



Guide to Registration Exemptions and Production Unit Classifications

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Important Notice

Purpose

This document has been prepared by AEMO as required by 2.1.3(a) of the National Electricity Rules (NER). This document has effect only for the purposes set out in the NER. The NER and the National Electricity Law (NEL) prevail over this document, to the extent of any inconsistency.

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6.0	3 June 2024	Update to reflect National Electricity Amendment (Integrating energy storage systems into the NEM) Rule 2021.

1. Introduction

1.1. Purpose and scope

This Guide to Registration Exemptions and Production Unit Classifications (**Guide**):

- Is *published* for the assistance of potential applicants for registration in the National Electricity Market (**NEM**).
- Forms part of the *registration information resource and guidelines* which AEMO maintains consistent with clause 2.1.3(a) of the National Electricity Rules (**NER**).
- Details:
 - The process for applying for an exemption from the requirement to register as a *Generator* or *Integrated Resource Provider*.
 - The matters which AEMO will take into account in granting exemptions under the NER, whether such exemptions are automatic or require an application.
 - The matters which AEMO will take into account in assessing applications for classification of *production units*, where an exemption does not apply.
 - The circumstances under which AEMO will impose terms and conditions of classification or exemption, as well as the nature of these terms and conditions.

The NER and the *National Electricity Law* (**NEL**) prevail over this Guide to the extent of any inconsistency.

1.2. Definitions and interpretation

1.2.1. Glossary

The words, phrases and abbreviations set out below have the meanings set out opposite them when used in this Guide.

The terms which are defined in the NEL or the NER have the same meanings in this Guide, unless otherwise specified. These terms are intended to be identified in this Guide by italicising them, but failure to italicise such a term does not affect its meaning.

Term	Definition
AC	Alternating Current
BDU	<i>Bidirectional Unit</i>
DC	Direct Current
EPC	Engineering, procurement, and construction
GS	<i>Generating System</i>
GU	<i>Generating Unit</i>
IRP	<i>Integrated Resource Provider</i>
IRS	<i>Integrated Resource System</i>
MT PASA	<i>Medium term PASA</i>
MVA	Megavolt ampere
MW	Megawatt

Term	Definition
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
NSP	Network Service Provider
PASA	Projected Assessment of System Adequacy
PU	Production Unit
SCADA	Supervisory Control And Data Acquisition
ST PASA	Short term PASA

1.2.2. Determining nameplate rating

For the purpose of this Guide, where the rating of an item of *plant* is specified by the manufacturer in MVA and not MW, the *nameplate rating* is determined by converting the manufacturer’s:

- rating for asynchronous production units; or
- machine rating for synchronous production units,

in MVA to the rating in MW by applying a conversion factor of 1.

The nameplate rating of:

- A *coupled production unit* is determined by the *nameplate rating* of the shared equipment.
- A *BDU* is measured separately for output and consumption. The *nameplate rating* threshold in the NER will be met or exceeded by the *BDU* if it is met or exceeded with respect to either the output or consumption of the *BDU* (or both).
- A *GS* or the *IRS* is the aggregate of the combined *nameplate ratings* of the *PU*s which comprise the *GS* or the *IRS*.

1.2.3. Interpretation

This Guide is subject to the principles of interpretation set out in Schedule 2 of the NEL.

1.3. Related documents

Title	Location
Application for Exemption from Registration as a Generator or an IRP	https://aemo.com.au/-/media/files/electricity/nem/participant_information/application-forms-and-supporting-documentation/application-for-registration-exemption---nem---generator.docx?la=en
Application for Registration as a Generator or an IRP in the NEM	https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/generator/application-for-registration-as-a-generator.docx?la=en
Energy Conversion Model Guidelines (Solar)	http://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/Dispatch/Policy_and_Process/Energy_Conversion_Model_Guidelines_Solar.xlsx
Energy Conversion Model Guidelines (Wind)	http://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/Dispatch/Policy_and_Process/2016/Energy_Conversion_Model_Guidelines_Wind_20161209.xlsx

Title	Location
NEM Generator or IRP Registration Guide	https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/generator/nem-generator-registration-guide.pdf?la=en

1.4. Inquiries

All inquiries about this Guide should be directed to AEMO's Information and Support Hub at supporthub@aemo.com.au, or phone 1300 236 600.

2. Exemptions from Registration as a Generator or an IRP

2.1. Authority to exempt

Clause 2.1A.2(a) of the NER provides that AEMO may, in accordance with the *registration information resources and guidelines*, exempt a person from the requirement under clause 2.1A.1 to register for the *GS* or *IRS*, subject to such conditions as AEMO deems appropriate, where (in AEMO's opinion) an exemption is not inconsistent with the *national electricity objective*.

2.2. What exemption means

A person who is exempted on the basis of the characteristics of the *GS* or *IRS* is not permitted to participate directly in the *market* or have its *PUs dispatched* by AEMO other than as *ancillary service units* where applicable, but may be required to comply with certain technical requirements in relation to their *PUs*, as well as with any conditions placed on the exemption by AEMO.

Any person who is eligible for exemption but wishes to participate directly in the *wholesale market* and to classify a *PU* must apply to AEMO for registration as a *Market Generator* or as an *IRP* as relevant.¹

2.3. Exemption categories

Exemptions from the requirement to register as a *Generator* or an *IRP* may be granted based either on the characteristics of the *GS* or *IRS* (nature, size, type and operation), or on the registration of an *intermediary* as the *Generator* or *IRP*, as follows:

- (a) A standing exemption is available to a person who owns, operates or controls a *GS* or *IRS* with a *nameplate rating* of less than 5MW when fully connected to a *transmission system* or *distribution system*.
- (b) An application for exemption may be made by a person who owns, operates or controls a *GS* or *IRS* (other than an *IRS* which comprises or includes a *BDU* with a *nameplate*

