

Draft National Electricity Amendment (System Restart Ancillary Services and pricing under market suspension) Rule 2005

under the National Electricity Law as applied by:

- (a) the National Electricity (South Australia) Act 1996; and
- (b) the Electricity (National Scheme) Act 1997 of the Australian Capital Territory; and
- (c) the National Electricity (New South Wales) Act 1997 of New South Wales; and
- (d) the Electricity National Scheme (Queensland) Act 1997 of Queensland; and
- (e) the Electricity National Scheme (Tasmania) Act 1999 of Tasmania; and
- (f) the National Electricity (Victoria) Act 1997 of Victoria; and
- (g) the Australian Energy Market Act 2004 of the Commonwealth.

The Australian Energy Market Commission makes the following Rule under the National Electricity Law.

John Tamblyn Chairman Australian Energy Market Commission

National Electricity Amendment (System Restart Ancillary Services and pricing under market suspension) Rule 2005

1. Title of Rule

This Rule is the National Electricity Amendment (System Restart Ancillary Services and pricing under market suspension) Rule 2005.

2. Commencement

This Rule commences operation on the day the notice of the making of the Rule is published in the South Australian Government Gazette.

3. Amendment of the National Electricity Rules

The National Electricity Rules are amended as set out in Schedule 1.

4. Notes

Notes do not form part of this Rule

Schedule 1 Amendment of National Electricity Rules

(Clause 3)

[1] Clause 3.11.3

Omit clause 3.11.3 and substitute:

[Note the new 3.11.3 is the current Rule 3.11.4 with cross referencing changes]

3.11.3 Acquisition of non-market ancillary services

- (a) *NEMMCO* must use reasonable endeavours to acquire the following non-market ancillary services in accordance with the remaining relevant provisions of this clause 3.11:
 - (1) NCAS; and
 - (2) *system restart.*
- (b) The requirements for services to give *NEMMCO* the capability to do the things referred to it in clause 3.11.3(a) must be met in the following ways:
 - (1) by *NEMMCO* setting minimum standards which are to be dealt with in *Registered Participants' connection agreements* for technical performance service; or
 - (2) by *NEMMCO* acquiring *ancillary services* in accordance with this clause 3.11 or giving a direction in accordance with clause 4.8.9.
- (c) *NEMMCO* must make and *publish* a set of *minimum technical ancillary service standards* that must be met by all *Registered Participants* who have entered into a *connection agreement*.
- (d) *NEMMCO* may amend the *minimum technical ancillary service standards* from time to time.
- (e) *NEMMCO* must comply with the *Rules consultation procedures* when making or amending the *minimum technical ancillary service standards*.
- (f) In setting or amending *minimum technical ancillary service standards*, *NEMMCO* must:
 - (1) take into account the provisions of *connection agreements* existing at the time of setting or amending such standards;
 - (2) ensure that proposed *minimum technical ancillary service standards* do not impose more onerous material obligations on parties to existing *connection agreements*, as a whole, than are imposed by such existing *connection agreements*;

- (3) take into account and minimise the additional costs overall that may arise from proposed *minimum technical ancillary service standards* for parties to existing *connection agreements*, as a whole; and
- (4) take into account the obligations imposed on parties to *connection agreements* by Chapter 5 and any *derogation* thereto.
- (g) The *minimum technical ancillary service standards* are not intended to, nor are to be read or construed as having the effect of:
 - (1) altering any term of a *connection agreement*;
 - (2) altering the contractual rights or obligations of any of the parties under a *connection agreement* as between those parties; or
 - (3) relieving the parties under any such *connection agreement* of their contractual obligations under such agreement or obligations under Chapter 5.
- (h) An amendment to the *minimum technical ancillary service standards* must not take effect until at least 30 days after the publication of the report required under the *Rules consultation procedures* in 3.11.3(e).
- (i) *NEMMCO* is not responsible for payment to a *Registered Participant* for services which must be provided by that *Registered Participant* under a *connection agreement* or under clause 4.9.2(b).
- (j) A Network Service Provider must advise NEMMCO of all ancillary services or similar services to be provided by a Registered Participant under a connection agreement to which it is a party.
- (k) NEMMCO may instruct a Registered Participant to provide a service agreed to be provided under a connection agreement of a kind described in clause 3.11.3(b) and any Registered Participant so instructed must use reasonable endeavours to comply with any such instruction.

