National Electricity Rules Version 1

Historical Information

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Chapter 1 - Introduction

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CHAPTER 1

1. Introduction

1.1 Preliminary

1.1.1 References to the Rules

These Rules ("the *Rules*") are called the National Electricity Rules.

1.1.2 Italicised expressions

Italicised expressions in the *Rules* are defined in the glossary in Chapter 10.

1.1.3 [Deleted]

1.2 Background

These Rules are the National Electricity Rules made under the *National Electricity Law* and may be amended from time to time in accordance with the *National Electricity Law*.

1.3 [Deleted]

1.4 [Deleted]

1.5 [Deleted]

1.6 [Deleted]

1.7 Interpretation

1.7.1 General

In the *Rules*, unless the context otherwise requires:

(a) headings are for convenience only and do not affect the interpretation of the *Rules*;

(b) words importing the singular include the plural and vice versa;

(c) words importing a gender include any gender;

(d) when italicised, other parts of speech and grammatical forms of a word or phrase defined in the *Rules* have a corresponding meaning;

(e) an expression importing a natural person includes any company, partnership, trust, joint venture, association, corporation or other body corporate and any government agency;

(f) a reference to any thing includes a part of that thing;

(g) a reference to a chapter, condition, clause, schedule or part is to a chapter, condition, clause, schedule or part of the *Rules*;

(h) a reference to any statute, regulation, proclamation, order in council, ordinances or by-laws includes all statutes, regulations, proclamations, orders in council, ordinances and by-laws varying, consolidating, re-enacting, extending or replacing them and a reference to a statute includes all regulations, proclamations, orders in council, ordinances, by-laws and determinations issued under that statute;

(i) a reference to a document or a provision of a document includes an amendment or supplement to, or replacement or novation of, that document or that provision of that document;

(j) a reference to a person includes that person's executors, administrators, successors, substitutes (including, without limitation, persons taking by novation) and permitted assigns;

(k) a period of time:

(1) which dates from a given *day* or the *day* of an act or event is to be calculated exclusive of that *day*; or

(2) which commences on a given *day* or the *day* of an act or event is to be calculated inclusive of that *day*;

(l) an event which is required under the *Rules* to occur on or by a stipulated *day* which is not a *business day* may occur on or by the next *business day*; and

(m) the schedules to the *Rules* form part of the *Rules*.

The only provisions of Schedule 2 to the *National Electricity Law* that apply to the *Rules* are clauses 12, 15, 17, 19, 20, 23 to 26 (inclusive) and 31 (such provisions to so apply unless the context otherwise requires), and clauses 32 to 34 (inclusive), 39, 42 and 43.

1.7.2 [Deleted]

1.8 Notices

1.8.1 Service of notices under the Rules

A notice is properly given under the *Rules* to a person if:

(a) it is personally served;

(b) a letter containing the notice is prepaid and posted to the person at an address (if any) supplied by the person to the sender for service of notices or, where the person is a *Registered Participant*, an address shown for that person in the register of *Registered Participants* maintained by *NEMMCO*;

(c) it is sent to the person by facsimile or electronic mail to a number or reference which corresponds with the address referred to in clause 1.8.1(b); or

(d) the person receives the notice.

1.8.2 Time of service

A notice is treated as being given to a person by the sender:

(a) where sent by post in accordance with clause 1.8.1(b) to an address in the central business district of a capital city of Australia, on the second *business day* after the *day* on which it is posted;

(b) where sent by post in accordance with clause 1.8.1(b) to any other address, on the third *business day* after the *day* on which it is posted;

(c) where sent by facsimile in accordance with clause 1.8.1(c) and a complete and correct transmission report is received:

(1) where the notice is of the type in relation to which the addressee is obliged under the *Rules* to monitor the receipt by facsimile outside of, as well as during, business hours, on the *day* of transmission; and

(2) in all other cases, on the *day* of transmission if a *business day* or, if the transmission is on a *day* which is not a *business day* or is after 4.00 pm (addressee's time), at 9.00 am on the following *business day*;

(d) where sent by electronic mail in accordance with clause 1.8.1(c):

(1) where the notice is of a type in relation to which the addressee is obliged under the *Rules* to monitor receipt by electronic mail outside of, as well as during, business hours, on the *day* when the notice is recorded as having been first received at the electronic mail destination; and

(2) in all other cases, on the *day* when the notice is recorded as having been first received at the electronic mail destination if a *business day* or, if that time is after 4.00 pm (addressee's time) or the *day* is not a *business day*, at 9.00 am on the following *business day*; or

(e) in any other case, when the person actually receives the notice.

1.8.3 Counting of days

Where a specified period (including, without limitation, a particular number of *days*) must elapse or expire from or after the giving of a notice before an action may be taken neither the *day* on which the notice is given nor the *day* on which the action is to be taken may be counted in reckoning the period.

1.8.4 Reference to addressee

In this clause 1.8, a reference to an addressee includes a reference to an addressee's officers, agents, or employees or any person reasonably believed by the sender to be an officer, agent or employee of the addressee.

1.9 Retention of Records and Documents

Unless otherwise specified in the *Rules*, all records and documents prepared for or in connection with the *Rules* must be retained for a period of at least 7 years.

1.10 [Deleted]

1.11 NEMMCO Rule Funds

(a) *NEMMCO* must continue to maintain, in the books of the corporation:

(1) the *reserve* trading fund contemplated by clause 3.12(8)(b);

(2) the registration and administration fund; and

(3) the security deposit fund,

(each a "*Rule fund*").

(b) *NEMMCO* must ensure that there is paid into each *Rule fund:*

(1) in the case of the *reserve* trading fund:

(i) all amounts which are received by *NEMMCO* in connection with carrying out its functions or powers contemplated in clause 3.12;

(ii) all amounts of *Participant fees* which are received or recovered by *NEMMCO* which relate to *NEMMCO's* actual or budgeted costs and expenses for carrying out its functions or powers contemplated in clause 3.12;

(2) in the case of the registration and administration fund, all amounts of *Participant fees* and *auction expense fees* and any other amounts payable under the *auction rules* or *SRD agreements* as *NEMMCO* considers necessary from time to time other than those which are to be paid into another *Rule fund;*

(2A) in the case of the security deposit fund, amounts which are received by *NEMMCO* under clauses 3.3.8A, 3.3.13(a)(2) and 3.3.13(a)(3); and

(3) in the case of each *Rule fund*, income from investment of money in the *Rule fund.*

(b1) In respect of the security deposit fund, *NEMMCO* must keep records, in respect of each individual *Market Participant*, of:

(1) security deposits made by that *Market Participant* and actual interest or other income earned on that *Market Participant's* payments to that fund which will be recorded as credits for that *Market Participant*;

(2) any application, or return to that *Market Participant*, of monies in the security deposit fund in accordance with clause 3.3.13A;

(3) deductions for liabilities and expenses of the security deposit fund referable, or allocated, to that *Market Participant* which will be recorded as debits to that *Market Participant*; and

(4) the credit or debit balance for that *Market Participant*.

