

# NATIONAL ELECTRICITY MARKET

## GUIDE TO GENERATOR EXEMPTIONS AND CLASSIFICATION OF GENERATING UNITS

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# IMPORTANT NOTICE

## Purpose

AEMO has prepared this document to provide information about the classification and exemption of generators in the National Electricity Market, as at the date of publication.

## Disclaimer

This document or the information in it may be subsequently updated or amended. This document does not constitute legal or business advice, and should not be relied on as a substitute for obtaining detailed advice about the National Electricity Law, the National Electricity Rules, or any other applicable laws, procedures or policies. AEMO has made every effort to ensure the quality of the information in this document but cannot guarantee its accuracy or completeness.

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## VERSION RELEASE HISTORY

Version	Effective Date	Summary of Changes
1.0		First issue
2.0	6/7/2017	Revised issue to incorporate battery storage (Interim)
2.1	1/11/2017	Revised to reflect exemptions relating to unscheduled reserve providers
2.2	20/3/2018	Revised issue to reflect updated interim arrangements for utility scale battery storage and further examples in Appendix A.
3.0	17/08/2018	Revised to include: <ul style="list-style-type: none"><li>• Notifiable exemption for limited commissioning tests;</li><li>• New headings and drafting changes for clearer presentation;</li><li>• Non-market criteria expressly specified for every exemption category, for completeness</li></ul>
3.1	20/11/2018	Revised to include updated requirements for notifiable exemptions.



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## 1. INTRODUCTION

### 1.1. Purpose and scope

This Guide to Generator Exemptions (**Guide**) is *published* for the assistance of potential applicants for registration as a *Generator* in the National Electricity Market (**NEM**) and constitutes the guidelines AEMO may *publish* under clause 2.2.1(c) of the National Electricity Rules (**NER**).

It also details how AEMO will assess applications for classification of *generating units*, where an exemption does not apply.

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.

Terms defined in the NEL or the NER have the same meanings in this Guide unless otherwise specified. Those 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
LNSP	<i>Local Network Service Provider</i>
MT PASA	<i>Medium term PASA</i>
NEL	<i>National Electricity Law</i>
NEM	<i>National Electricity Market</i>
NER	<i>National Electricity Rules</i>
NSP	<i>Network Service Provider</i>
RERT	<i>Reliability and Emergency Reserve Trader</i>
ST PASA	<i>Short term PASA</i>

#### 1.2.2. 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	<a href="https://aemo.com.au/-/media/Files/Electricity/NEM/Participant_Information/Application-forms-and-supporting-documentation/Application_for_Exemption_from_Registration_as_a_Generator.pdf">https://aemo.com.au/-/media/Files/Electricity/NEM/Participant_Information/Application-forms-and-supporting-documentation/Application_for_Exemption_from_Registration_as_a_Generator.pdf</a>
Application for Registration as a Generator in the NEM	<a href="https://aemo.com.au/Electricity/National-Electricity-Market-NEM/Participant-information/New-participants/Application-forms-and-supporting-documentation">https://aemo.com.au/Electricity/National-Electricity-Market-NEM/Participant-information/New-participants/Application-forms-and-supporting-documentation</a>
Energy Conversion Model Guidelines (Solar)	<a href="#">Guidance Document</a> <a href="#">Solar Energy Conversion Model</a>
Energy Conversion Model Guidelines (Wind)	<a href="#">Guidance Document</a> <a href="#">Wind Energy Conversion Model</a>
NEM Generator Registration Guide	<a href="https://aemo.com.au/-/media/Files/Electricity/NEM/Participant_Information/Application-forms-and-supporting-documentation/NEM_GENERATOR_REGISTRATION_GUIDE.pdf">https://aemo.com.au/-/media/Files/Electricity/NEM/Participant_Information/Application-forms-and-supporting-documentation/NEM_GENERATOR_REGISTRATION_GUIDE.pdf</a>



## 1.4. Inquiries

All inquiries about this Guide should be directed to AEMO's Information and Support Hub at [supporthub@aemo.com.au](mailto:supporthub@aemo.com.au), or ☎ 1300 236 600.

## 2. OVERVIEW OF EXEMPTIONS FROM REGISTRATION AS A GENERATOR

### 2.1. Authority to exempt

Section 11(1)(a) of the NEL requires any person engaging in the activity of owning, controlling or operating a *generating system* in the NEM to register as a *Generator*. This requirement applies irrespective of whether that activity is carried out jointly with others, on the person's own behalf or on behalf of someone else.