- rating of 5MW or greater) with a nameplate rating of less than 30MW, which is not eligible for the standing exemption.*
- (c) An application for exemption may be made by a person who owns, operates or controls a *GS* or *IRS* (other than an *IRS* which comprises or includes a *BDU* with a *nameplate rating of 5MW or greater) with a nameplate rating of greater than 30MW:*
 - (i) if the purpose for which exemption is sought is the provision of *unscheduled reserve* in accordance with an *unscheduled reserve contract*; or
 - (ii) for existing *GS* or *IRS* in exceptional circumstances at AEMO's absolute discretion.
 - (d) A temporary notifiable exemption may be available to a person who owns, operates or controls a *GS* or *IRS* to which no other exemptions apply, during initial testing and pre-commissioning, where the aggregate *nameplate rating* of the *connected PUs* is less than 5MW at any time.
 - (e) An application for exemption must be made by a person who owns, operates, or controls a *GS* or an *IRS*, where the person has proposed an eligible person (an *intermediary*) to be registered on the person's behalf as a *Generator* or *IRP* for that *GS* or as an *IRP* for that *IRS*.

2.4. No exemption for BDU 5MW or greater

AEMO requires a person who owns, operates or controls a *BDU* with a *nameplate rating of 5MW or greater* to be registered as an *IRP*. This requirement applies to person with a standalone *BDU*, as well as a *BDU* that is proposed to be installed as part of a larger *IRS* with a non-*BDU* unit.

2.5. Exemption application process

If a person is not eligible for a standing exemption and wishes to apply to AEMO for an exemption from the requirement to register as a *Generator* or an *IRP* under this Guide, the following process applies.

1. The applicant must apply to AEMO for approval for an exemption from the requirement to register as a *Generator* or an *IRP* in the form prescribed by AEMO.
2. AEMO will advise the applicant of any further information or clarification which is required to support its application if, in AEMO's reasonable opinion, the application:
 - is incomplete; or
 - contains information upon which AEMO requires clarification.
3. If the further information or clarification required pursuant to paragraph 2 is not provided to AEMO's satisfaction within 15 business days of AEMO advising the applicant, AEMO may, on notice to the applicant at any time after expiry of that period, elect to treat the application as withdrawn and the applicant will be taken to have withdrawn the application.
4. After AEMO is satisfied that all required information and clarifications have been provided, AEMO will determine whether the applicant is to be exempt from the requirement to register as a *Generator* or *IRP*.
5. If AEMO is not satisfied that an applicant meets the eligibility requirements set out in this Guide, then AEMO will provide a reason for that determination.

3. Exemptions based on system characteristics

3.1. Exemption at the connection point

- (a) Subject to paragraph (b), an application for exemption from registration as a *Generator* or an *IRP* must be made with reference to the *GS's* or the *IRS's connection point*.
- (b) Where the *GS* or *IRS* is connected to a *distribution system* or *transmission system* through an *embedded network* at a *parent connection point* and the *GS* or *IRS* has a *child connection point*, an exemption application is made with reference to the *GS's* or the *IRS's child connection point*.
- (c) In circumstances where a *GS* or an *IRS* is connected to a *distribution system* or *transmission system* through an *embedded network* at a *parent connection point* but does not have a *child connection point*, the *GS's* or the *IRS's connection point* is considered to be the *embedded network parent connection point*.

3.2. Standing exemptions

3.2.1. Automatic exemptions

Most *GS* and *IRS* with a total *nameplate rating* of less than 5MW when fully connected to a *transmission system* or *distribution system* are unlikely to cause a material degradation in the quality of *supply* to other *Network Users*.

Subject to section 3.2.2, 3.2.2 any person who engages in the activity of owning, controlling, or operating a *GS* or *IRS* with a total *nameplate rating* of less than 5MW will be automatically exempt from the requirement to register as a *Generator* or an *IRP* in relation to that activity, where both of conditions (a) and (b) apply:

- (a) either:
 - (i) the *GS* or *IRS* is not capable of exporting to a *transmission system* or *distribution system* in excess of 5 MW; or
 - (ii) the *GS* or *IRS* has no capability to synchronise to a *distribution system* or *transmission system*; and
- (b) where there is any potential for the *GS* or *IRS* to export *energy*, either:
 - (i) the *sent out generation* is purchased in its entirety by a *Market Participant* who is *financially responsible* for all electricity generated or consumed at the same *connection point*; or
 - (ii) the *connection point* is classified as a *market connection point* by an *IRP* (in its capacity as a *Small Resource Aggregator*).

3.2.2. Automatic exemption in embedded networks

Where the *GS* and *IRS* that are *connected* to a *distribution system* or *transmission system* through an *embedded network* at a *parent connection point*, have a combined total *nameplate rating* of less than 5MW, each person who owns, operates or controls those *GS* and *IRS* will be

automatically exempt from a requirement to register as a *Generator* and an *IRP*. The exemption of each *GS* and *IRS* is subject to the conditions set out in section 3.2.1 3.2.1(a) and (b) above.

3.2.3. No application for exemption required

AEMO does not require any person who is eligible for exemption in accordance with the criteria detailed in section 3.2.1 or 3.2.2 3.2.13.2.2 to submit to AEMO an application for exemption from registration as a *Generator* or an *IRP*. Any person in doubt as to whether their *GS* or *IRS* can meet the criteria detailed in section 3.2.1 or 3.2.2 should submit such an application.

3.3. Applications for exemption – systems less than 30 MW that are not eligible for the standing exemption

3.3.1. Generally

There is no standing exemption for a person who owns, operates or controls a *GS* or *IRS* with a total *nameplate rating* of 5MW or greater.

3.3.2. Systems without significant BDUs

An application for exemption can be made by a person who owns, operates or controls a *GS* or an *IRS* with a total *nameplate rating* of less than 30 MW where:

1. the person is not eligible for a standing exemption, and
2. the *IRS* does not comprise or include a *BDU* with a *nameplate rating* of 5 MW or greater.

A person who wishes to be exempt from the requirement to register as a *Generator* or an *IRP* on this basis, must apply to AEMO for exemption from registration as a *Generator* or an *IRP*.