[2] Clause 3.11.4

Omit clause 3.11.4 and substitute: [Note the new rule 3.11.4 is the existing rule 3.11.3 with appropriate changes to limit it to NCAS]

3.11.4 Procedure for determining quantities of network control ancillary services

(a) *NEMMCO* must develop and *publish* a detailed description of each *network control ancillary service*.

- (b) *NEMMCO* must develop and *publish* a procedure for determining the quantities of each kind of *network control ancillary service* required for *NEMMCO*:
 - (1) to achieve the *power system security and reliability standards*; and
 - (2) where practicable to enhance *network* transfer capability whilst still maintaining a *secure operating state* when, in *NEMMCO's* reasonable opinion, the resultant expected increase in *network control ancillary service* costs will not exceed the resultant expected increase in benefits of trade from the *spot market*.
- (c) *NEMMCO* may amend the description developed under this clause 3.11.4, from time to time.
- (d) *NEMMCO* must comply with the *Rules consultation procedures* when making or amending descriptions or procedures under this clause 3.11.4.

[3] Clauses 3.11.4A, 3.11.4B and 3.11.4C

After clause 3.11.4 insert:

3.11.4A Guidelines and objectives for acquisition of system restart ancillary services

- (a) The objective for *system restart ancillary services* is to minimise the expected economic costs of a *major supply disruption*, taking into account the cost of supplying *SRAS*, consistent with the *NEM objective* (the ''*SRAS objective*'').
- (b) *NEMMCO* must use reasonable endeavours to acquire *system restart ancillary services* in accordance with the relevant provisions of this clause 3.11.
- (c) Each of the guidelines and *SRAS description* which *NEMMCO* is required to develop and *publish* in accordance with this clause 3.11.4A must:
 - (1) be consistent with the *SRAS objective*;
 - (2) be designed to ensure the system restart standard is met; and
 - (3) be designed to ensure that the need for *system restart ancillary services* in each *electrical sub-network* is met, to the extent that it is practicable and reasonable to do so, by NEMMCO entering into *ancillary services agreements* for the provision of *primary restart services*,

(referred to collectively as the "SRAS procurement objectives").

- (d) *NEMMCO* must develop and *publish* a detailed description of each type of *system restart ancillary service* in accordance with the guidelines determined by the *Reliability Panel* in accordance with clause 8.8.3(aa)(3), which description must identify:
 - (1) whether the system restart ancillary service is a primary restart service or a secondary restart service;
 - (2) the technical and availability requirements of each type of *system restart ancillary service*; and
 - (3) any other matter considered relevant by *NEMMCO*,
 - (the ''SRAS description'').
- (e) *NEMMCO* must develop and *publish* guidelines for undertaking:
 - (1) modelling and assessment of the technical capabilities of *system restart ancillary services* proposed to be submitted as part of a *SRAS expression of interest* or in response to a *NMAS invitation to tender*;
 - (2) physical testing of *system restart ancillary services* being submitted as part of a *SRAS expression of interest* or in response to a *NMAS invitation to tender*; and
 - (3) any other analysis which NEMMCO considers appropriate,

to demonstrate there is a reasonable degree of certainty that a *facility* is capable of delivering the relevant *system restart ancillary service* if required to do so (the *''SRAS assessment guidelines''*).