(c) NEMMCO must ensure that money from each *Rule fund* is only applied in payment of:

(1) in the case of the *reserve* trading fund, costs and expenses of *NEMMCO* carrying out its functions or powers contemplated in clause 3.12;

(2) in the case of the registration and administration fund, costs and expenses of *NEMMCO* carrying out its functions or powers:

(i) contemplated in clause 3.12 to the extent that such costs and expenses cannot be met from the money contained in the *reserve* trading fund*;* or

(ii) other than those contemplated in clause 3.12;

(2A) in the case of the security deposit fund, monies owing to *NEMMCO* by a *Market Participant* or the return of monies to a *Market Participant* in accordance with clause 3.3.13A;

(3) in the case of each *Rule fund*:

(i) other than the security deposit fund, reimbursement to a *Registered Participant* or another *Rule fund* to make any necessary adjustment for any excess amounts which are paid as *Participant fees* as a result of any of *NEMMCO's* actual costs and expenses being less than the budgeted costs and expenses or as a result of the payment of any interim *Participant fees;* and

(ii) liabilities or expenses of the *Rule fund.*

1.12 [Deleted]

1.13 [Deleted]

CHAPTER 2

2. Registered Participants and Registration

2.1 Registered Participants

2.1.1 Purpose

This Chapter sets out and describes the various categories of *Registered Participants* and the registration procedures. It also sets out the fees payable by *Registered Participants.*

2.1.2 General

(a) **[Deleted]**

(b) **[Deleted]**

(c) The different categories of *Registered Participants* have different obligations under the *Rules*.

(d) Clauses 2.2 to 2.7 set out the *Registered Participant* categories and requirements which a person must satisfy in order to be registered by *NEMMCO* in relation to each of those *Registered Participant* categories.

(e) Each prospective *Registered Participant* must apply to *NEMMCO* for registration in accordance with clause 2.9.

(f) Each *Registered Participant* must pay to *NEMMCO* the prescribed fees determined in accordance with the provisions of clause 2.11.

2.2 Generator

2.2.1 Registration as a Generator

(a) Subject to clause 2.2.1(c), a person must not engage in the activity of owning, controlling or operating a *generating system* that is *connected* to a *transmission or distribution system* unless that person is registered by *NEMMCO* as a *Generator*.

(b) A person who otherwise *supplies* electricity to a *transmission or distribution system* may, on application for registration by that person in accordance with clause 2.9, be registered by *NEMMCO* as a *Generator.*

(c) *NEMMCO* may, in accordance with guidelines issued from time to time by *NEMMCO*, exempt a person or class of persons from the requirement to register as a *Generator*, subject to such conditions as *NEMMCO* deems appropriate, where (in *NEMMCO's* opinion) an exemption is not inconsistent with the *market objective.*

(d) Without limitation, an exemption may be given which only relieves a person or class of persons from the requirement to register as a *Generator* in relation to certain specified *generating systems* or classes of *generating systems.*

(e) To be eligible for registration as a *Generator*, a person must:

(1) having obtained *NEMMCO's* approval to do so, classify each of the *generating units* which form part of the *generating system* it owns, operates or controls or from which it otherwise sources electricity as either a *scheduled generating unit* or a *non-scheduled generating unit*; and

(2) satisfy *NEMMCO* that those *generating units* and the *connection points* for those *generating units* comply with the relevant technical requirements set out in Chapter 5.

(f) Except in relation to a proposed *generating unit*, a person must also classify each of those *generating units* as either a *market generating unit* or a *non-market generating unit.*

(f1) A *Generator* may also classify one or more of its *generating units* as an *ancillary service generating unit* where it has obtained the approval of *NEMMCO* to do so.

(g) Nothing in clause 2.2.1(e) or (f) requires the classification of any *generating unit* which forms part of a *generating system* in respect of which an exemption under clause 2.2.1(c) applies.

2.2.2 Scheduled Generator

(a) Unless *NEMMCO* approves its classification as a *non-scheduled generating unit* under the provisions of clause 2.2.3(b), a *generating unit* which has a *nameplate rating* of 30 MW or greater or is part of a group of *generating units connected* at a common *connection point* with a combined *nameplate rating* of 30 MW or greater may only be classified as a *scheduled generating unit* and not as a *non-scheduled generating unit*.

(b) A person must not classify a *generating unit* as a *scheduled generating unit* unless it has obtained the approval of *NEMMCO* to do so. *NEMMCO* must approve the classification if it is satisfied that the person:

(1) has submitted data in accordance with schedule 3.1; and

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

(b1) In relation to an application under clause 2.2.2(b) to classify as a *scheduled generating unit* a *generating unit* with a *nameplate rating* of less than 30 MW, or a *generating unit* that is part of a group of *generating units connected* at a common *connection point* with a combined *nameplate rating* of less than 30 MW, *NEMMCO* may approve the classification on such terms and conditions as *NEMMCO* considers appropriate.

(c) A person must comply with any terms and conditions imposed by *NEMMCO* as part of an approval under clause 2.2.2(b1).

(d) **[Deleted]**

(e) A *Generator* is taken to be a *Scheduled Generator* only in so far as its activities relate to any *scheduled generating unit.*

(f) A *Scheduled Generator* must operate any *scheduled generating unit* in accordance with the co-ordinated *central dispatch* process operated by *NEMMCO* under the provisions of Chapter 3.

(g) As described in Chapter 3, a *Scheduled Generator* must notify *NEMMCO* of the availability of each *scheduled generating unit* in respect of each *trading interval*.

(h) A *Scheduled Generator* may submit to *NEMMCO* a schedule of *dispatch offers* for each *scheduled generating unit* in respect of each *trading interval* for *dispatch* by *NEMMCO*.

2.2.3 Non-Scheduled Generator

(a) Unless *NEMMCO* approves its classification as a *scheduled generating unit* under the provisions of clause 2.2.2(b), a *generating unit* with a *nameplate rating* of less than 30 MW (not being part of a group of *generating units* described in clause 2.2.2(a)) may only be classified as a *non-scheduled generating unit* and not as a *scheduled generating unit*.