AEMO may grant an exemption in the circumstances described below and subject to conditions described in section 3.3.4 3.3.4 below.

In general terms, AEMO will consider granting an application if both of conditions (a) and (b) apply:

(a) either:

- (i) the *GS* or *IRS* is expected to export less than 20 GWh in any 12-month period and is not part of an *embedded network*; or
- (ii) where the *GS* or *IRS* is connected to a *distribution system* or *transmission system* through an *embedded network*, the expected combined export at the *parent connection point* of all *GS* and *IRS* in the *embedded network* is less than 20 GWh in any 12-month period; or
- (iii) extenuating circumstances apply, and the applicant cannot reasonably meet the requirements to register as a *Generator* or an *IRP* for the *GS* or as an *IRP* for the *IRS*,

and the operation of the *GS* or *IRS* will not adversely impact *power system security*; and

(b) where there is any potential for the *GS* or *IRS* to export *energy*, either:

- (i) the *sent out generation* is purchased in its entirety by a *Market Participant* who is *financially responsible* for all electricity generated or consumed at the same *connection point*; or
- (ii) the *connection point* is classified as a *market connection point* by an *IRP* (in its capacity as a *Small Resource Aggregator*).

3.3.3. Compliance with technical requirements

A person who is eligible to apply for exemption from the requirement to register as a *Generator* or an *IRP* under section 3.3.23.3.2 is not automatically exempt from the requirement to comply with the technical requirements in Schedule 5.2 of the NER. Accordingly, when applying for an exemption, the applicant will also need to provide to AEMO:

- (a) a copy of the *performance standards* which are agreed with the person's connecting NSP; or
- (b) a letter from the person's connecting NSP, dated within 12 months of the application's submission date, stating that the person's *GS* or *IRS* is intended for use in a manner which the NSP considers is unlikely to cause a material degradation in the quality of *supply* to other *Network Users*. If the NSP letter does not include details of the criteria which the NSP used to assess the *GS* or *IRS* and results from the assessment conducted, then AEMO may seek this information from the NSP directly. This information may be set out in a separate planning report.

3.3.4. Exemption conditions

In accordance with clause 2.1A.2(a) of the NER, AEMO may exempt a person who applies for an exemption under section 3.3.2, subject to such conditions as AEMO deems appropriate. AEMO will impose conditions where AEMO considers it reasonably necessary to do so, including where the condition required for the purposes of operational forecasting, situational awareness or power system security.

Depending on the relevant circumstances, such conditions may include:

- Time limits on the exemption
- Provision of SCADA
- *Generator* or *IRP performance standards*
- That no *sent out generation* occurs
- That any *sent out generation* is purchased in its entirety by a *Market Participant* at the same *connection point* or the *GS's* or *IRS's connection point* is classified as a *market connection point* by an *IRP* (in its capacity as a *Small Resource Aggregator*).
- Where the exemption is given for the purposes of online testing:
 - notification of testing activities to AEMO
 - limits on testing activities, including duration and units connected
 - compliance with AEMO *Power System Security Guidelines*
- No increases in *nameplate rating* and no additional *PUs* at the *facility*

- No material change in operation that increases *sent out generation*
- The annual provision of information regarding *sent out generation*

3.4. Applications for exemption – systems 30 MW or above

3.4.1. Generally

There is no standing exemption for a person who owns, operates or controls a *GS* or *IRS* with a *nameplate rating* of 30MW or greater.

3.4.2. Systems providing unscheduled reserve

A person who owns, operates or controls a *GS* or *IRS* (other than an *IRS* which comprises or includes a *BDU* with a *nameplate rating* of 5MW or greater) , with a total *nameplate rating* of 30MW or above may apply to AEMO for an exemption by submitting an application for exemption from registration as a *Generator* or *IRP*, if the sole purpose of *connecting* the *GS* or *IRS* to a *network* is for the provision of *unscheduled reserve* in accordance with a *reserve contract*.

AEMO will not grant an exemption for new *GS* or *IRS* with a total *nameplate rating* of 30MW or greater, other than for *unscheduled reserve* purposes.

AEMO may consider an application for an existing *GS* or *IRS* of this size in exceptional circumstances, at AEMO's absolute discretion. Such circumstances are expected to arise very rarely and commercial considerations will not be taken into account.

AEMO will not grant an exemption where the *GS* or *IRS* (other than an *IRS* which comprises or includes a *BDU* with a *nameplate rating* of 5MW or greater) that are *connected* to a *distribution system* or *transmission system* through an *embedded network* at a *parent connection point*, have a combined total *nameplate rating* of over 30MW.

Subject to the NER, AEMO may grant an exemption in this category in its absolute discretion or subject to conditions which AEMO considers appropriate, as outlined in section 3.4.4 below.

3.4.3. Compliance with technical requirements

A person who is eligible for exemption from the requirement to register as a *Generator* or *IRP* under section 3.4.23.4.2 is not automatically exempt from the requirement to comply with the technical requirements in Schedule 5.2 of the NER. Accordingly, when applying for an exemption, the applicant will also need to provide to AEMO:

- (a) a copy of the *performance standards* agreed with the person's connecting NSP; or
- (b) a letter from the person's connecting NSP, dated within 12 months of the application's submission date, stating that the person's *GS* or *IRS* is intended for use in a manner the NSP considers is unlikely to cause a material degradation in the quality of *supply* to other *Network Users*. If the NSP letter does not include details of the criteria used to assess the *GS* or *IRS* and results from the assessment conducted, AEMO may seek this information from the NSP directly. This information may be set out in a separate planning report.

3.4.4. Exemption conditions

In accordance with clause 2.1A.2(a), AEMO may exempt a person that applies for an exemption under section 3.4.2, subject to such conditions as AEMO deems appropriate. AEMO will impose conditions where AEMO considers it reasonably necessary to do so, including where the condition is required for the purposes of operational forecasting, situational awareness or power system security.