An exemption from this requirement can be obtained under section 11(1)(b) if a person:

- (a) is the subject of a derogation that exempts that person from the requirement to be registered as a *Generator*;
- (b) is exempted by AEMO from the requirement to be registered as a *Generator* for that *generating system*, as provided for in clause 2.2.1(c) of the NER; or
- (c) appoints an *intermediary* that is registered as the *Generator* for that *generating system*, in accordance with clause 2.9.3 of the NER.

### 2.2. What exemption means

An person exempted on the basis of the characteristics of the *generating system* is not permitted to participate in the *market* or have its *generating units dispatched* by AEMO, but may be required to comply with certain technical requirements in relation to their *generating units* and any conditions placed on the exemption by AEMO.

Exempted persons do not pay *Participant fees*.

Any person who is eligible for exemption but wishes to participate directly in the wholesale *market* must apply to AEMO for registration as a *Market Generator*.

### 2.3. Exemption categories

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

- (a) Standing exemptions are available to persons who own, operate or control a *generating system* with a *nameplate rating* of less than 5 MW when fully *connected* to a *transmission or distribution system*.
- (b) Applications for exemption may be made by persons who own, operate or control *generating systems* (other than those that include battery storage facilities) with a *nameplate rating* of at least 5 MW but less than 30 MW.
- (c) Applications for exemption may be made by persons who own, operate or control *generating systems* with a *nameplate rating* over 30 MW:
  - (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 *generating systems* in exceptional circumstances at AEMO's absolute discretion.
- (d) Temporary notifiable exemptions may be available to persons who own, operate or control *generating systems* to which no other exemptions apply, during initial testing and commissioning where the aggregate *nameplate rating* of the *connected generating units* is less than 5 MW at any time.



- (e) Applications for exemption must be made by persons who own, operate or control a *generating system*, but have proposed an eligible person (an *intermediary*) to be registered as a *Generator* for that *generating system* on their behalf.

### 3. EXEMPTIONS BASED ON GENERATING SYSTEM CHARACTERISTICS

#### 3.1. No exemption for battery storage facilities 5MW or more

AEMO treats battery storage facilities differently to other types of *generating systems*. Battery storage facilities are unique in that:

- (a) they have extremely fast ramp rates;
- (b) they can switch from maximum charge to maximum discharge within one cycle (Hz) ( for example, a battery storage facility with a *nameplate rating* of 5 MW can switch from 5MW discharge to 5 MW charge, resulting in an instantaneous change of *generation* of 10 MW); and
- (c) their operation cannot be readily forecast.

AEMO therefore requires all persons who own, operate or control battery storage facilities with a *nameplate rating* of 5 MW or more to be registered as *Generators*. This applies to persons with standalone battery storage facilities as well as battery storage facilities that are proposed to be installed as part of a larger *generating system* with non-battery units.

#### 3.2. Standing exemptions - generating systems less than 5MW

##### 3.2.1. Automatic exemptions

Most *generating systems* with a total *nameplate rating* of less than 5 MW when fully connected to a *transmission or distribution system* are unlikely to have such an impact or cause a material degradation in the quality of *supply* to other *Network Users*.

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

- (a) either:
  - (i) the *generating system* is not capable of exporting to a *transmission system* or *distribution system* in excess of 5 MW; or
  - (ii) the *generating system* has no capability to *synchronise* to a *distribution system* or *transmission system*; and
- (b) where there is any potential for the *generating system* 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) each of the *generating units* comprising the *generating system* is classified as a *market generating unit* by a *Market Small Generation Aggregator*.

##### 3.2.2. Automatic Exemption in Embedded Networks

Where the combined *nameplate rating* of *generating units* or *generating systems* that are connected to a *distribution system* or *transmission system* through an *embedded network* is less than 5MW at the *parent connection point*, the person who owns, operates or controls these *generating units* or *generating systems* will be automatically exempt from the requirement to register as a *Generator*. This exemption is subject to conditions (a) and (b) set out in section 3.2.1.



### 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 to submit an Application for Exemption from Registration as a Generator to AEMO. Any person in doubt as to whether their *generating system* can meet the criteria detailed in section 3.2.1 should submit such an Application.

## 3.3. Applications for Exemption - generating systems 5 MW – 30 MW

### 3.3.1. Generally

There is no standing exemption for persons who own, operate, or control any *generating system* with a total *nameplate rating* of 5 MW or more.