(b) A person must not classify a *generating unit* as a *non-scheduled generating unit* unless it has obtained the approval of *NEMMCO* to do so. *NEMMCO* must approve the classification if it is satisfied that:

(1) the primary purpose for which the relevant *generating unit* operates is local use and the aggregate *sent out generation* at its *connection point* rarely, if ever, exceeds 30 MW;

(2) the physical and technical attributes of the relevant *generating unit* are such that it is not practicable for it to participate in *central dispatch*; or

(3) the output of the *generating unit* is *intermittent*.

(c) If, in relation to an application under clause 2.2.3(b), in *NEMMCO's* opinion it is necessary for any reason (including *power system security)* for the relevant *Generator* to comply with some of the obligations of a *Scheduled Generator* for that *generating unit*, *NEMMCO* may approve the classification on such terms and conditions as *NEMMCO* considers reasonably necessary.

(d) A person must comply with any terms and conditions imposed by *NEMMCO* under clause 2.2.3(c).

(e) **[Deleted]**

(f) A *Generator* is taken to be a *Non-Scheduled Generator* only in so far as its activities relate to any *non-scheduled generating unit*.

(g) Subject to clause 3.8.2(e), the *non-scheduled generating units* of a *Generator* do not participate in the co-ordinated *central dispatch* process operated by *NEMMCO*.

2.2.4 Market Generator

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

(b) A *Generator* is taken to be a *Market Generator* only in so far as its activities relate to any *market generating units*.

(c) A *Market Generator* must sell all *sent out generation* through the *spot market* and accept payments from *NEMMCO* for *sent out generation* at the *spot price* applicable at the *connection point* as determined for each *trading interval* in accordance with the provisions of Chapter 3.

(d) A *Market Generator* must purchase all electricity *supplied* through the *national grid* to the *Market Generator* at that *connection point* from the *spot market* and make payments to *NEMMCO* for such electricity supplied at the *connection point* as determined for each *trading interval* in accordance with the provisions of Chapter 3.

2.2.5 Non-Market Generator

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

(b) A *Generator* is taken to be a *Non-Market Generator* only in so far as its activities relate to any *non-market generating unit.*

(c) A *Non-Market Generator* is not entitled to receive payment from *NEMMCO* for *sent out generation* except for any compensation that may be payable to it as a *Directed Participant* or *Affected Participant*.

2.2.6 Ancillary services generating unit

(a) If the *Market Generator* in respect of a *generating unit* wishes to use that *generating unit* to provide *market ancillary services* in accordance with Chapter 3, then the *Market Generator* must apply to *NEMMCO* for approval to classify the *generating unit* as an *ancillary service generating unit.*

(b) An application under clause 2.2.6(a) must be in the form prescribed by *NEMMCO* and specify the *market ancillary services* which the *Market Generator* wishes to provide using the relevant *generating unit*.

(c) *NEMMCO* must, within 5 *business days* of receiving an application under clause 2.2.6(a), advise the applicant of any further information or clarification which is required in support of its application if, in *NEMMCO's* reasonable opinion, the application:

(1) is incomplete; or

(2) contains information upon which *NEMMCO* requires clarification.

(d) If the further information or clarification required pursuant to clause 2.2.6(c) is not provided to *NEMMCO's* satisfaction within 15 *business days* of the request, then the *Market Generator* will be deemed to have withdrawn the application.

(e) If *NEMMCO* is reasonably satisfied that:

(1) the *generating unit* is able to be used to provide the *market ancillary services* referred to in the application in accordance with the *market ancillary service specification*; and

(2) the *Market Generator* has adequate communication and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses,

then *NEMMCO* must approve the classification in respect of the particular *market ancillary services.*

(f) If *NEMMCO* approves the classification of a *generating unit* as an *ancillary service generating unit*, then *NEMMCO* may impose on the relevant *Market Generator* such terms and conditions as *NEMMCO* considers necessary to ensure that the provisions of the *Rules* applying to *market ancillary services* can be met.

(g) A *Market Generator:*

(1) must comply with any terms and conditions imposed by *NEMMCO* under clause 2.2.6(f);

(2) must ensure that the *market ancillary services* provided using the relevant *ancillary services generating unit* are provided in accordance with the co-ordinated *central dispatch* process operated by *NEMMCO* under the provisions of Chapter 3 and in accordance with the *market ancillary service specification;*

(3) may submit to *NEMMCO market ancillary service offers* in respect of the *ancillary service generating unit* in accordance with the provisions of Chapter 3; and

(4) if the *Market Generator* submits a *market ancillary service offer* in respect of the relevant *ancillary service generating unit*, must comply with the *dispatch instructions* from *NEMMCO* in accordance with the *Rules.*

(h) A *Market Generator* with an *ancillary service generating unit* must only sell the *market ancillary services* produced using that *ancillary service generating unit* though the *spot market* in accordance with the provisions of Chapter 3.

(i) A *Market Generator* is not entitled to receive payment from *NEMMCO* for *market ancillary services* except where those *market ancillary services* are produced using an *ancillary service generating unit* in accordance with Chapter 3 or pursuant to a *direction* or *clause 4.8.9 instruction.*

2.3 Customer

2.3.1 Registration as a Customer

(a) A *Customer* is a person so registered by *NEMMCO* and who engages in the activity of purchasing electricity *supplied* through a *transmission or distribution system* to a *connection point.*

(b) To be eligible for registration as a *Customer*, a person must satisfy *NEMMCO* (acting reasonably) that:

(1) the person intends to classify within a reasonable period of time its electricity purchased at one or more *connection points* as a *first-tier load*, a *second-tier load* or a *market load* or an *intending load;* or

(2) registration is for the purpose of acting as a *retailer of last resort*.

(c) A person must not engage in the activity of purchasing electricity directly from the *market* at any *connection point*, unless that person is registered by *NEMMCO* as a *Market Participant* and that *connection point* is classified as one of that person's *market connection points*.

(d) A person who engages in the activity of purchasing electricity at any *connection point* otherwise than directly from the *market* may, but is not required to, apply for registration by *NEMMCO* as a *First-Tier Customer*, a *Second-Tier Customer* or an *Intending Participant* provided that person is entitled to classify its electricity purchased at that *connection point* based on the threshold criteria set out in clause 2.3.1(e).