Depending on the relevant circumstances, such conditions may include:

- Time limits on the exemption
- Provision of SCADA
- *Generator or IRP performance standards*
- That no *sent out generation* occurs
- That any *sent out generation* is purchased in its entirety by a *Market Participant* at the same connection point
- Where the exemption is given for the purposes of online testing:
 - notification of testing activities to AEMO
 - limits on testing activities, including duration and units connected
 - compliance with *AEMO Power System Security Guidelines*
- No increases in *nameplate rating* and no additional *PU* at the *facility*
- No material change in operation that increases *sent out generation*
- The annual provision of information regarding *sent out generation*.

3.5. Notifiable exemptions for pre-commissioning work

This is a temporary exemption category. It may be available to a person who owns, operates or controls a *GS* or *IRS* for which the person is required, and has applied, to register as a *Generator or IRP*, but who wishes to perform pre-commissioning work before the person's registration is complete. A notifiable exemption does not permit hold-point testing of a *GS* or an *IRS*.

3.5.1. Generally – less than 5MW connected

A notifiable exemption for these purposes is available if, and only for as long as, the combined *nameplate rating* of all *PU* simultaneously *connected* to a *transmission system* or *distribution system* for testing purposes is less than 5MW, subject to:

- (a) provision of the information and documents set out in the notifiable exemption application form as updated from time to time;
- (b) confirmation by AEMO of the exemption;
- (c) compliance with the conditions of the exemption set out in section 3.5.3; and
- (d) commencement and expiry of the exemption in accordance with section 3.5.43.5.4.

3.5.2. Exceptional circumstances – 5 MW or greater

In circumstances where a single *GU* meets or exceeds the 5 MW *nameplate rating*, AEMO may, in its absolute discretion, consider granting a notifiable exemption where it is considered there is no risk to power system security. This kind of notifiable exemption will be considered on a case-by-case basis and is subject to:

- (a) provision of the information and documents set out in the notifiable exemption application form as updated from time to time;
- (b) confirmation by AEMO of the exemption;
- (c) compliance with the conditions of the exemption set out in section 3.5.33.5.4.3.5.3; and
- (d) commencement and expiry of the exemption in accordance with section 3.5.43.5.4.3.5.4

3.5.3. Notifiable exemption conditions

Notifiable exemptions confirmed by AEMO remain valid only for the relevant period specified in accordance with section 3.5.43.5.43.5.4, and only for so long as the following conditions continue to be met:

- (a) An agreed set of *performance standards* for the *GS* or *IRS* must be in place;
- (b) AEMO must be notified at least one *business day* prior to the commencement of pre-commissioning work;
- (c) a SCADA system that continuously monitors the output of the *connected* part of the *GS* or *IRS* must be installed and operational at all times when any part of the *GS* or *IRS* is being tested;
- (d) the maximum combined *nameplate rating* of all *PU*s which are simultaneously *connected* at the *connection point* must be less than 5 MW;
- (e) an operating protocol between the applicant (or its EPC contractor) and the connecting NSP must be in place and observed at all times and all instructions from AEMO or the NSP must be followed. The operating protocol must include:
 - (i) operating procedures to ensure that the highest combined *nameplate rating* of the *PU*s which are simultaneously connected at any time is limited to less than 5MW;
 - (ii) identification of personnel responsible for work approvals and compliance with the operating protocol;
 - (iii) a plan for communication of the generation restrictions and consequences of any breach to all on site and control room personnel;
 - (iv) procedures for the management of locks and keys used to secure *PU*s, including storage and removal of keys from tagged out lockboxes, with no unauthorised access to *PU*s; and
 - (v) a communication plan to ensure notification of NSP and AEMO prior to any switching or changes in *PU* status;
- (f) AEMO and the connecting NSP must be notified prior to the *connection* or *disconnection* of any *PU*; and
- (g) the notified arrangements for the purchase of *sent out generation* must remain in effect.

A non-compliance with any of these conditions, or operation of any part of the *connected GS* or *IRS* outside the period in section 3.5.43.5.43.5.4, immediately invalidates the exemption. As a result, a person may have contravened section 11 of the NEL.

3.5.4. Duration of notifiable exemption

A notifiable exemption commences on the date which is specified by AEMO in its confirmation of the notifiable exemption. The exemption expires on the first of the following to occur:

- (a) the end date of the notifiable exemption as specified in AEMO's confirmation, to be no more than 90 days after the commencement date; or
- (b) the effective date of registration of the exempted person as a *Generator* or *IRP* in respect of the *generating system*, or as an *IRP* in respect of the *IRS*.

4. Intermediary exemptions

4.1. Applications

As noted in section 2.1, clause 2.9.3 of the NER enables a person that would ordinarily be required to register as a *Generator* or *IRP* to apply for an exemption if an *intermediary* is to be registered in their stead.

Where a person proposes to appoint an *intermediary*:

- (a) that person must submit to AEMO an application for exemption from registration as a *Generator* or an *IRP*; and
- (b) the proposed *intermediary* must submit an application to AEMO for registration as a *Generator* or *IRP*.

Both these applications must be received by AEMO before AEMO can consider the matter.

4.2. Criteria

AEMO must allow the exemption and approve the *intermediary* where the following requirements are met:

- (a) the *intermediary* consents in writing to act as *intermediary*, in a form reasonably acceptable to AEMO; and
- (b) the applicant establishes to AEMO's reasonable satisfaction that, from a technical perspective, the *intermediary* can be treated, for the purposes of the NER, as the applicant with respect to the relevant *GS* or *IRS* by providing relevant evidence, such as a *connection agreement*, joint venture agreement or the like.

(Clause 2.9.3(b) and (c) of the NER provides further information).

If more than one person owns, operates or controls a *GS* or *IRS*, then the persons must appoint one of them (or another person who is entitled to register as a *Generator* or *IRP*) as the *intermediary*. The other persons must apply for exemption.

A person who is appointed as an *intermediary* must meet the requirements for registration as a *Generator* or *IRP* (whichever is applicable) in its own right. The *intermediary* must either own, operate or control the relevant *GS* or *IRS*, or must otherwise source electricity from it.

