

Chapter 5 Embedded Generation Information Pack

**United Energy's guide to the Embedded Generation
connection process for of Chapter 5**

Public

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This document is designed to guide the Connection Applicant through the connection process for Chapter 5.

It describes connection process and appropriate documents to be utilised when pursuing connection within UE's distribution network for registered generation systems (above 5MW – part of Chapter 5).

1. Connection Framework

The NER governs the NEM. Within the NER, Chapter 5 and 5A are dedicated to embedded generation connections amongst other connection matters.

For Chapter 5:

- Embedded generation with capacity above 5MW. The Connection Applicant must use the connection process defined by Chapter 5.

For Chapter 5A, the NECF (National Energy Customer Framework) applies to cover amongst other matters:

- Embedded generation with capacity below 5MW. The Connection Applicant may choose to use the Chapter 5 connection process, otherwise the connection process defined by Chapter 5A must be used.

The merits of each connection process is briefly outlined below:

Chapter 5	Chapter 5A
More defined and detailed	More flexible
Generally longer connection process	Generally shorter connection process

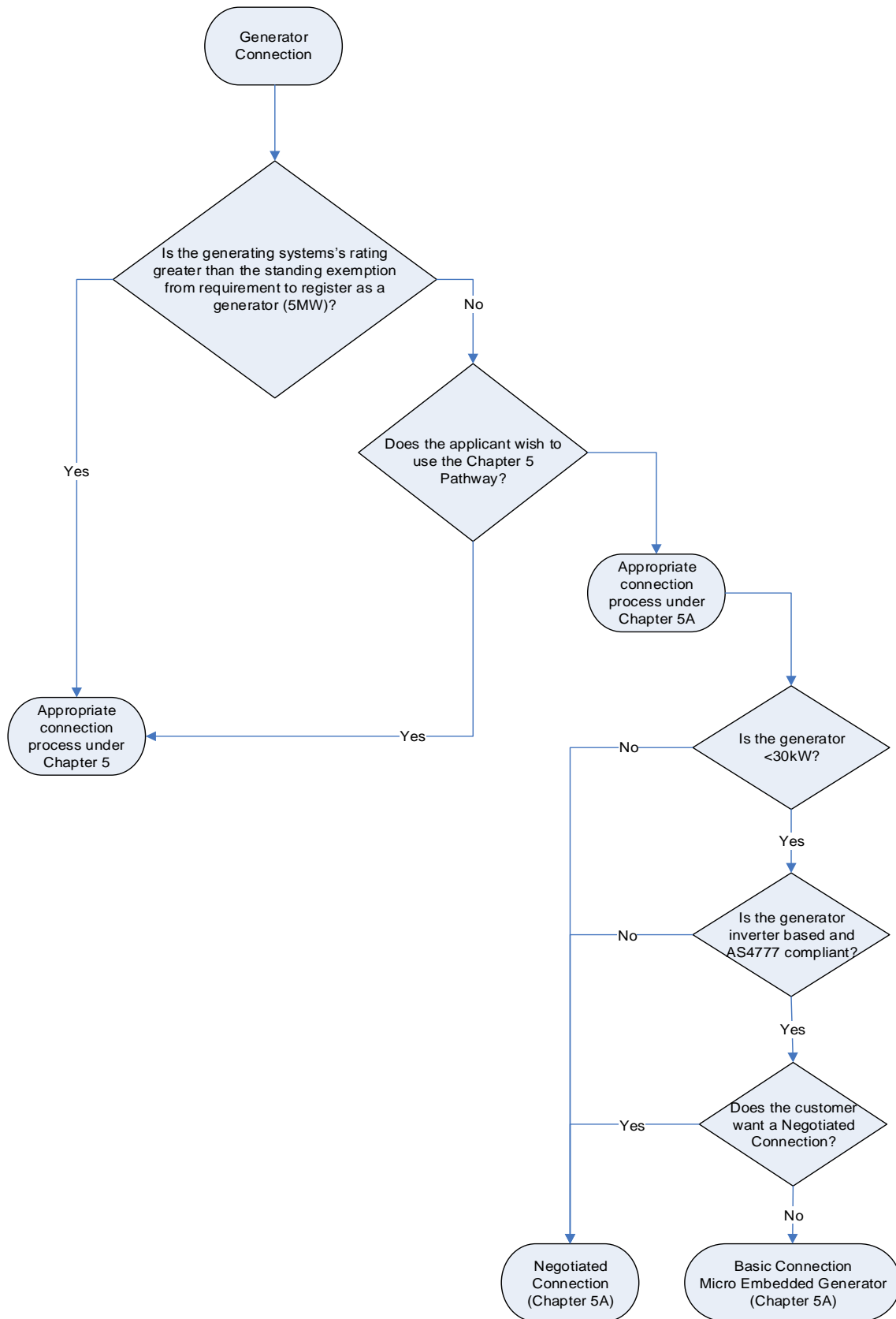


Diagram 1. NER Chapter 5 and 5A connection pathway

2. Negotiated Standards – Chapter 5

All embedded generator proponents are encouraged and in certain circumstances required to comply with the automatic access standards. However in certain situations a lower standard may be negotiated. Should this be required, the NER framework S5.2.5 – S5.2.7 will be referenced as the negotiating foundation. The Connection Applicant is also advised to consult this in conjunction Section 7.8 of UE ST 2008 (summary of UE's automatic and minimum access criterion).

Of particular note when seeking negotiation:

- Under no circumstances will a standard less than the minimum access standard be permitted.