- (f) *NEMMCO* must develop and *publish* guidelines for establishing the number, type and location of *system restart ancillary services* required to be procured for each *electrical sub-network* consistent with the *system restart* standard determined by the *Reliability Panel* (the ''**SRAS quantity guidelines**'').
- (g) *NEMMCO* may amend the *SRAS* assessment guidelines, the *SRAS* quantity guidelines and the *SRAS* description from time to time.
- (h) *NEMMCO* must comply with the *Rules consultation procedures* when making or amending the *SRAS assessment guidelines*, the *SRAS quantity guidelines* and the *SRAS description*.

3.11.4B Determination of electrical sub-network boundaries

For the purpose of acquiring system restart ancillary services and determining and implementing the system restart plan, the market is to be divided into *electrical sub-networks*. The boundaries of the *electrical sub-networks* are to be determined from time to time by *NEMMCO* in accordance with the guidelines determined by the *Reliability Panel* under clause 8.8.3(aa)(4). *NEMMCO* must follow the *Rules consultation procedures* in determining *electrical sub-networks*.

3.11.4C Transitional provision for acquisition of non-market ancillary services

- (a) All actions taken by *NEMMCO* or any *Rules body* prior to the commencement of this clause 3.11.4C (the "*NMAS commencement date*") in anticipation of the *NMAS commencement date* are deemed to be valid as at the *NMAS commencement date* to the extent that those actions were taken prior to the *NMAS commencement date* so far as practicable in accordance with the relevant provisions of the *Rules* (as though the relevant provisions of the *Rules* were in force at the time that the action was taken).
- (b) If NEMMCO has entered into an ancillary services agreement to acquire non-market ancillary services from a person prior to the NMAS commencement date (an "existing NMAS contract") then NEMMCO may continue to acquire such non-market ancillary services from that person under the existing NMAS contract and may extend the period of the existing NMAS contract for such period as NEMMCO and that person reasonably determine.
- (c) Until the *Reliability Panel* has determined a *system restart standard* under clause 8.8.3(a)(1a), *NEMMCO* must develop and *publish*, and may from time to time amend, a *system restart standard* which will apply as an interim standard until such time as the *Reliability Panel* develops and *publishes* a final *system restart standard*.

[4] Clause 3.11.5

Omit clause 3.11.5 and substitute:

3.11.5 Tender process for non-market ancillary services

- (a) Except as provided in clauses 3.11.5(n) and 4.8.9, if *NEMMCO* wishes to acquire a *non-market ancillary service*, then *NEMMCO* must call for offers in accordance with the *NMAS tender* guidelines from persons who are in a position to provide the *non-market ancillary service* so as to have the required effect at a *connection* to a *transmission network*.
- (b) *NEMMCO* must determine and *publish* the *NMAS tender guidelines*. Separate *NMAS tender guidelines* may be prepared in respect of *network control ancillary services* and *system restart ancillary services*. The *NMAS tender guidelines* must contain the following:
 - (1) a requirement for *NEMMCO* to call for *NMAS* expressions of interest before issuing an *NMAS*

invitation to tender in relation to any required *nonmarket ancillary services*;

- (2) any requirement for persons submitting an *NMAS expression of interest* to have the relevant *facility* tested in accordance with the *NMAS assessment guidelines*;
- (3) any requirement for a *Network Service Provider* or other *Registered Participant* to assist a prospective tenderer in identifying and, if possible, resolving issues that would prevent the delivery of effective *system restart ancillary services* proposed by a prospective tenderer;
- (4) the time frames over which NEMMCO's assessment of NMAS tenders and physical testing of selected nonmarket ancillary services will occur;
- (5) the period for which each n*on-market ancillary service* would be contracted;
- (6) any requirement for tenderers to provide data, models and parameters of relevant *plant*, sufficient to facilitate a thorough assessment of the *network* impacts and *power station* impacts of the use of the relevant *nonmarket ancillary service*;
- (7) the minimum terms and conditions of the *ancillary services agreement* successful tenderers would be expected to enter into with *NEMMCO*;
- (8) the principles which *NEMMCO* must adopt in assessing *NMAS tenders*; and
- (9) any other matter considered appropriate by *NEMMCO*.
- (c) *NEMMCO* may amend the *NMAS tender guidelines* from time to time. *NEMMCO* must comply with the *Rules consultation procedures* when making or amending the *NMAS tender guidelines*.
- (d) *A Registered Participant* is not under any obligation to submit an *NMAS tender* in response to an *NMAS invitation to tender*.
- (e) NEMMCO is not under any obligation to accept the lowest priced *NMAS tender* or any *NMAS tender i*n response to an *NMAS invitation to tender*.
- (f) A Network Service Provider must:

- (1) negotiate in good faith with prospective tenderers in respect of issues which the *NMAS tender guidelines* require prospective tenderers to discuss and, if possible, resolve with *Network Service Providers*; and
- (2) participate in, or facilitate, testing of a system restart ancillary service which is required by the NMAS tender guidelines where it is reasonable and practicable to do so, and when participating in or facilitating such activities the Network Service Provider will be entitled to recover from the relevant prospective tenderer all reasonable costs incurred by the Network Service Provider and for such purposes the activities of the Network Service Provider will be treated as excluded services.
- (g) Where a *Registered Participant* submits a *NMAS tender* in response to a NMAS invitation to tender and *NEMMCO* wishes to negotiate an aspect of that *NMAS tender*, then *NEMMCO* and the *Registered Participant* must negotiate in good faith concerning that aspect.
- (h) Subject to clause 3.11.5(i), *NEMMCO* must not acquire *non-market ancillary services* from any person who is not a *Registered Participant*.
- (i) *NEMMCO* may enter into an agreement to acquire *non-market ancillary services* with a person who is not a *Registered Participant* if that agreement includes a condition for the benefit of *NEMMCO* that no *ancillary services* will be provided under the agreement until that person becomes a *Registered Participant*.
- (j) If NEMMCO calls for offers under clause 3.11.5(a) in respect of a kind of non market ancillary service, then NEMMCO must notify Registered Participants when it believes that it has available, under ancillary services agreements, a sufficient quantity of that kind of non market ancillary service (as determined by applying the procedure developed under clause 3.11.4 or clause 3.11.4A(f) (whichever is relevant)).
- (k) Within 5 business days of *NEMMCO* giving a notice under clause 3.11.5(j), *NEMMCO* must *publish* the total quantity of each kind of *non market ancillary service* acquired by *NEMMCO* pursuant to *ancillary services agreements* under this clause 3.11.5.
- (1) A *Registered Participant* must comply with an *ancillary services agreement* between the *Registered Participant* and *NEMMCO* under which the *Registered Participant* provides one or more *non-market ancillary services*.

- (m) NEMMCO may acquire a system restart ancillary service under an ancillary services agreement (a "bilateral SRAS contract") entered into with a Registered Participant without following the NMAS tender process where:
 - (1) in *NEMMCO's* opinion, acting reasonably, the *bilateral SRAS contract* would provide better value for money than could be obtained through the tender process being conducted under the *NMAS tender guidelines* at the time the *bilateral SRAS contract* is entered into;
 - (2) the period of the *bilateral SRAS contract* is for a longer period than the period of the contracts being offered by *NEMMCO* in accordance with the tender process being conducted under the *NMAS tender guidelines* at the time the *bilateral SRAS contract* is entered into; and
 - (3) the *bilateral SRAS contract* is consistent with the *system restart standard*.
- (n) Any dispute concerning any aspect of an *ancillary services* agreement or a tender conducted by *NEMMCO* for the acquisition of *non-market ancillary services* must be dealt with in accordance with clause 8.2.