### 3.3.2. Generating systems other than battery storage facilities

Any person who owns, controls, or operates a *generating system* other than a battery storage facility with a total *nameplate rating* of at least 5 MW but less than 30 MW, and wishes to be exempt from the requirement to register as a *Generator*, must apply to AEMO for an exemption by submitting an Application for Exemption from Registration as a Generator.

AEMO may grant the exemption in its absolute discretion or subject to any conditions it considers appropriate.

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

- (a) either:
  - (i) the *generating system* is expected to export less than 20GWh in any 12-month period; or
  - (ii) extenuating circumstances apply, and the applicant cannot reasonably register as a *Generator* for the *generating system*,and, in either case, the operation of the *generating system* will not adversely impact *power system security*; and
- (b) where there is any potential for the *generating system* 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) each of the *generating units* comprising the *generating system* is classified as a *market generating unit* by a *Market Small Generation Aggregator*.

### 3.3.3. Compliance with technical requirements

Persons eligible for exemption from the requirement to register as a *Generator* under section 3.3.2 are not automatically exempt from the requirement to comply with the technical requirements in Schedule 5.2 of the NER. Hence, when applying for an exemption, applicants will also need to provide to AEMO:

- (a) a copy of the *performance standards* agreed with their connecting NSP; or
- (b) a letter from their connecting NSP stating that their *generating system* 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*.

## 3.4. Applications for exemption - generating systems 30 MW or above

### 3.4.1. Generally

There is no standing exemption for persons who own, operate, or control any *generating system* with a *nameplate rating* of 30 MW or more.



### 3.4.2. Generating systems other than battery storage facilities providing unscheduled reserve

Any person who owns, controls, or operates a *generating system* other than a battery storage facility with a total *nameplate rating* of 30 MW or above may apply to AEMO for an exemption by submitting an Application for Exemption from Registration as a Generator if the sole purpose of *connecting* the *generating system* to a *network* is for the provision of *unscheduled reserve* in accordance with a *reserve contract*.

AEMO will not grant an exemption for new *generating systems* with a total *nameplate rating* of 30 MW or more other than for *unscheduled reserve* purposes. AEMO may consider an application for an existing *generating system* 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 may grant an exemption in this category in its absolute discretion or subject to any conditions it considers appropriate.

### 3.4.3. Compliance with technical requirements

Persons eligible for exemption from the requirement to register as a *Generator* under section 3.4.2 are not automatically exempt from the requirement to comply with the technical requirements in Schedule 5.2 of the NER. Hence, when applying for an exemption, applicants will also need to provide to AEMO:

- (a) a copy of the *performance standards* agreed with their connecting NSP; or
- (b) a letter from their connecting NSP stating that their *generating system* 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*.

## 3.5. Notifiable exemptions for pre-commissioning work - less than 5 MW connected

### 3.5.1. Generally

This is a temporary exemption category. It may be available to persons who own, operate, or control a *generating system* for which they are required, and have applied, to register as a *Generator*, but wish to perform pre-commissioning work before their registration is complete. A notifiable exemption does not permit hold-point testing of a *Generator*.

A notifiable exemption for these purposes is available if, and only for as long as, the combined *nameplate rating* of all *generating units* simultaneously *connected* to a *transmission or distribution system* for testing purposes is less than 5 MW, 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 3.5.2; and
- (d) commencement and expiry of the exemption in accordance with section 3.5.3.

### 3.5.2. Notifiable exemption conditions

Notifiable exemptions confirmed by AEMO remain valid only for the relevant period specified in accordance with section 3.5.3.5.3, and only for so long as the following conditions continue to be met:

- (a) AEMO must be notified at least one *business day* prior to the commencement of pre-commissioning work;
- (b) a supervisory control and data acquisition (SCADA) system that continuously monitors the output of the *connected* part of the *generating system* must be installed and operational at all times when any part of the *generating system* is being tested;



- (c) the maximum combined *nameplate rating* of all *generating units* simultaneously *connected* at the *connection point* must be less than 5 MW;
- (d) 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 the highest combined nameplate rating of the generating units simultaneously connected at any time is limited to less than 5 MW;
  - (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 generating units, including storage and removal of keys from tagged out lockboxes, with no unauthorised access to generating units;
  - (v) a communication plan to ensure notification of NSP and AEMO prior to any switching or changes in generating unit status.
- (e) AEMO and the connecting NSP must be notified prior to the *connection* or *disconnection* of any *generating unit*, and
- (f) the notified arrangements for the purchase of *sent out generation* must remain in effect.