Where the ownership of *PU*s in a *GS* or *IRS* is split - that is, different persons own, control, or operate different *PU*s - each person must apply separately for registration in respect of the activities which they carry out, or seek an exemption, as appropriate.

4.3. Revocations

An exempted person (being an owner, operator, or controller) may revoke the appointment of an *intermediary* by giving notice of revocation to AEMO. The revocation must take effect at 4.30am, two *business days* after AEMO receives the notice, as required by clause 2.9.3 of the NER.

Accordingly, before revoking the appointment of an *intermediary*, the exempted person(s) should ensure that either:

- (a) a replacement *intermediary* is nominated and the *intermediary's* application for registration as a *Generator* or *IRP* (whichever is applicable) has been submitted to AEMO; or
- (b) the exempted person(s) has submitted an application for registration as a *Generator* or *IRP* (whichever is applicable),

to take effect at the same time as the revocation takes effect.

5. Classification of production units

5.1. Generally

An applicant for registration as a *Generator* or *IRP* must classify each of its *PU*s in the categories contemplated by clause 2.2 of the NER. The classifications require AEMO's prior approval.

The classification of *PU*s is by reference to whether a *PU* will participate in *central dispatch*, and whether the *Generator* or the *IRP* will be selling its electricity through the *spot market*.

*PU*s are always classified by reference to these two dimensions.

Appendix A sets out examples of typical classifications.

5.1.1. Participating in central dispatch

A *PU* will be classified depending if it is a *GU* or *BDU* and on the extent to which it will be participating in *central dispatch*.

On this dimension there are:

- Three types of classification for *GUs*:
 - *scheduled GU*;
 - *non-scheduled GU*; or
 - *semi-scheduled GU*.
- Five types of classification for *BDUs*:
 - *scheduled BDU*;

- *non-scheduled BDU*;
- a *scheduled GU* and a *scheduled load*;
- two separately classified *plant*, one being a *semi-scheduled GU* and the other a *scheduled BDU* (that is also a *coupled production unit*); or
- *semi-scheduled GU* (that is also a *coupled production unit*).

Chapter 2 of the NER sets out the rules in respect of the classification of *PU*s. In each case, a classification is subject to AEMO's approval.

5.1.2. Market participation

(a) Market Participants

Under NER Chapter 10:

- (i) A *Market Generator* is a *Generator* or *IRP* in relation to *GUs* it has classified as *market GUs* in accordance with Chapter 2.
- (ii) An *IRP* other than a *Non-Market IRP* is a *Market Participant*. A *Non-Market IRP* is an *IRP* who has classified a *BDU* as a *non-market BDU* in accordance with Chapter 2. A *market BDU* is a *BDU* that has been classified as a *market BDU* in accordance with Chapter 2.

These *Market Participants* must:

- (iii) Sell all *sent out generation* from their market units through the *spot market* and accept payments from AEMO for *sent out generation* in accordance with Chapter 3 (clauses 2.2.4(c), 2.2.5A(b)).
- (iv) Purchase all electricity supplied through the *national grid* to the *connection points* for each of their market units from the *spot market* and make payments to AEMO for such electricity in accordance with Chapter 3 (clauses 2.2.4(d), 2.2.5A(c)).

(b) Non-Market Participants

Under NER Chapter 10:

- (i) A *Non-Market Generator* is a *Generator* or *IRP* who has classified a *GU* as a *non-market GU* in accordance with Chapter 2.
- (ii) A *Non-Market IRP* is an *IRP* who has classified a *BDU* as a *non-market BDU* in accordance with Chapter 2.

These *non-Market Participants* may, through a *Market Customer*:

- (iii) sell all *sent out generation* from their non-market units through the *spot market* and accept payments from the *Market Customer* for *sent out generation*. These *non-Market Participants* are not entitled to receive payments from AEMO for *sent out generation* (clauses 2.2.5(c), 2.2.5B(d)).
- (iv) purchase all electricity supplied through the *national grid* to the *connection points* for each of their non-market units from the *spot market* and make payments to the *Market Customer* for such electricity.

5.2. Classification as a scheduled GU

Clause 2.2.2(a) of the NER requires a *GU* which has a *nameplate rating* of 30MW or greater, or is part of a group of *GUs connected* at a common *connection point* with a combined *nameplate rating* of 30MW or greater, to be classified as a *scheduled GU* unless AEMO approves a different classification.

AEMO is required by clause 2.2.2(b) of the NER to approve the classification of a *GU* which has a *nameplate rating* of 30MW or greater, or is part of a group of *GUs connected* at a common *connection point* with a combined *nameplate rating* of 30MW or greater, as a *scheduled GU* if AEMO is satisfied that the applicant has:

1. submitted data in accordance with schedule 3.1 of the NER; and
2. adequate communications and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses.

AEMO has discretion under clause 2.2.2(b1) of the NER to approve classification as a *scheduled GU* for a *GU* which has a *nameplate rating* of less than 30MW, or that is part of a group of *GUs connected* at a common *connection point* with a combined *nameplate rating* of less than 30MW, on such terms and conditions as AEMO considers appropriate.

If a *GU* of greater than 5MW but less than 30MW is to be connected in a *network* area with existing or forecast congestion, then the applicant may consider applying to classify the *GU* as a *scheduled GU*. If the *GU* is classified as *non-scheduled GU*, then it is likely that system conditions will require the imposition of conditions under clauses 2.2.3(c) and 3.8.2(e) of the NER. AEMO will only approve the classification as a *scheduled GU*, if the maximum *generation* of the *scheduled GU* to which the *scheduled GU* may be *dispatched* is at least 1 MW.

5.2.1. Conditional classification

In accordance with clause 2.2.2(b1) of the NER, AEMO may approve the classification of a *GU* which has a *nameplate rating* of less than 30 MW, or is part of a group of *GUs connected* at a common *connection point* with a combined *nameplate rating* of less than 30 MW, as a *scheduled GU*, subject to such terms and conditions as AEMO considers appropriate.