[5] Clause 4.2.6(e)

Omit clause 4.2.6(e) and substitute:

(e) Sufficient system restart ancillary services should be available in accordance with the *system restart standard* so as to allow the restoration of *power system security* and any necessary restarting of *generating units* following a *major supply disruption*.

[6] Clause 4.3.1

Omit clause 4.3.1(p) and substitute:

(p) to procure adequate *system restart ancillary services* in accordance with clause 3.11.4A to enable *NEMMCO* to co ordinate a response to a *major supply disruption*;

[7] Clause 4.8.3

Omit clause 4.8.3(b) and substitute:

- (b) Without limitation, such circumstances may include:
 - (1) electricity *supply* capacity shortfall, being a condition where there are insufficient *generation* or *supply* options available to securely *supply* the total load in a *region*;
 - (2) unexpected disruption of *power system security*, which may occur when:
 - (i) an unanticipated major *power system* or *generation plant contingency event* occurs; or
 - (ii) significant environmental or similar conditions, including weather, storms or fires, are likely to, or are affecting, the *power* system; or
 - (3) a major supply disruption.

[8] Clause 4.8.12

Omit clause 4.8.12 and substitute:

4.8.12 System restart plan and local black system procedures

- (a) *NEMMCO* must prepare, and may from time to time amend, a *system restart plan* for the purpose of managing and coordinating system restoration activities during any *major supply disruption*.
- (b) The system restart plan is confidential information.
- (c) The *system restart plan* must be consistent with the *system restart standard*.
- (d) Each Generator and Network Service Provider must develop local black system procedures in accordance with the guidelines established in accordance with clause 4.8.12(e). A Generator's or Market Network Service Provider's local black system procedures must be consistent with any ancillary services agreement to provide system restart ancillary services to which that Generator or Market Network Service Provider is a party. On request from NEMMCO, or as a result of a significant change of circumstances, a Generator or Network Service Provider must review, and amend if appropriate, its local black system procedures.
- (e) Subject to clause 4.8.12(f), *NEMMCO* must develop and *publish*, and may from time to time amend, guidelines for the preparation

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of *local black system procedures* in consultation with *Generators* and *Network Service Providers*.

- (f) Local black system procedures must:
 - (1) provide sufficient information to enable *NEMMCO* to understand the likely condition and capabilities of *plant* following any *major supply disruption* such that *NEMMCO* is able to effectively coordinate the safe implementation of the *system restart plan*; and
 - (2) appropriately incorporate any relevant *energy support arrangements* to which a *Generator or Network Service Provider* may be party.
- (g) Each *Generator* and *Network Service Provider* must submit its *local black system procedures*, including any amendments to those procedures, to *NEMMCO* for approval. In considering whether to approve *local black system procedures* or amendments to such procedures, *NEMMCO* will take into account the consistency of the *local black system procedures* with:
 - (1) the guidelines established in accordance with clause 4.8.12(e); and
 - (2) relevant components of the *system restart plan*.
- (h) NEMMCO may request amendments to local black system procedures, including, without limitation, imposing conditions in respect of any energy support arrangement as NEMMCO reasonably considers necessary to ensure the integrity of the system restart plan. When requesting amendments to the local black system procedures, NEMMCO must provide reasons for those requested amendments.
- Requests by *NEMMCO* for amendments under clause 4.8.12(h) must be by notice in writing to a *Generator or Network Service Provider*. Reasonable requests by *NEMMCO* for amendments under clause 4.8.12(h) must be complied with by a *Generator or Network Service Provider*.
- (j) *NEMMCO* and *Network Service Providers* must jointly develop communication protocols to facilitate the exchange of all information relevant to the roles played by *NEMMCO*, *Network Service Providers, Generators and Customers* in the implementation of the *system restart plan*.

[9] Clause 4.8.13

Omit clause 4.8.13.