(e) A person may not classify its electricity purchased at any *connection point* unless the person satisfies the requirements of the *participating jurisdiction* in which the *connection point* is situated so that (subject to compliance with the *Rules*) the person is permitted to purchase electricity in the *spot market* in relation to that *connection point*.

(f) A *Market Customer* may also classify one or more of its *market loads* as an *ancillary service load.*

2.3.2 First-Tier Customer

(a) If any electricity *supplied* through the *national grid* is purchased by a person at a *connection point* directly and in its entirety from the *Local Retailer*, the *load* at that *connection point* may be classified by that person as a *first-tier load.*

(b) A *Customer* is taken to be a *First-Tier Customer* only in so far as its activities relate to any *first-tier load.*

(c) A *First-Tier Customer* must not participate in the *spot market* for any *first-tier load.*

(d) **[Deleted]**

2.3.3 Second-Tier Customer

(a) Subject to clause 2.3.3(d), if any electricity *supplied* through the *national grid* is purchased by a person at a *connection point* other than directly from the *Local Retailer* or the *spot market* all electricity purchased by that person at that *connection point* may be classified by that person as a *second-tier load.*

(b) A *Customer* is taken to be a *Second-Tier Customer* only in so far as its activities relate to any *second-tier load.*

(c) A *Second-Tier Customer* must not participate in the *spot market* for any of its *second-tier loads.*

(d) A person's purchase of electricity at a *connection point* may only be classified as a *second-tier load* while a *Market Customer,* from whom the person directly or indirectly purchases the electricity, classifies the *connection point* as one of its *market loads*.

(e) **[Deleted]**

2.3.4 Market Customer

(a) If electricity, *supplied* through the *national grid* to any person *connected* at a *connection point,* is purchased other than from the *Local Retailer* that *load* at the *connection point* may be classified by that person or, with the consent of that person, by some other person as a *market load.*

(b) A *Customer* is taken to be a *Market Customer* only in so far as its activities relate to any *market load* and only while it is also registered with *NEMMCO* as a *Market Customer*.

(c) A *Market Customer* must purchase all electricity *supplied* at that *connection point* from the *spot market* and make payments to *NEMMCO* for electricity supplied at the *connection point* as determined for each *trading interval* in accordance with provisions of Chapter 3.

(d) A *Market Customer* may request *NEMMCO* to classify any of its *market loads* as a *scheduled load.*

(e) *NEMMCO* must classify a *market load* as a *scheduled load* if it is satisfied that the *Market Customer*:

(1) has submitted data in accordance with schedule 3.1;

(2) has adequate communications and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses; and

(3) has requested that the *load* be so classified and has not withdrawn that request.

(f) A *Market Customer* may submit *dispatch bids* in respect of *scheduled loads* in accordance with the provisions of Chapter 3.

(g) A *Market Customer* who submits *dispatch bids* for *scheduled loads* and makes its *scheduled loads* available for *central dispatch* must comply with the *dispatch instructions* from *NEMMCO* in accordance with the *Rules*.

(h) A *Customer* who is also a *Local Retailer* must classify any *connection point* which *connects* its *local area* to another part of the *power system* as a *market load.*

2.3.5 Ancillary services load

(a) If the *Market Customer* in respect of a *market load* wishes to use that *market load* to provide *market ancillary services* in accordance with Chapter 3, then the *Market Customer* must apply to *NEMMCO* for approval to classify the *market load* as an *ancillary service load*.

(b) An application under clause 2.3.5(a) must be in the form prescribed by *NEMMCO* and specify the *market ancillary services* which the *Market Customer* wishes to provide using the relevant *market load.*

(c) *NEMMCO* must, within 5 *business days* of receiving an application under clause 2.3.5(a), advise the applicant of any further information or clarification which is required in support of its application if, in *NEMMCO's* reasonable opinion, the application:

(1) is incomplete; or

(2) contains information upon which *NEMMCO* requires classification.

(d) If the further information or clarification required pursuant to clause 2.3.5(c) is not provided to *NEMMCO's* satisfaction within 15 *business days* of the request, then the *Market Customer* will be deemed to have withdrawn the application.

(e) If *NEMMCO* is reasonably satisfied that:

(1) the *market load* is able to be used to provide the *market ancillary services* referred to in the application in accordance with the *market ancillary service specification*; and

(2) the *Market Customer* has adequate communications and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses,

then *NEMMCO* must approve the classification in respect of the particular *market ancillary services*.

(f) If *NEMMCO* approves the classification of a *market load* as an *ancillary service load*, then *NEMMCO* may impose on the relevant *Market Customer* such terms and conditions as *NEMMCO* considers necessary to ensure that the provisions of the *Rules* applying to *market ancillary services* can be met.

(g) A *Market Customer*:

(1) must comply with any terms and conditions imposed by *NEMMCO* under clause 2.3.5(f);

(2) must ensure that the *market ancillary services* provided using the relevant *ancillary services load* are provided in accordance with the co-ordinated *central dispatch* process operated by *NEMMCO* under the provisions of Chapter 3 and in accordance with the *market ancillary service specification*;

(3) may submit to *NEMMCO market ancillary service offers* in respect of the *ancillary service load* in accordance with the provision of Chapter 3; and

(4) if the *Market Customer* submits a *market ancillary service offer* in respect of the relevant *ancillary service load*, must comply with the *dispatch instructions* from *NEMMCO* in accordance with the *Rules*.

(h) A *Market Customer* with an *ancillary service load* must only sell the *market ancillary services* produced using that *ancillary service load* through the *spot market* in accordance with the provisions of Chapter 3.

(i) A *Market Customer* is not entitled to receive payment from *NEMMCO* for *market ancillary services* except where those *market ancillary services* are produced using an *ancillary service load* in accordance with Chapter 3 or pursuant to a *direction* or *clause 4.8.9 instruction*.

2.4 Market Participant

2.4.1 Registration as a category of Market Participant

(a) A *Market Participant* is a person registered by *NEMMCO* as any one or more of the following categories:

(1) *Market Customer*;

(2) *Market Generator*;

(3) *Market Network Service Provider*.

(b) A *Market Participant* may only participate in the *market* in the category in which it has been registered.

(c) A *Market Participant* may only participate in any of the *markets* or trading activities conducted by *NEMMCO* if that *Market Participant* satisfies the relevant *prudential requirements* set out in Chapter 3 applicable to the relevant trading activity.