AEMO will impose conditions where AEMO considers it reasonably necessary to do so, including where the condition is required for the purposes of operational forecasting, situational awareness or power system security.

Depending on the relevant circumstances, such conditions may include:

- The annual provision of information regarding participation in *central dispatch*.
- Where the output of the generating unit is *intermittent*, the provision of:
 - Forecasting capability over the dispatch, pre-dispatch and PASA timeframes.
 - Energy conversion model and related SCADA data for situational awareness which allow AEMO to produce forecasts.

5.3. Classification as a non-scheduled GU

Clause 2.2.3(a) of the NER requires a *GU* with a *nameplate rating* of less than 30 MW (not being part of a group of *GUs connected* at a common *connection point* with a combined

nameplate rating of 30 MW or greater) to be classified as a *non-scheduled GU* unless AEMO approves a different classification.

AEMO is required by clause 2.2.3(b) of the NER to approve the classification of a *GU* as a *non-scheduled GU* if AEMO is satisfied that the physical and technical attributes of the *GU* are such that it is not practicable for it to participate in *central dispatch*.

5.3.1. Physical and technical attributes

AEMO considers each application based on the physical and technical attributes of the *GU* on its merits. For example, this requirement would typically be met where:

- (a) the *GU*'s fuel or energy source is dependent on an industrial process not related to the production of electricity; or
- (b) the *GU* is unable to vary its output in response to a *dispatch instruction* for some technical reason (other than fuel supply constraints).

5.3.2. Conditional classification

If AEMO considers it is necessary for any reason (including *power system security*) for a *Generator* or an *IRP* to comply with some of the obligations of a *Scheduled Generator* or *Semi-Scheduled Generator* in respect of a *non-scheduled GU*, then AEMO is empowered by clauses 2.2.3(c) and 3.8.2(e) of the NER to approve the classification on such terms and conditions as AEMO considers reasonably necessary.

The terms and conditions applicable to a *Scheduled Generator* that AEMO may impose in relevant circumstances include, without limitation:

- Provision of ST PASA information (such as expected plant availability and PASA availability) similar to that contemplated in clause 3.7.3(e) of the NER.
- Provision of MT PASA information (such as expected plant availability) similar to that contemplated in clause 3.7.2(d) of the NER.
- Submission of dispatch information (such as expected MW capability) similar to that contemplated in clause 3.8.2 of the NER.
- Compliance with dispatch instructions similar to that contemplated in clauses 4.9.2(b), 4.9.2(c) and 4.9.4(b) of the NER on reactive power dispatch.
- Provision of SCADA.
- Provision of pre-dispatch and PASA information.
- Provision of information for the purposes of an AEMO intervention event similar to that contemplated by clause 4.8.5A(d) of the NER.

The terms and conditions applicable to a *Semi-Scheduled Generator* that AEMO may impose in relevant circumstances include, without limitation, the provision of an *energy conversion model* as contemplated in clause 2.2.7(c)(2) of the NER.

5.4. Classification as a scheduled BDU

Clause 2.2.2(a1) of the NER requires a *BDU* which has a *nameplate rating* of 5MW or greater, or is part of a group of *BDUs connected* at a common *connection point* with a combined *nameplate rating* of 5MW or greater, to be classified as a *scheduled BDU* unless AEMO approves a different classification.

AEMO is required by clause 2.2.2(b) of the NER to approve the classification of a *BDU* as a *scheduled BDU* if AEMO is satisfied that:

1. the applicant has submitted data in accordance with schedule 3.1 of the NER;
2. the applicant has adequate communications and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses and
3. the *BDU* is capable of transitioning linearly from consuming to producing electricity and vice versa.

5.4.1. Conditional classification

AEMO has discretion under clause 2.2.2(b1) of the NER to approve classification as a *scheduled BDU* of:

- a *BDU* which has a *nameplate rating* of less than 5MW for either production or consumption; or
- a group of *BDUs connected* at a common *connection point* with a combined *nameplate rating* for production or consumption of less than 5MW,

on such terms and conditions as AEMO considers appropriate.

AEMO will impose conditions where AEMO considers it reasonably necessary to do so, including where it is required for the purposes of operational forecasting, situational awareness or power system security.

Depending on the relevant circumstances, such conditions may include the annual provision of information regarding participation in *central dispatch*.

AEMO will only approve the classification as a *scheduled BDU* if the maximum *generation* and consumption to which the *scheduled BDU* may be *dispatched* is at least 1 MW.

5.5. Classification as a scheduled GU and a scheduled load

AEMO is required by clause 2.2.2(b2) of the NER to approve the classification of a *BDU* as a *scheduled GU* if:

- AEMO is satisfied that the *BDU* is not capable of transitioning linearly between production and consumption; and
- AEMO also approves in accordance with clause 2.3.4A the classification of that part of the *plant* that consumes electricity as a *scheduled load*.

AEMO must be satisfied that:

1. the applicant has submitted data in accordance with schedule 3.1; and

2. the applicant has adequate communications and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses.

5.5.1. Conditional classification

In accordance with clause 2.2.2(b3) of the NER, AEMO may approve the classification of a *BDU* as a *scheduled GU*, subject to such terms and conditions as AEMO considers appropriate.

AEMO will impose conditions where AEMO considers it reasonably necessary to do so, including where it is required for the purposes of operational forecasting, situational awareness or power system security.

Depending on the relevant circumstances, such conditions may include the annual provision of information regarding participation in *central dispatch*.

5.6. Classification as a non-scheduled BDU

Clause 2.2.3(a1) of the NER requires a *BDU* with a *nameplate rating* of less than 5MW (not being part of a group of *BDUs connected* at a common *connection point* with a combined *nameplate rating* of 5MW or greater) to be classified as a *non-scheduled BDU* unless AEMO approves its classification as a *scheduled BDU*.

AEMO is required by clause 2.2.3(b) of the NER to approve the classification of the *BDU* as a *non-scheduled BDU* if AEMO is satisfied that the physical and technical attributes of the *BDU* are such that it is not practicable for it to participate in *central dispatch*.