Non-compliance with any of these conditions, or operation of any part of the *connected generating system* outside the period in section 3.5.3, immediately invalidates the exemption. As a result, you may have contravened section 11 of the National Electricity Law.

### 3.5.3. Duration of notifiable exemption

A notifiable exemption commences on the date specified by AEMO in its confirmation of the notifiable exemption, and 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 30 days after the commencement date; or
- (b) the effective date of registration of the exempted person as a *Generator* in respect of the *generating system*.

## 4. INTERMEDIARY EXEMPTIONS

### 4.1.1. 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* 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 an Application for Exemption from Registration as a Generator; and
- (b) the proposed *intermediary* must submit an Application for Registration as a Generator to AEMO.

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

### 4.1.2. 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 *generating system* by providing relevant evidence, such as a *connection agreement*, joint venture agreement or the like.

(See clause 2.9.3(b) and (c) of the NER).

If more than one person owns, operates or controls a *generating system*, they must appoint one of them (or another person who is entitled to register as a *Generator*) as the *intermediary* and the rest must apply for exemption.

A person appointed as an *intermediary* must meet the requirements for registration as a *Generator* in its own right. The *intermediary* must either own, operate or control the relevant *generating system*, or must otherwise source electricity from it.

Where the ownership of *generating units* in a *generating system* is split, that is, different persons own, control, or operate different *generating units*, each person must apply separately for registration in respect of the activities they carry out, or seek an exemption, as appropriate.

#### 4.1.3. Revocations

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

Hence, 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* has been submitted to AEMO; or
- (b) the exempted person(s) has submitted an Application for Registration as a *Generator*, to take effect at the same time as the revocation takes effect.

## 5. CLASSIFICATION OF GENERATING UNITS

### 5.1. Generally

An applicant for registration as a *Generator* must classify each of its *generating units* in the categories contemplated by clause 2.2 of the NER. Classifications require AEMO's prior approval.

Classification of *generating units* is by reference to whether a *generating unit* will participate in *central dispatch*, and whether the *Generator* will be selling its electricity through the *spot market*.

*Generating units* are always classified by reference to these two dimensions.

For examples of typical classifications, see Appendix A.

#### 5.1.1. Participating in central dispatch

A *generating unit* will be classified as a *scheduled generating unit*, *non-scheduled generating unit* or *semi-scheduled generating unit* depending on the extent to which it will be participating in *central dispatch*. There are three types of classification on this dimension:

- (a) Scheduled – The *generating unit* participates in *central dispatch*.
- (b) Non-Scheduled – The *generating unit* does not participate in *central dispatch*.
- (c) Semi-Scheduled – The *generating unit* will participate in *central dispatch* in specified circumstances.

There are rules about the classification of *generating units* in Chapter 2 of the NER but, in each case, classification is subject to AEMO's approval.



### 5.1.2. Market participation

A *Generator* will be classified as a *Market Generator* or *Non-Market Generator* depending on whether the electricity it produces will be sold through the *spot market*. There are two types of classification on this dimension:

- (a) Market - All electricity produced by the *Generator* is sold through the *spot market* at the applicable *spot prices*.
- (b) Non-Market – All electricity produced by the *Generator* is sold to a *Market Participant* who is *financially responsible* for the *generating unit's connection point*.

## 5.2. Classification as a scheduled generating unit

Clause 2.2.2 of the NER requires a *generating unit* with a *nameplate rating* of 30MW or more, or if part of a group of *generating units connected* at a common *connection point* with a combined *nameplate rating* of 30MW or more to be classified as a *scheduled generating unit* unless AEMO approves a different classification.

AEMO is required by clause 2.2.2(b) of the NER to approve the classification of a *generating unit* with a *nameplate rating* of 30MW or more, or is part of a group of *generating units connected* at a common *connection point* with a combined *nameplate rating* of 30MW or more, as a *scheduled generating unit* 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 generating unit* for a *generating unit* with a *nameplate rating* of less than 30MW, or that is part of a group of *generating units 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 *generation* of more than 5MW but less than 30MW is to be connected in a *network* area with existing or forecast congestion, consider applying to classify the *generating units* as *scheduled*. If classified as *non-scheduled generating units*, 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.