(d) **[Deleted]**

(e) **[Deleted]**

2.4.2 Eligibility

To be eligible to be registered as any category of *Market Participant*, a person must:

(a) satisfy *NEMMCO* that it is and will be able to satisfy the *prudential requirements* as set out in clause 3.3 applicable to all *Market Participants* and those applicable to the relevant category of *Market Participant* in which that person wishes to participate in the *market*;

(b) satisfy *NEMMCO* that it meets any relevant requirements imposed by its *Jurisdictional Regulator*;

(c) satisfy *NEMMCO* that it is also registered:

(1) as a *Generator*, for registration as a *Market Generator;*

(2) as a *Customer*, for registration as a *Market Customer;* or

(3) as a *Network Service Provider*, for registration as a *Market Network Service Provider;*

(d) satisfy *NEMMCO* that it is complying and will comply with other relevant obligations set out in the *Rules*; and

(e) pay the prescribed fees determined in accordance with clause 2.11.

2.5 Network Service Provider

2.5.1 Registration as a Network Service Provider

(a) Subject to clause 2.5.1(d), a person must not engage in the activity of owning, controlling or operating a *transmission or distribution system* unless that person is registered by *NEMMCO* as a *Network Service Provider*.

(b) **[Deleted]**

(c) **[Deleted]**

(d) The *AER* may, in accordance with the guidelines issued from time to time by the *AER*, exempt any person or class of persons who is or are required to register as a *Network Service Provider* from:

(1) the requirement to register as a *Network Service Provider;* or

(2) the operation of Chapter 5,

subject to such conditions as the *AER* deems appropriate where (in the *AER's* opinion) an exemption is not inconsistent with the *market objective*.

(e) The *AER* must develop and issue guidelines for the exemptions described in clause 2.5.1(d) pursuant to the *Rules consultation procedures* and in accordance with those procedures consult with *Registered Participants* and *Jurisdictional Regulators*.

(e1) Without limitation, an exemption may be given which only relates to certain specified *transmission or distribution systems* or classes of *transmission or distribution systems.*

(f) Prior to granting any exemption under clause 2.5.1(d), the *AER* must consult with the *Jurisdictional Regulators* for the *participating jurisdictions* in which any *transmission systems* or *distribution systems* owned, operated or controlled by persons or class of persons under exemption consideration are located.

(g) Without limitation, an exemption may be given which only relieves a person or class of persons from either or both of the matters described in clause 2.5.1(d)(1) or (2) in relation to certain specified *transmission or distribution systems* or classes of *transmission or distribution systems.*

(h) **[Deleted]**

2.5.2 Market Network Service

(a) A *Network Service Provider* may classify a *network service* as a *market network service* if and only if the following conditions are satisfied and continue to be satisfied:

(1) the relevant *network service* is to be provided by *network elements* which comprise a *two-terminal link* and do not provide any *prescribed transmission service* or *prescribed distribution service*;

(2) the *Network Service Provider* is registered under clause 2.5.1 in respect of the *network elements* which provide the relevant *market network service;*

(3) the relevant *network service*:

(A) has not ever been *a prescribed transmission service* or *a prescribed distribution service;* or

(B) is ineligible to be such a service;

(4) the *connection points* of the relevant *two-terminal link* are assigned to different *regional reference nodes*; and

(5) the relevant *two-terminal link* through which the *network service* is provided:

(A) does not form part of a *network loop;* or

(B) is an *independently controllable two-terminal link,*

and has a registered *power transfer capability* of at least 30 MW.

(b) A *market network service* is not a *prescribed transmission service* or a *prescribed distribution service* and the *Rules* do not entitle a *Network Service Provider* to impose charges for any *market network service* under the provisions of Chapter 6.

(c) If an existing *network service* ceases to be classified as a *market network service* it may at the discretion of the *AER* or *Jurisdictional Regulator* (whichever is relevant) be determined to be a *prescribed transmission service* or *prescribed distribution service* in which case the relevant *revenue cap* or *price cap* may be adjusted in accordance with Chapter 6 to include to an appropriate extent the relevant *network elements* which provided those *network services.*

(d) A *Network Service Provider* is taken to be a *Market Network Service Provider* only in so far as its activities relate to the provision of *market network services.*

(e) For the avoidance of doubt, a *Registered Participant* may apply to the *AEMC* for a *participant derogation* from the conditions specified in clause 2.5.2(a).

2.5.3 Scheduled Network Service

(a) All *market network services* must be classified as *scheduled network services.*

(b) A *network service* must not be classified as a *scheduled network service* unless it is also a *market network service.*

(c) A *Network Service Provider* is taken to be a *Scheduled Network Service Provider* only in so far as its activities relate to the provision of *scheduled network services.*

(d) *NEMMCO* may impose on a *Scheduled Network Service Provider* such terms and conditions as *NEMMCO* considers necessary to ensure that the provisions of the *Rules* applying to *scheduled network services* can be met.

(e) A *Scheduled Network Service Provider:*

(1) must comply with any terms and conditions imposed by *NEMMCO* under clause 2.5.3(d);

(2) must ensure that the *scheduled network services* are provided in accordance with the co-ordinated *central dispatch* process operated by *NEMMCO* under the provisions of Chapter 3;

(3) must ensure that *NEMMCO* is notified of the availability of the *scheduled network services* in accordance with the provisions of Chapter 3; and

(4) must submit to *NEMMCO* a schedule of *dispatch offers* for the *scheduled network services* in accordance with the provisions of Chapter 3.

2.5A Trader

(a) A *Trader* is a person so registered by *NEMMCO* in order to participate in *auctions* under clause 3.18.

(b) A person who is registered by *NEMMCO* as a *Trader* is:

(1) a *Registered Participant* for the purposes of the *National Electricity Law* and clauses 2.9, 2.10, 2.11, 3.13.5A, 3.18, 8.2 and 8.9 and clause 2.5A(b)(3);

(2) to be treated as a *Market Participant* for the purposes of clauses 3.3.1 and clause 3.15 (as applied and modified by clause 3.18.4) provided that a person who is registered by *NEMMCO* as a *Trader* is not to be regarded as a *Market Participant* for the purposes of clause 3.15.1(b); and

(3) entitled to receive any information which *NEMMCO* is required to *publish* or otherwise make available to *Registered Participants* (other than *confidential information* in respect of one or more other *Registered Participants*),

but is not otherwise a *Registered Participant* for the purposes of the *Rules* unless they are also registered in another category of *Registered Participant.*

2.6 Special Participant

(a) *A Special Participant* is a person who is either of the following:

(1) *System Operator*: - an agent engaged, or a delegate appointed, by *NEMMCO* under clause 4.3.3 to carry out some or all of *NEMMCO's* rights, functions and obligations under Chapter 4.