- Negotiated performance is appropriate and set not to adversely affect the quality of supply and stability to other network customers and:
- Approved by AEMO and where applicable other NSP and stakeholders.

Assessment Considerations

The following high level factors are taken amongst the considerations relative to the proposal at each stage during the Connection Enquiry and Application to Connect process;

- Network Safety, Security and Stability;
- Network infrastructure availability, capability and capacity to facilitate the proposal;
- Infrastructure and commercial demarcation and crossover, especially when multiple jurisdictions are involved;
- Depending on proposal, suitable communications infrastructure to facilitate technical as well as NEM market control requirement (protection and or generator scheduling operation);
- Embedded generation network impact (and nearby customers);
- Network and Proposal Interconnection Protection
- Network Infrastructure Thermal Capacity;
- Network Voltage Control;
- Generator Fault Level Contribution;
- Power Factor of Generator Operation;
- Power Quality of Supply Generated;
- Generator Operations (Modus Operandi: Renewables, base, peaking etc...).
- Network augmentation (i.e. infrastructure upgrade) likely to be required to facilitate the proposal and commercial model such as contestability, construction, ownership, the classification of services provided and associated costs.
- Other jurisdiction approvals (lease, easements, council planning etc.);
- Network scope of work delivery timeframe;
- Legal, commercial and financial due diligence of the entity entering into the agreement.
- All other suitable considerations unique to the proposal.

UE's Embedded Generator Access Standard UE ST 2008 is recommended as the starting reference point for generator connections in this category.

UE ST 2008 Embedded Generation Technical Standard is available on the UE website.

3. Connection Process

The Chapter 5 connection process is employed as illustrated in Diagram 2. Please consult the document UE ST 2008 Section 5.2 for additional details and references.