## 5.3. Classification as a non-scheduled generating unit

Clause 2.2.3 of the NER requires a *generating unit* with a *nameplate rating* of less than 30MW to be classified as a *non-scheduled generating unit* unless AEMO approves a different classification.

AEMO is required by clause 2.2.3(b) of the NER to approve the classification of a *generating unit* as a *non-scheduled generating unit* if AEMO is satisfied that:

- (1) the primary purpose for which the *generating unit* operates is local use and the aggregate *sent out generation* at its *connection point* rarely, if ever, exceeds 30MW; or
- (2) the physical and technical attributes of the *generating unit* are such that it is not practicable for it to participate in *central dispatch*.

### 5.3.1. Primary purpose

The first requirement is that the primary purpose for which the *generating unit* operates is 'local use'.

To constitute 'local use', no more than 25% of the annual electricity supplied from the *generating unit* (gross *generation* less auxiliary load) can be exported to the *network*.

In addition, for this requirement to be met, the *sent out generation* must rarely, if ever, exceed 30MW.



### 5.3.2. Physical and technical attributes

The second requirement is that it is not practicable for the *generating unit* to participate in *central dispatch*.

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

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

### 5.3.3. Battery storage facilities

The operating characteristics of battery storage facilities referred to in section 3 are relevant in determining their appropriate classification as *generating units*.

If a battery storage facility has a *nameplate rating* of at least 5MW but less than 30MW, consider applying to AEMO to classify the *generating units* as *scheduled*. If it is proposed that they be classified as *non-scheduled generating units*, their operating characteristics will require the imposition of conditions under clauses 2.2.3(c) and 3.8.2(e) of the NER.

### 5.3.4. Conditional classification

If AEMO considers it is necessary for any reason (including *power system security*) for a *Generator* to comply with some of the obligations of a *Scheduled Generator* or *Semi-Scheduled Generator* in respect of a *non-scheduled generating unit*, 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.

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*.

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

- Provision of an *energy conversion model* as contemplated in clause 2.2.7(c)(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*.

## 5.4. Classification as a semi-scheduled generating unit

Clause 2.2.7 of the NER requires a *generating unit* with a *nameplate rating* of 30MW or more, or one of a group of *generating units connected* at a common *connection point* with a combined *nameplate rating* of 30MW or more, to be classified as a *semi-scheduled generating unit* where its output is *intermittent*, unless AEMO approves a different classification.

AEMO will approve classification as a *semi-scheduled generating unit* 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.

AEMO has discretion under clause 2.2.7(e) of the NER to approve classification as a *semi-scheduled generating* for a *generating unit* with a *nameplate rating* of less than 30MW, or that is part of a group of *generating units 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 *intermittent generation* of at least 5MW but less than 30MW is to be connected in a *network area* with existing or forecast congestion, consider applying to classify the *generating units* as *semi-scheduled*. If classified as *non-scheduled generating units*, 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.

Clause 2.2.7(i) of the NER requires AEMO to approve the classification of one or more *generating units* as one *semi-scheduled generating unit* provided:

- (1) they are *connected* at a single site with:
  - (i) the same intra-regional loss factor; or
  - (ii) if two *intra-regional loss factors* are determined for the site under clause 3.6.2(b)(2), the same two *intra-regional loss factors*;
- (2) each has a capacity of not more than 6MW; and
- (3) they have similar energy conversion models,

unless AEMO considers that the classification could adversely impact on *power system security*. Under clause 2.2.7(j), AEMO may approve a classification under clause 2.2.7(i) even if one or more of the above conditions are not met, provided that the single *semi-scheduled generating unit* would not materially distort *central dispatch* or adversely affect *power system security*.

## 5.5. Classification as a market generating unit

Clause 2.2.4(a) of the NER requires that a *generating unit* whose *sent out generation* is not purchased in its entirety by the *Local Retailer* or a *Customer* located at the same *connection point* must be classified as a *market generating unit*.

## 5.6. Classification as a non-market generating unit

Clause 2.2.5(a) of the NER requires that a *generating unit* whose *sent out generation* is purchased in its entirety by the *Local Retailer* or a *Customer* located at the same *connection point* must be classified as a *non-market generating unit*.