(2) *Distribution System Operator*: - a person who is responsible, under the *Rules* or otherwise, for controlling or operating any portion of a *distribution system* (including being responsible for directing its operations during *power system* emergencies).

(b) A person must be registered by *NEMMCO* in this category to perform these functions.

2.7 Intention to Commence Activities or Functions

(a) Any person intending to act in any *Registered Participant* category may, on application for registration by that person in accordance with clause 2.9, be registered by *NEMMCO* as an *Intending Participant* if that person can reasonably satisfy *NEMMCO* that it intends to carry out an activity in respect of which it must or may be registered as a *Registered Participant*.

(b) *NEMMCO* may from time to time require a person registered by *NEMMCO* as an *Intending Participant* to satisfy *NEMMCO* that it continues to meet the criteria for registration in clause 2.7(a). If the *Intending Participant* is unable to satisfy *NEMMCO* that it continues to meet those criteria then it will cease to be registered as an *Intending Participant* on the date specified by *NEMMCO* by written notice to the *Intending Participant* concerned.

(c) An *Intending Participant* is taken to be an *Intending Participant* only in so far as its activities relate to its intention to commence an activity in respect of which it must or may be registered as a *Registered Participant.*

(d) As a *Registered Participant*, an *Intending Participant* may exercise such rights and is bound by such obligations under the *Rules* as are specified by *NEMMCO* (on the basis of whether the *Intending Participant* intends to become a *Customer*, *Generator*, *Network Service Provider* or *Special Participant*) and approved by the *AEMC*.

2.8 Registered Participant Rights and Obligations

2.8.1 Rights and obligations

(a) A *Registered Participant* must not act in any one of the categories listed in clauses 2.2 to 2.7 unless the *Registered Participant* is registered by *NEMMCO* in that category in accordance with the requirements of the *Rules*.

(a1) A *Registered Participant* must comply with the provisions of the *Rules* applicable to that *Registered Participant*.

(b) A *Registered Participant* may act in more than one of the categories described in clauses 2.2 to 2.7 provided that the *Registered Participant* is registered by *NEMMCO* in relation to each of the relevant *Registered Participant* categories.

2.8.2 [Deleted]

2.9 Application to be Registered as a Registered Participant

2.9.1 Applications for Registration

(a) Applications to be registered in any category of *Registered Participant* must be submitted to *NEMMCO* in the form prescribed by *NEMMCO*.

(b) *NEMMCO* must, within 5 *business days* of receiving an application, advise the applicant of any further information or clarification which is required in support of its application if, in *NEMMCO's* reasonable opinion, the application:

(1) is incomplete; or

(2) contains information upon which *NEMMCO* requires clarification,

(c) If the further information or clarification required pursuant to clause 2.9.1(b) is not provided to *NEMMCO's* satisfaction within 15 *business days* of the request, the person will be deemed to have withdrawn the application.

2.9.2 Admission as a Registered Participant

(a) *NEMMCO* must, within 15 *business days* after receiving the application or after receiving the further information or clarification required under clause 2.9.1(b), whichever is the later, give notice to the applicant that the applicant is to be admitted in the category of *Registered Participant* applied for if *NEMMCO* is reasonably satisfied that:

(1) the applicant meets any eligibility requirements specified for the category of *Registered Participant* to which the application relates;

(2) if the application relates to registration in one of the categories of *Market Participant*, the applicant is and will be able to fulfil its financial obligations under Chapter 3 including the *prudential requirements* set out in clause 3.3; and

(3) the applicant will be able to comply with the *Rules*.

(b) If *NEMMCO* is not reasonably satisfied that an applicant satisfies the requirements set out in clause 2.9.2(a), *NEMMCO* must, within 15 *business days* after receiving the application or after receiving the further information or clarification required under clause 2.9.1(b), whichever is the later, notify the applicant that it is not qualified to be registered as a *Registered Participant* in the relevant category and provide reasons for that determination.

(c) **[Deleted]**

2.9.3 Registration as an Intermediary

(a) A person (the "*applicant*") who is required to be registered under the *National Electricity Law* or under the *Rules* as a *Generator* or a *Network Service Provider* may apply to *NEMMCO* or the *AER* respectively for an exemption from that requirement to register.

(b) *NEMMCO* or the *AER* (as the case may be) must allow that exemption if:

(1) the *applicant* notifies *NEMMCO* or the *AER* (as the case may be) of the identity of a person (an "*intermediary*") to be registered instead of the *applicant;*

(2) the *applicant* provides *NEMMCO* or the *AER* (as the case may be) with the written consent of the *intermediary* to act as *intermediary* in a form reasonably acceptable to *NEMMCO* or the *AER;* and

(3) **[Deleted]**

(4) *NEMMCO* or the *AER* (as the case may be) notifies the *applicant* that it approves of the *intermediary.*

(c) *NEMMCO* or the *AER* (as the case may be) must approve an *intermediary* if the *applicant* establishes to *NEMMCO's* reasonable satisfaction that, from a technical perspective, the *intermediary* can be treated for the purpose of the *Rules* as the *applicant* with respect to the relevant *generating system, distribution system* or *transmission system* with which the *applicant* is associated.

(d) If the exemption is granted by *NEMMCO* or the *AER* (as the case may be) then:

(1) provided the *intermediary* satisfies all relevant registration requirements that the *applicant* would have been required to satisfy, *NEMMCO* must register the *intermediary* as a *Registered Participant* as if it were the *applicant;*

(2) the *intermediary* will be considered for the purposes of the *Rules* to be the *applicant;*

(3) all references in the *Rules* to the *applicant* will be deemed to be references to the *intermediary* (unless the context requires otherwise);

(4) all acts, omissions, statements, representations and notices of the *intermediary* in its capacity as a *Registered Participant* under the *Rules* will be deemed to be the acts, omissions, statements, representations and notices of the *applicant;*

(5) the *intermediary* and the *applicant* will be jointly and severally liable for the acts, omissions, statements, representations and notices of the *intermediary* in its capacity as a *Registered Participant* under the *Rules;* and

(6) *NEMMCO* or any other *Registered Participant* may fulfil any obligations to the *applicant* under the *Rules* by performing them in favour of the *intermediary.*

(e) The *applicant* may revoke the appointment of the *intermediary* by giving notice of such revocation to *NEMMCO*, whereupon *NEMMCO* must advise the *AER* that such notice has been given.