[10] Clause 4.8.14

Omit clause 4.8.14 and substitute:

4.8.14 Power system restoration

- (a) NEMMCO must notify a *Registered Participant* if, in *NEMMCO's* reasonable opinion, there is a *major supply disruption* which is affecting, or which may affect, that *Registered Participant*.
- (b) If NEMMCO advises a Generator or Network Service Provider of a major supply disruption, or if the terms of the relevant local black system procedures require the Generator or Network Service Provider to take action, then the Generator or Network Service Provider must comply with the requirements of the local black system procedures as quickly as it is reasonably able to comply.
- (c) Where in *NEMMCO's* reasonable opinion the *system restart plan* cannot be implemented to effectively ameliorate the actual power system conditions created by a *major supply disruption*, *NEMMCO* may adapt or vary the *system restart plan* as it considers reasonably necessary to suit those actual power system conditions.
- (d) If there is a *major supply disruption*, a *Generator* or *Network Service Provider* must comply with *NEMMCO's* directions under clause 4.8.9 regarding the restoration of the *power system*.
- (e) If there is a *major supply disruption*, a *Market Customer* must comply with *NEMMCO's* directions under clause 4.8.9 with respect to the timing and magnitude of *load* restoration.

[11] Clause 8.8.1

After clause 8.8.1(a)(1) insert:

(1a) on the advice of NEMMCO determine the system restart standard;

[12] Clause 8.8.3

After clause 8.8.3(a)(1) insert:

(1a) the system restart standard;

[13] Clause 8.8.3(aa)

After clause 8.8.3(a) insert:

- (aa) The system restart standard must:
 - (1) apply equally across all *regions*, but the *Reliability Panel* may vary the *system restart standard* between *electrical sub-networks* to the extent necessary:
 - (A) to reflect any technical system limitations or requirements; or
 - (B) if the benefits of adopting the *system restart standard* would be outweighed by the costs of implementing such a standard;
 - (2) identify the maximum amount of time within which *system restart ancillary services* are required to restore service to a particular level;
 - (3) include guidelines on the required reliability of *primary restart services* and *secondary restart services*;
 - (4) include guidelines to be followed by NEMMCO in determining electrical sub-networks, including in relation to determining the appropriate number of electrical sub-networks and the characteristics required within an electrical sub-network (such as the amount of generation or load, or electrical distance between groups of generators, within an electrical sub-network);
 - (5) include guidelines specifying the diversity and strategic locations required of *primary restart services* and *secondary restart services*;

[14] Clause 8.8.3(b)

Omit clause 8.8.3(b) and substitute:

(b) At least once each calendar year and at such other times as the *AEMC* may request, the *Reliability Panel* must conduct a review of the performance of the *market* in terms of *reliability* of the *power system*, the *power system security* and *reliability standards*, the *system*

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restart standard, the guidelines referred to in clause 8.8.1(a)(3) and the policies and guidelines referred to in clause 8.8.1(a)(4) in accordance with this clause 8.8.3.

[15] Chapter 10 – New definitions

In Chapter 10 insert the following new definitions in alphabetical order:

bilateral SRAS contract

Has the meaning given in clause 3.11.5(m).

electrical sub-network

A part of the national grid determined by *NEMMCO* under clause 3.11.4B in accordance with the guidelines determined by the *Reliability Panel* under clause 8.8.3(aa)(4).

energy support arrangement

A contractual arrangement between *NEMMCO* and a customer or *participating jurisdiction* under which *facilities* not subject to an *ancillary services agreement* for the provision of *SRAS* are used to assist *supply* to a customer during a *major supply disruption* affecting that customer.

existing NMAS contract

Has the meaning given in clause 3.11.4C(b)

major supply disruption

The unplanned absence of *voltage* on a part of the *transmission system*, affecting one or more *power stations*.

NEM objective

Has the meaning given in section 7 of the National Electricity Law.

NMAS commencement date

Has the meaning set out in clause 3.11.4C(a).