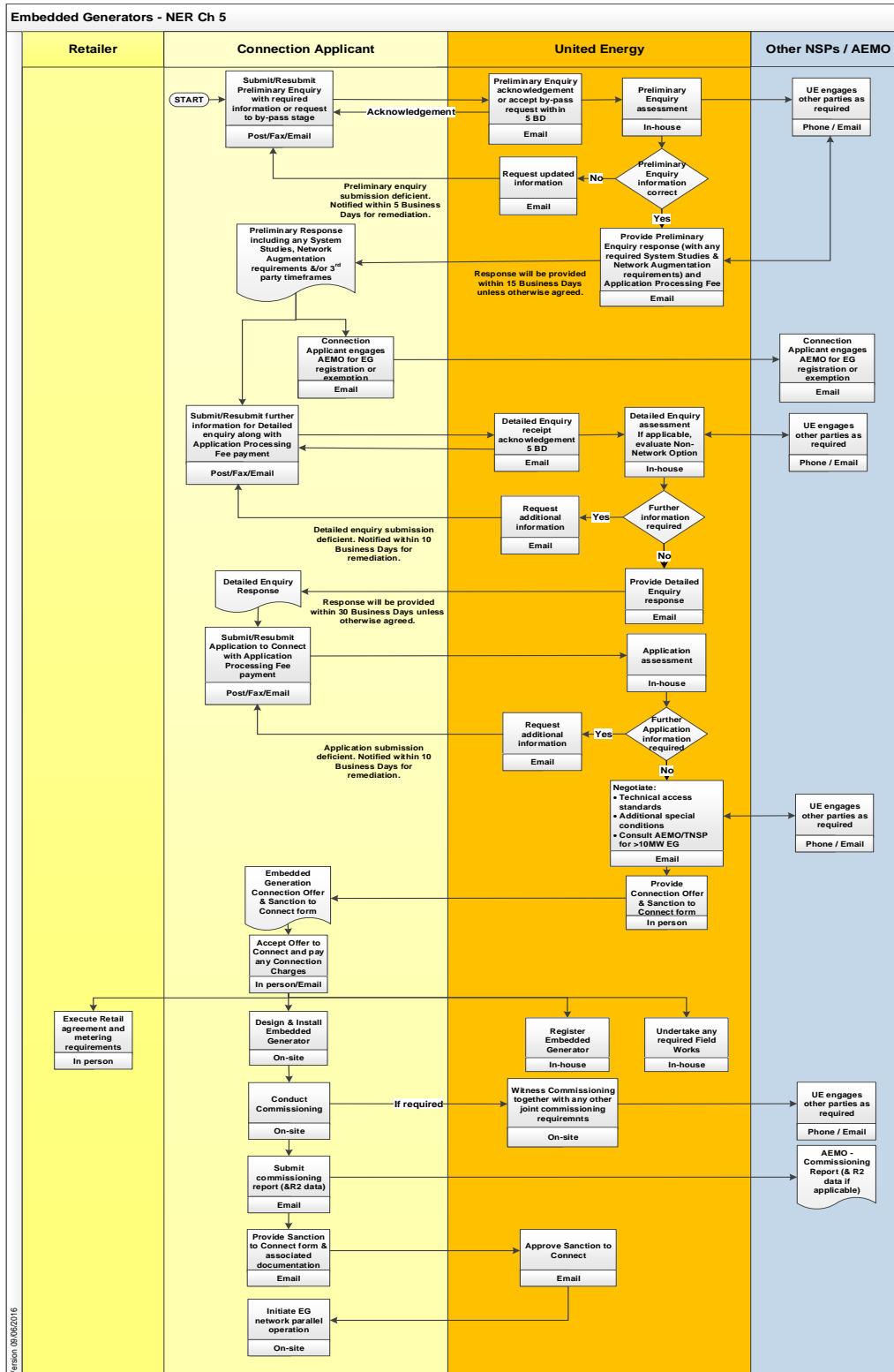


Diagram 2. Chapter 5 connection process

4. Key Documents

Available on UE's website as part of the 'Chapter 5 Information Pack' are documents to enable the respective connection process. These are:

- [Preliminary Enquiry Form – Above 5MW Capacity:](#)
To be used for generator system capacity above 5MW. Submission of the preliminary enquiry initiates the official engagement with UE.
- [Detailed Enquiry Form – Above 5MW Capacity:](#)
The Connection Applicant commits to continuing with the connection process with above 5MW generating system. This form is completed and submitted by the Connection Applicant after receiving UE's 'Preliminary Enquiry Form' feedback. An Enquiry Fee relative to proposal complexity is applied and requires settlement before the Detailed Enquiry Response can be commence by UE.
- [UE ST 2008 Embedded Generation Network Access Standard v1.2.](#)
The technical performance standard employed by UE for generator compliance. Note: generator capacity above 5MW could be subjected to third party requirements such as AEMO and or other DNSP/TNSP, beyond UE's own requirements. Where appropriate and or applicable, other standards and technical requirements may apply.
- [Connection Service Charges and Fee Estimate](#)
This provides the Connection Applicant with some general perspective on potential fees and service charges to facilitate the connection of the embedded generation system. It's highlighted that each embedded generation connection can be unique and only a proper assessment respective to the proposal specifics can determine more accurate estimates and costs.
- [Chapter 5 Distribution Connection Generator Agreement – Sample](#)
This provides the Connection Applicant a sample copy of the formal agreement employed by UE for the Chapter 5 process.

5. Contestable Works

If a customer wishes to connect an embedded generator and:

- A new connection service is required and/or
- A connection alternation is required and/or
- Network Augmentation is required

The works (excluding generation) may be contestable.

Contestability Options

On requesting service connections or augmentation works, UE offers the following tender options:

1. Customer may choose UE to undertake both the design and construction of the project as per the connection offer and waive its rights to call for tenders.
2. Customer may choose UE to undertake the design request UE to call tenders on their behalf for the construction of the project.
3. Customer may choose UE to undertake the design only and choose to call tenders themselves for the construction of the project.
4. Customer may choose to call tenders and undertake both the design and construction of the project utilising contractors approved by UE.

It should be noted that under options 2, 3 and 4 the customer is choosing to undertake the works themselves whether under a UE tender or its own tender process. Under options 2, 3 and 4, the customer is required to sign a UE Contract/Agreement to ensure that the works are undertaken:

- ✓ By approved contractors
- ✓ To the required standards
- ✓ Use of approved materials
- ✓ To provide audit access to UE representatives
- ✓ To indemnify UE
- ✓ To provide defects liability and warranty cover

For the following UE documents:

- Connection Policy
- Tendering Policy

Please see the UE website.

6. UE Contacts

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