### 5.6.1. Purchased in its entirety

AEMO will be satisfied that the electricity generated is 'purchased in its entirety' if both of the following conditions are met:

- (a) the applicant provides either a copy of the agreement with the *Customer* indicating that the *Customer* will purchase all *sent out generation* from the relevant *connection point*, or a statutory declaration attesting that there is such an agreement in place; and
- (b) the *Customer* demonstrates to AEMO that, at all times under normal conditions, there is no export of electricity from the relevant *connection point*. That is, there must be a net purchase by the *Customer* at that connection point at all times under normal conditions.

or both of the following conditions are met:

- (c) the applicant provides either a copy of the agreement with the *Local Retailer* indicating that the *Local Retailer* will purchase all *sent out generation* from the relevant *connection point*, or a statutory declaration attesting that there is such an agreement in place; and
- (d) the sum of the output of all *non-market generating units* in the *Local Retailer's local area* must not exceed the *local load*. If the sum of the *generating units' output* exceeds the



*local load* under normal conditions, the *Local Retailer* must nominate which *generating units* are to be classified as *non-market generating units*. The remaining *generating units* must be classified as *market generating units*.

For the purposes of this requirement, ‘normal conditions’ means periods of operation without *load shedding* or other abnormal events that would cause a reduction in the expected demand. This is intended to cover an unexpected event that causes a *Local Retailer’s local load* or the *Customer’s load* to fall below the output of the relevant *generating unit*. Flows of electricity to the *network* under these infrequent and unusual circumstances can be tolerated without requiring the *Generator* to be a *Market Generator*.

### 5.6.2. Located at the same connection point

The expression ‘located at the same *connection point*’ means:

- (a) In the case of a *Local Retailer*, the *generating units* must be connected within its *local area*.
- (b) In the case of a *Customer*, the *load* and the *generating unit* effectively need to be *connected* in such a way that the *metering installation* for the common *connection point* registers the net energy flow of the *Customer load* and export of *generation*. *Transmission network* or *distribution network* equipment cannot be used to *connect* the *generating unit* to the *Customer’s load*.

## 6. MARKET GENERATORS REGISTERING AS MARKET CUSTOMERS

### 6.1. Auxiliary load

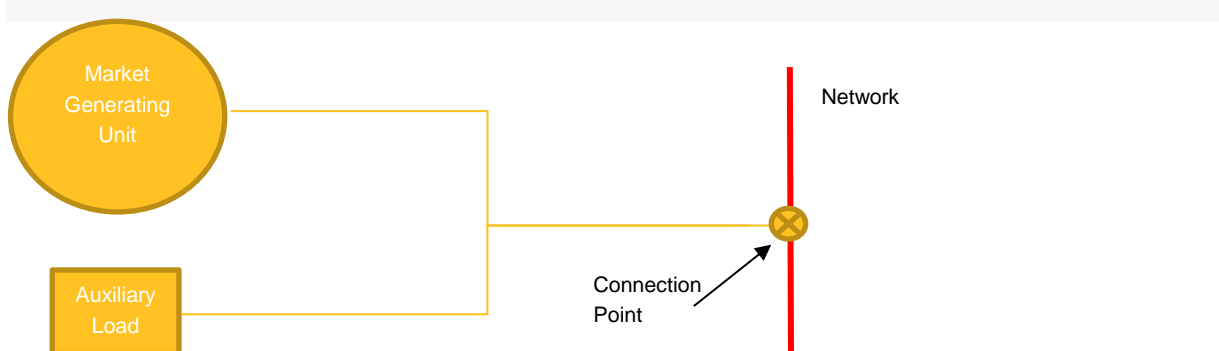
Clause 2.2.4(d) of the NER states that a *Market Generator* must purchase all electricity supplied through the *national grid* to the *Market Generator* at its *connection point* from the *spot market* and pay AEMO for electricity supplied at that *connection point* in accordance with Chapter 3 of the NER.

When read in conjunction with clause 2.2.4(b), AEMO interprets this to mean that a *Market Generator* need not be registered as a *Market Customer* where:

- (a) its purchases of electricity from the *spot market* are made through the same *connection point* through which it exports electricity; and
- (b) the electricity is consumed primarily as *auxiliary load*, being electricity consumed by equipment such as exciters, conveyors, mills or cooling pumps, and by buildings adjacent to a *power station* that service the *power station*.

This may be illustrated by way of example:

**Figure 1 Single Point of Connection**



In Figure 1, there would be no requirement for the *Market Generator* to be registered as a *Market Customer*.