(f) At 4.30 am, 2 *business days* after *NEMMCO* receives notice of such revocation, the *intermediary* will cease to be considered the *applicant's intermediary* for the purposes of the *Rules* and the *applicant* will not be liable under clause 2.9.3(d)(5) for any acts, omissions, statements, representations or notices of the *intermediary* occurring after that time.

(g) If the *applicant* revokes the appointment of an *intermediary*, the exemption granted by *NEMMCO* or the *AER* (as the case may be) to the *applicant* as contemplated by clause 2.9.3(b) ceases at the time the *intermediary* ceases to be the *applicant's intermediary* in accordance with clause 2.9.3(f).

(h) The *applicant* may notify *NEMMCO* or the *AER* (as the case may be) that the *intermediary* is the *applicant's intermediary* for part only of the *applicant's* business (provided that that part represents one or more discrete *generating systems, distribution systems* or *transmission systems).*

(i) Nothing in the *Rules* requires the *intermediary* to be the agent of the *applicant.*

2.10 Ceasing to be a Registered Participant

2.10.1 Notification of intention

(a) A person may notify *NEMMCO* in writing that it wishes to cease to be registered in any category of *Registered Participant* or that it wishes to terminate any of its classifications of *loads, generating units* or *network services*.

(b) A person is not entitled to notify *NEMMCO* that it wishes to cease to be registered in relation to any category for which that person is required to be registered under the *National Electricity Law* or under the *Rules*.

(c) In any notice given under clause 2.10.1(a), the *Registered Participant* must specify a date upon which it wishes to cease to be so registered or for an existing classification to be terminated and, in the case of a *Market Participant*, the date upon which it will cease to *supply* or acquire electricity or trade directly in the *market* and whether entirely or in relation to one or more *connection points* or *market network services*.

(d) *NEMMCO* may reject a notice from a *Market Customer* that it wishes to terminate its classification of a *connection point* as one of its *market loads* or otherwise cease to be a *Market Customer* in relation to any of its *market loads* unless *NEMMCO* is satisfied that:

(1) another person has classified the *connection point* as one of its *market loads* and is registered as a *Market Customer;*

(2) the relevant *Local Retailer* has agreed or is otherwise required by laws of the relevant *participating jurisdiction* to assume responsibility for payments to *NEMMCO* for electricity supplied to that *connection point;* or

(3) the *load* at that *connection point* will be *disconnected* on and from the date specified and, taking into consideration any relevant guidelines and procedures specified by the relevant *participating jurisdiction* to *NEMMCO,* that *disconnection* is not inappropriate.

(e) Upon receiving a notice which complies with clause 2.10.1 from a person who wishes to cease to be registered in any category of *Market Participant*, or to terminate the classification of any of its *market loads, market generating units*, or *market network services, NEMMCO* must deliver a notice to the *AER* and the *AEMC* and notify all *Registered Participants* stating that:

(1) *NEMMCO* has received a notice under clause 2.10.1(a); and

(2) the person who gave the notice has stated that, from the date specified in the notice, the person intends to cease *supplying* or acquiring electricity or trading directly in the *market* and whether entirely or in relation to certain *connection points* or *market network services*.

2.10.2 Ceasing Participation

(a) A *Market Participant* must cease all trading in the *market* as specified in a notice that is properly given under clause 2.10.1(a) and is not rejected under clause 2.10.1(d).

(b) A person ceases to be a *Registered Participant* for the purposes of the *Rules* when all payments due to be paid to or by it under the *Rules* have been made.

(c) The fact that a person has ceased to be registered in any category of *Registered Participant* or has terminated any classifications contemplated under this Chapter does not affect any obligation or liability of that person under the *Rules* which arose prior to the cessation of its registration or the termination of the classification.

2.10.3 Liability after cessation

A *Registered Participant* which is subject to a liability under the *Rules* remains subject to that liability after and despite ceasing to be a *Registered Participant* regardless of when the claim is made.

2.11 Participant Fees

2.11.1 Development of Participant fee structure

(a) *NEMMCO* must develop, review and publish, in consultation with *Registered Participants* and *interested parties* and such other persons as *NEMMCO* thinks appropriate, in accordance with the *Rules consultation procedures*, the structure (including the introduction and determination) of *Participant fees* for such periods as *NEMMCO* considers appropriate.

(b) The structure of *Participant fees* must, to the extent practicable, be consistent with the following principles:

(1) the structure of *Participant fees* should be simple;

(2) *Participant fees* should recover the budgeted revenue requirements for *NEMMCO* determined under clause 2.11.3 on a basis where:

(i) recurring expenditure requirements and payments are recovered in the year of expenditure or payment (or the following year, should there be a revenue shortfall);

(ii) capital expenditures (incurred after *market commencement*) are recovered through the depreciation or amortisation of the assets acquired by the capital expenditure in a manner that is consistent with generally accepted accounting principles;

(iii) establishment costs in the nature of:

(A) all expenditure (that is not in the nature of capital expenditure) incurred by, and depreciation and amortisation charged to, *NEMMCO* prior to *market commencement*, to the extent that the expenditures have not been funded by the *participating jurisdictions*, are recovered over a period of 10 years from *market commencement*; and

(B) **[Deleted]**

(C) capital expenditure incurred by *NEMMCO* before *market commencement*, to the extent that the expenditure has not been funded by *participating jurisdictions* or recovered under clause 2.11.1(b)(2)(iii)(A) as depreciation or amortisation, is recovered through the depreciation or amortisation of the assets acquired by the capital expenditure in a manner that is consistent with generally accepted accounting principles; and

(iv) notwithstanding clauses 2.11.1(b)(2)(i), (ii) and (iii), expenditure incurred by, and depreciation and amortisation charged to, *NEMMCO* associated with a *declared NEM project* are recovered from the start date and over the period determined for that *declared NEM project* under clauses 2.11.1(bb) or 2.11.1(bd). Amounts associated with a *declared NEM project* determined in accordance with this clause are to be recovered through an additional *Participant fee* determined in accordance with clauses 2.11.1(bb) or 2.11.1(bd) until the next general determination of all *Participant fees* is made under clause 2.11.1(a);

(3) the components of *Participant fees* charged to each *Registered Participant* should be reflective of the extent to which the budgeted revenue requirements for *NEMMCO* involve that *Registered Participant*;

(4) *Participant fees* should not unreasonably discriminate against a category or categories of *Registered Participants*; and

(5) the fixed component of *Participant fees* for a *Market Customer* who:

(i) is registered with *NEMMCO* solely for the purpose of providing *market ancillary services*; and

(ii) does not classify any of its *market loads* as a *scheduled load*,

may be zero.