5.6.1. Physical and technical attributes

AEMO considers each application based on the physical and technical attributes of the *BDU* on its merits. For example, this requirement would typically be met where:

- (a) the *BDU*'s fuel or energy source is dependent on an industrial process not related to the production of electricity; or
- (b) the *BDU* is unable to vary its output in response to a *dispatch instruction* for some technical reason (other than fuel supply constraints).

5.6.2. Conditional classification

If AEMO considers it is necessary for any reason (including *power system security*) for an *IRP* to comply with some of the obligations of a *Scheduled IRP* or *Semi-Scheduled Generator* in respect of a *non-scheduled BDU*, then AEMO is empowered by clauses 2.2.3(c) and 3.8.2(e) of the NER to approve the classification on such terms and conditions as AEMO considers reasonably necessary.

The terms and conditions applicable to a *Scheduled IRP* that AEMO may impose in relevant circumstances include, without limitation:

- Provision of ST PASA information (such as expected plant availability and PASA availability) similar to that contemplated in clause 3.7.3(e) of the NER.
- Provision of MT PASA information (such as expected plant availability) similar to that contemplated in clause 3.7.2(d) of the NER.

- Submission of dispatch information (such as expected MW capability) similar to that contemplated in clause 3.8.2 of the NER.
- Compliance with dispatch instructions similar to that contemplated in clauses 4.9.2(b), 4.9.2(c) and 4.9.4(b) of the NER on reactive power dispatch.
- Provision of SCADA.
- Provision of pre-dispatch and PASA information.
- Provision of information for the purposes of an AEMO intervention event similar to that contemplated by clause 4.8.5A(d) of the NER.

The terms and conditions applicable to a *Semi-Scheduled Generator* that AEMO may impose in relevant circumstances include, without limitation, the provision of an energy conversion model as contemplated in clause 2.2.7(c)(2) of the NER.

5.7. Classification as a semi-scheduled GU

Clause 2.2.7(a) of the NER requires a *GU* which has a *nameplate rating* of 30MW or greater, , or is part of a group of *GUs connected* at a common *connection point* with a combined *nameplate rating* of 30MW or greater, to be classified as a *semi-scheduled GU* where its output is *intermittent*, unless AEMO approves a different classification.

AEMO will approve classification as a *semi-scheduled GU* if AEMO is satisfied that the applicant has:

- (a) submitted data in accordance with Schedule 3.1 of the NER;
- (b) submitted an *energy conversion model* containing the information described in the Energy Conversion Model Guidelines; and
- (c) adequate communications and telemetry to support the issuing of *dispatch instructions* and the audit of responses.

5.7.1. Conditional classification

AEMO has discretion under clause 2.2.7(e) of the NER to approve the classification as a *semi-scheduled GU* of a *GU* which has a *nameplate rating* of less than 30MW, or that is part of a group of *GUs connected* at a common *connection point* with a combined *nameplate rating* of less than 30MW, on such terms and conditions as AEMO considers appropriate.

AEMO will impose conditions where AEMO considers it reasonably necessary to do so, including where it is required for the purposes of operational forecasting, situational awareness or power system security.

Depending on the relevant circumstances, such conditions may include the annual provision of information regarding participation in *central dispatch*.

If *intermittent generation* of at least 5MW but less than 30MW is to be connected in a *network* area with existing or forecast congestion, then the applicant may consider applying to classify the *GU* as a *semi-scheduled GU*. AEMO will only approve the classification as a *semi-scheduled GU*, if the maximum *generation* of the *semi-scheduled GU* to which the *semi-scheduled GU* may be *dispatched* is at least 1 MW.

5.8. Classification of coupled PUs

A *coupled PU* is a *PU* with separate *plant* for the production of electricity, each of a different *plant* type (for example, *intermittent* and *non-intermittent*) and capable of separate operation, that share equipment (such as an inverter) essential to the functioning of each. The *PU* is typically a *BDU*.

Under clause 2.2.2(a1)(3) of the NER, a *BDU* which has a *nameplate rating* of 5 MW or greater, or is part of a group of *BDUs* connected at a common *connection point* with a combined *nameplate rating* of 5 MW or greater, must be classified as a *scheduled BDU*, unless AEMO approves the classification of the *BDU* that is a *coupled PU* as two separately classified *plant* in accordance with clause 2.2.2(b4) of the NER:

- one being a *semi-scheduled GU* under clause 2.2.7(b) of the NER; and
- the other being a *scheduled BDU* under clause 2.2.2(b4) or 2.2.3 of the NER.

Under clause 2.2.3(a1) of the NER, a *BDU* with a *nameplate rating* of less than 5 MW (not being part of a group of *BDUs* with a combined *nameplate rating* of 5 MW or greater) must be classified as a *non-scheduled BDU*, unless AEMO approves its classification as a *scheduled BDU* under clause 2.2.2(b) of the NER.

Accordingly, AEMO will not approve any application to classify the *BDU* in multiple or different categories, for example, as a *semi-scheduled GU*.

Clause 2.2.7(c1) of the NER provides AEMO discretion to approve an application to classify a *BDU* that is a *coupled PU* as a *semi-scheduled GU*, if AEMO is satisfied that:

- (a) the output of some or all *generating plant* comprised in the *BDU* is *intermittent*;
- (b) except for *auxiliary load*, the *BDU* will not consume electricity delivered from the *national grid* at the *connection point* for the *BDU*; and
- (c) the applicant has:
 - (i) submitted data in accordance with Schedule 3.1 of the NER;
 - (ii) submitted an *energy conversion model*; and
 - (iii) adequate communications and telemetry to support the issuing of *dispatch instructions* and the audit of responses.