NMAS invitation to tender

In respect of *non-market ancillary services*, a document issued by *NEMMCO* calling for *NMAS tenders* in accordance with clause 3.11.5(a).

NMAS tender

An offer submitted by a person in response to an NMAS invitation to tender.

NMAS tender guidelines

The guidelines determined in accordance with clause 3.11.5(b), which may comprise separate guidelines in respect of:

- (a) *network control ancillary services*; and
- (b) *system restart ancillary services.*

primary restart service

A *system restart ancillary service* that meets the technical and availability requirements of a *primary restart service* specified by *NEMMCO* under clause 3.11.4A(d) in accordance with the guidelines determined by the *Reliability Panel* under clause 8.8.3(aa)(3).

secondary restart service

A *system restart ancillary service* that meets the technical and availability requirements of a *secondary restart service* specified by *NEMMCO* under clause 3.11.4A(d) in accordance with the guidelines determined by the *Reliability Panel* under with clause 8.8.3(aa)(3).

SRAS assessment guidelines

The guidelines determined and published by *NEMMCO* in accordance with clause 3.11.4A(e).

SRAS description

Has the meaning given in clause 3.11.4A(d).

SRAS expression of interest

The response to a call by *NEMMCO* in accordance with clause 3.11.5, for expressions of interest to provide *system restart ancillary services*.

SRAS objective

The objective set out in clause 3.11.4A(a).

SRAS procurement objectives

The objectives set out in clause 3.11.4A(c).

SRAS quantity guidelines

The guidelines developed and published by *NEMMCO* in accordance with clause 3.11.4A(f).

system restart ancillary service or SRAS

A service provided by *facilities* with *black start capability* which allows:

- (a) *energy* to be supplied; and
- (b) a *connection* to be established,

sufficient to restart large *generating units* following a *major supply disruption*.

system restart plan

The plan described in clause 4.8.12(a).

system restart standard

Until it is replaced, the interim standard as determined by *NEMMCO* in accordance with clause 3.11.4C(c), and thereafter its replacement being the standard as determined by the *Reliability Panel* in accordance with clause 8.8.3(a)(1a), for the acquisition of *system restart ancillary services*.

[16] Chapter 10 – Deleted definitions

Delete the following definitions:

black start-up facilities

system restart

[17] Chapter 10 – Replaced definitions

Delete the current corresponding definitions and replace them with the following definitions:

black start capability

A capability which allows a *generating unit*, following its *disconnection* from the *power system*, to be able to deliver electricity to either:

- (a) its *connection point*; or
- (b) a suitable point in the *network* from which *supply* can be made available to other *generating units*,

without taking *supply* from any part of the *power system* following *disconnection*.

black system

The absence of *voltage* on all or a significant part of the *transmission* system or within a *region* during a *major supply disruption* affecting a significant number of customers.

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facilities

A generic term associated with the apparatus, equipment, buildings and necessary associated supporting resources provided at, typically:

- (a) a power station or generating unit;
- (b) a substation or power station switchyard;
- (c) a control centre (being a NEMMCO control centre, or a distribution or transmission network control centre);
- (d) facilities providing an exit service.

network control ancillary services or NCAS

A service identified in clause 3.11.4(a) which provides *NEMMCO* with a capability to control the real or *reactive power flow* into or out of a *transmission network* in order to:

- (a) maintain the *transmission network* within its current, *voltage*, or stability limits following a *credible contingency event*; or
- (b) enhance the value of *spot market* trading in conjunction with the *central dispatch* process.

non-market ancillary services

Network control ancillary services and system restart ancillary services.

power system security and reliability standards

The standards (other than the *system restart standard*) governing *power system security* and *reliability* of the *power system* to be approved by the *Reliability Panel* on the advice of *NEMMCO*, but which may include but are not limited to standards for the *frequency* of the *power system* in operation, *contingency capacity reserves* (including guidelines for assessing requirements), *short term capacity reserves* and *medium term capacity reserves*.