## 6.2. Legacy classifications

There currently exist a number of classifications that AEMO no longer considers to be appropriate.

In the future, the only type of situation where *Market Generator* can purchase electricity from the *national grid* without also being required to register as a *Market Customer*, is that described in section 6.1.

## 6.3. Battery storage facilities

The electricity consumed by battery storage facilities within a *generating system* cannot be considered to be auxiliary *load*. The electricity consumed to charge by battery storage facilities is a primary input, and treated as a market load.

To support AEMO's ability to maintain or restore *power system security*, the electricity *generated* or consumed by a battery storage facility of more than 5MW will need to be capable of being *dispatched* by AEMO. To do this, AEMO will require a *Market Generator* to be registered as a *Market Customer*, as well. Furthermore, the *load* represented by the battery storage facility's consumption will need to be classified as a *scheduled load*. In the case of a generating system with a battery that is integrated with another type of generation and will never be charging from the grid, AEMO will consider a proposal that the proponent not register as a *Market Customer*, provided that appropriate arrangements are put in place for the charging activity to be dispatched through central dispatch for reasons of power system security and operation.



## APPENDIX A. EXAMPLES OF CLASSIFICATIONS

Description	Classification
500kW solar panel and AC inverter	Exempt
1MW backup diesel <i>generating unit</i> in a high rise building	Exempt
4MW battery storage facility	Exempt
8MW battery storage facility	<i>Scheduled Generator</i> <sup>1</sup> & <i>Market Generator</i>
10MW thermal <i>power station</i> or wind farm under contract to a <i>Local Retailer</i> or <i>Customer</i> located at the same <i>connection point</i>	<i>Non-Scheduled Generator</i> & <i>Non-Market Generator</i>
10MW thermal <i>power station</i> supply for an electrically isolated country town	Exempt
15 MW gas-fired <i>generating system</i> with expected energy production >20 GWhr or <i>connecting</i> in <i>network</i> location with existing/forecast congestion exporting into a <i>distribution system</i> that is entirely purchased by the <i>Local Retailer</i>	<i>Scheduled Generator</i> <sup>1</sup> & <i>Non-Market Generator</i>
20MW battery storage facility within a <i>power station</i>	<i>Scheduled Generator</i> <sup>1</sup> & <i>Market Generator</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 Generator</i> <sup>1</sup> & <i>Market Generator</i>
30MW <i>generating unit</i> that exports up to 3MW into a <i>distribution system</i>	<i>Non-Scheduled Generator</i> & <i>Market Generator</i>
30MW <i>generating unit</i> that exports up to 3MW into a <i>distribution system</i> that is entirely purchased by the <i>Local Retailer</i>	<i>Non-Scheduled Generator</i> & <i>Market Generator</i>
40MW <i>generating system</i> internal to a major manufacturing plant that is never expected to export energy	<i>Non-Scheduled Generator</i> & <i>Non-Market Generator</i>
40MW hydro station under contract to a <i>Local Retailer</i> for all of its output	<i>Scheduled Generator</i> & <i>Non-Market Generator</i>
45MW <i>generating unit</i> using 10MW locally within its own site	<i>Scheduled Generator</i> & <i>Market Generator</i>
45MW <i>generating unit</i> using 30MW locally within its own site	<i>Non-Scheduled Generator</i> & <i>Market Generator</i>
45MW <i>generating unit</i> using 30MW locally within its own site and selling all export to the <i>Local Retailer</i> or <i>Customer</i> at its <i>connection point</i>	<i>Non-Scheduled Generator</i> & <i>Non-Market Generator</i>
45MW <i>generating unit</i> using 10MW locally within its own site and selling all export to the <i>Local Retailer</i> or <i>Customer</i> at its <i>connection point</i>	<i>Scheduled Generator</i> & <i>Non-Market Generator</i>
50MW co-generation plant or run of river hydro station	<i>Scheduled Generator</i> & <i>Market Generator</i>
150MW wind farm with all output sold to the market	<i>Semi-Scheduled Generator</i> & <i>Market Generator</i>
200 MW brown coal <i>generating unit</i> with a 60% minimum load capability	<i>Scheduled Generator</i> & <i>Market Generator</i>
200 MW power station connected to a transmission system	<i>Scheduled Generator</i> & <i>Market Generator</i>

<sup>1</sup> Depending on whether the criteria in clause 2.2.3(b) of the NER are met, it could be a *Non-Scheduled Generator* with conditions attached.