AEMO will consider an application to classify a *BDU* that is a *coupled PU* as a *semi-scheduled GU* under the following circumstances:

- the total *non-intermittent* capacity is less than 5 MWdc;
- the total *non-intermittent* MWdc capacity is less than 2.5% of the total *intermittent* MWdc capacity, except in the case where the participant commits to providing a self-forecast² for the purposes of *central dispatch*; and
- MWdc SCADA feeds are provided to AEMO for the *intermittent* capacity and the *non-intermittent* capacity (in addition to MWac output feed).

² <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/operational-forecasting/solar-and-wind-energy-forecasting/participant-forecasting>

Clause 2.2.7(c3) of the NER requires the maximum *generation* for a *coupled PU* approved for classification as a *semi-scheduled GU* to be limited to the maximum *generation* of the part of the *coupled PU* that is *intermittent*.

5.8.1. Conditional classification – two separately classified plant

In accordance with clause 2.2.2(b4) of the NER, AEMO may approve the classification of a *BDU* that is a *coupled PU* which has a *nameplate rating* of 5 MW or greater, or is part of a group of *BDUs* connected at a common *connection point* with a combined *nameplate rating* of 5 MW or greater, as two separately classified *plant* – a *semi-scheduled GU* and a *scheduled BDU* – subject to such terms conditions as AEMO considers appropriate.

AEMO will impose conditions where AEMO considers it reasonably necessary to do so, including where it is required for the purposes of operational forecasting, situational awareness or power system security.

Depending on the relevant circumstances, such conditions may include appropriate logic to apportion availability between units which share equipment to avoid unachievable outcomes in terms of *central dispatch*. For a *semi-scheduled GU*, a condition will require the Local Limit signal to be communicated via SCADA.

5.8.2. Conditional classification – semi-scheduled

In accordance with clause 2.2.7(c1) of the NER, AEMO may approve the classification of a *BDU* that is a *coupled PU* which has a *nameplate rating* of 5MW or greater, or is part of a group of *BDUs* connected at a common *connection point* with a combined *nameplate rating* of 5MW or greater, as a *semi-scheduled GU*, subject to such terms and conditions as AEMO considers appropriate.

AEMO will impose conditions where AEMO considers it reasonably necessary to do so, including where it is required for the purposes of operational forecasting, situational awareness or power system security.

Depending on the relevant circumstances, such conditions may include:

- no material change in total non-*intermittent* capacity;
- no material change in the proportion of total non-*intermittent* capacity to the proportion of total *intermittent* capacity;
- the *IRP* must provide a dispatch self-forecast; and
- MWdc SCADA feeds are provided to AEMO for the *intermittent* capacity and the non-*intermittent* capacity (in addition to MWac output feed).

5.9. Classification as a market GU or a market BDU

Clause 2.2.4(a) of the NER requires that a *GU* must be classified as a *market GU* unless AEMO approves its classification as a *non-market GU* under clause 2.2.5.

Clause 2.2.5A(a) of the NER requires that a *BDU* must be classified as a *market BDU* unless AEMO approves its classification as a *non-market BDU* under clause 2.2.5B.

6. Classification as a non-market GU or a non-market BDU

Clause 2.2.5(a1) of the NER requires that a *GU* must be classified as a *non-market GU* if:

- (a) the *GU* is classified as a *non-scheduled GU*; and
- (b) a *Market Customer* has classified the *connection point* for the *GU* as one of its *market connection points*.

Clause 2.2.5B(b) of the NER requires that a *BDU* must be classified as a *non-market BDU* if:

- c) the *BDU* is classified as a *non-scheduled BDU*; and
- d) a *Market Customer* has classified the *connection point* for the *BDU* as one of its *market connection points*.

Appendix A. Examples of classifications

Description	Typical classification
500 kW solar panel and AC inverter	Automatically exempt
1 MW backup diesel <i>generating unit</i> in a high-rise building	Automatically exempt
4 MW battery storage facility	Automatically exempt
20 MW diesel rotary uninterruptible power supply system within a data centre	Required to apply for exemption
8 MW battery storage facility	<i>Scheduled bidirectional unit and Market bidirectional unit</i>
10 MW thermal <i>power station</i> or wind farm whose <i>connection point</i> is classified by a <i>Market Customer</i> as a <i>market connection point</i>	<i>Non-scheduled generating unit and Non-market generating unit</i>
10 MW thermal <i>power station</i> supply for an electrically isolated country town	Exempt
20 MW battery storage facility within a <i>power station</i>	<i>Scheduled bidirectional unit and Market bidirectional unit</i>
20 MW solar farm connecting in <i>network</i> location with existing/forecast congestion <i>connected</i> directly to a <i>transmission system</i>	<i>Semi-scheduled generating unit and Market generating unit</i>
6 MW battery storage and 15 MW windfarm at a common connection point	<i>Scheduled bidirectional unit and Market bidirectional unit Non-scheduled generating unit and Market generating unit</i>
DC-coupled system, comprised of 4 MW battery storage and 28 MW wind turbines sharing inverters and the only electricity the system consumes at the connection point is auxiliary load	<i>Semi-scheduled generating unit and Market generating unit</i>
DC-coupled system comprised of 20 MW battery storage and 20 MW solar panels sharing a 20 MW inverter. The system consumes electricity at the connection point in addition to auxiliary load.	<i>Scheduled bidirectional unit and Market bidirectional unit OR Scheduled bidirectional unit and Market bidirectional unit Semi-scheduled generating unit and Market generating unit</i>
45 MW <i>generating unit</i> using 10 MW locally within its own site	<i>Scheduled generating unit and Market generating unit</i>
50 MW co-generation plant or run of river hydro station	<i>Scheduled generating unit and Market generating unit</i>
150 MW wind farm with all output sold to the market	<i>Semi-scheduled generating unit and Market generating unit</i>
200 MW brown coal <i>generating unit</i> with a 60% minimum load capability	<i>Scheduled generating unit and Market generating unit</i>
200 MW power station connected to a transmission system	<i>Scheduled generating unit and Market generating unit</i>
250 MW pumped hydro station, that is not capable of transitioning linearly from consuming to producing electricity	<i>Scheduled generating unit, scheduled load and Market generating unit</i>