical and cost effective solution.

The following are key requirements on concerned parties for the Application Stage.

### EG Proponent

- Complete Application form in accordance with NER Sections 5.3A.9 and 5.3.4A
- Pay the requisite Connection Application fee
- Provide JEN with requisite technical information to process the connection application
  - Technical data as specified in the Detailed Enquiry response
  - Technical Compliance report
  - Generating System Design report

**JEN**

- Review the information provided by the proponent and identify any discrepancies within 10 business days or as negotiated
- Review Technical Compliance report and Generating System Design report
- Finalize Technical Access Standards for the EG connection application
- Provide Offer to Connect within 4 months or as negotiated. The principle components include:
  - Draft Connection Agreement with terms and conditions
  - Technical Access Standards
  - Connection Works and Services Offer (if needed)

A detailed process map on how JEN will manage the Application Stage is depicted here

<http://jemena.com.au/Assets/What-We-Do/Assets/Jemena-Electricity-Network/Application%20Stage.pdf>

## 7. PRE-COMMISSIONING ACTIVITIES

The project technical requirements and commercial terms are finalized in the previous stages of the connection process. Activities such as detailed design of connection assets, network augmentation works and construction are commenced as the project moves closer to commissioning and energization. JEN will require that certain information exchange happens in this Pre Commissioning Stage so as to ensure that the proposed generating system is designed and constructed in accordance with the terms and conditions (technical and commercial) of the Final Connection Agreement.

The following are key requirements on concerned parties for the Pre Commissioning Stage.

### **EG Proponent**

- Complete Detailed Design report for the Proponent's scope of work
- Prepare Inspection and Test Plan, and Operating Plan
- Prepare Commissioning Plan
  - At least 3 months prior to commissioning if EG size is greater than 30 MW
  - At least 1 month prior to commissioning if EG size is greater than 5 MW but less than 30 MW
- Conduct Commissioning tests, per agreed Commissioning Plan
- Prepare Commissioning Test report

### **JEN**

- Complete Detailed Design and undertake construction of JEN's scope of work
- Review and comment on Detailed Design, Operating Plan and ITP for generating system
- Review Commissioning Test report

A detailed process map on how JEN will manage the Pre Commissioning Stage is depicted here

<http://jemena.com.au/Assets/What-We-Do/Assets/Jemena-Electricity-Network/Pre%20Commissioning%20Activities.pdf>