(ba) *NEMMCO* may determine any of the following projects to be a *declared NEM project*:

(1) a major development to the *market*;

(2) a major change to a function, responsibility, obligation or power of *NEMMCO* under the *Rules*; or

(3) a major change to any of the computer software or systems which *NEMMCO* uses in the performance of any of its functions, responsibilities, obligations or powers under the *Rules*.

(bb) When *NEMMCO* determines a project to be a *declared NEM project* under clause 2.11.1(ba), it must also determine the start date for recovery and the period or periods over which recovery will occur for the *declared NEM project*. *NEMMCO* must also determine the structure of an additional *Participant fee* to be used in the recovery of costs associated with a *declared NEM project* until the next general determination of all *Participant fees* is made under clause 2.11.1(a).

(bc) In making determinations under clauses 2.11.1(ba) and (bb), *NEMMCO* must comply with the *Rules consultation procedures*.

(bd) The introduction and facilitation of full retail competition is taken to have been determined to be a *declared NEM project* under clause 2.11.1(ba) and *NEMMCO* will be entitled to recover through *Participant fees* expenditure incurred by, and depreciation and amortisation charged to, *NEMMCO* in respect of full retail competition. The period or periods over which recovery will occur for this *declared NEM project* will be determined by *NEMMCO* using the *Rules consultation procedures*. If any amounts associated with the introduction and facilitation of full retail competition are to be recovered prior to the next general determination of all *Participant fees* under clause 2.11.1(a), such recovery must be through an additional *Participant fee* determined using the *Rules consultation procedures*.

(c) The components of the *Participant fees* may include, but are not limited to:

(1) registration fees, comprising an annual fee payable by each person for each *Registered Participant* category in which they are registered;

(2) *ancillary service fees*, to recover *NEMMCO's* budgeted revenue requirements in relation to its procurement of *non-market ancillary services*;

(3) *power system* operations fees, to recover *NEMMCO's* budgeted revenue requirements in relation to its *power system* operation activities described in clause 2.11.3(b)(2);

(4) *metering* fees to recover *NEMMCO's* budgeted revenue requirements for the collection, storage and processing of *metering data*;

(5) billing and *settlements* fees, to recover *NEMMCO's* budgeted revenue requirements as described in clause 2.11.3(b)(4); and

(6) administration fees, to recover the remainder of *NEMMCO's* budgeted revenue requirements;

and each component of the *Participant fees* may take into account adjustments which may be appropriate in light of the matters described in clauses 2.11.3(b)(7) or (8).

(d) In undertaking the process described in clause 2.11.1(a) *NEMMCO* must consider other fee structures in existence which it thinks appropriate for comparison purposes.

(e) *NEMMCO* must publish to *Registered Participants* and to such other persons as *NEMMCO* thinks appropriate, the structure of *Participant fees* determined, the methods used in determining the structure and an assessment of the extent to which the structure complies with the principles set out in clause 2.11.1(b) at least 3 months prior to the implementation of the structure.

2.11.2 Payment of Participant fees

(a) *NEMMCO* may charge a *Registered Participant* the relevant components of *Participant fees* in accordance with the structure of *Participant fees* by giving the *Registered Participant* a statement setting out the amount payable by that *Registered Participant* and the date for payment.

(b) In the case of a *Market Participant*, *NEMMCO* may, alternatively, include the relevant amount in the statements described in clause 3.15.15.

(c) A *Registered Participant* must pay to *NEMMCO* the net amount stated to be payable by that *Registered Participant* in a statement issued under clause 2.11.2(a) or in accordance with clause 2.11.2(b) to meet *NEMMCO's*

budgeted revenue requirements by the date specified for payment, whether or not the *Registered Participant* disputes the net amount payable.

2.11.3 Budgeted revenue requirements

(a) *NEMMCO* must prepare and *publish* before the beginning of each *financial year* a budget of the revenue requirements for *NEMMCO* for that *financial year*.

(b) The budget prepared by *NEMMCO* under clause 2.11.3(a) must take into account and separately identify projected revenue requirements in respect of:

(1) *NEMMCO's* procurement of *non-market ancillary services*;

(2) *NEMMCO's* expenditures in relation to its *power system* operation activities, including meeting its obligations in terms of *power system security* and the facilitation and operation of the central bidding and dispatch processes in accordance with the *Rules;*

(2A) *NEMMCO's* expenditures in relation to *inter-network tests*;

(3) *NEMMCO's* expenditures in the collection, storage and processing of *metering data;*

(4) *NEMMCO's* expenditures in the facilitation of the billing and *settlement* of *market transactions*;

(5) *NEMMCO*'s other expenditure requirements, operating costs and margin;

(6) *NEMMCO's* obligation to provide funds to the *AEMC* in accordance with clause 8.10.3(c1);

(7) any revenue shortfall or excess from each of the requirements specified under clause 2.11.3(b)(1)-(5) from the previous *financial year*; and

(8) the funding requirements of the *Participant compensation fund* in accordance with clause 3.16 (which requirements must only be recovered from *Scheduled Generators* and *Scheduled Network Service Providers*).

2.12 Interpretation of References to Various Registered Participants

(a) A person may register in more than one of the categories of *Registered Participant.*

(b) Notwithstanding anything else in the *Rules*, a reference to:

(1) a "*Generator*" applies to a person registered as a *Generator* only in so far as it is applicable to matters connected with the person's *scheduled generating units, non-scheduled generating units, market generating units* or *non-market generating units*;

(2) a "*Scheduled Generator*", "*Non-Scheduled Generator*", "*Market Generator*" or "*Non-Market Generator*" applies to a person only in so far as it is applicable to matters connected with the person's *scheduled generating units, non-scheduled generating units, market generating units* or *non-market generating units* respectively;

(3) a "*Customer*" applies to a person registered as a *Customer* only in so far as it is applicable to matters connected with the person's *first-tier loads, second-tier loads* or *market loads*;

(4) a "*First Tier Customer*", "*Second Tier Customer*" or "*Market Customer*" applies to a person only in so far as it is applicable to matters connected with the person's *first-tier loads*, *second-tier loads* or *market loads* respectively;

(4A) a "*Trader*" applies to a person only in so far as it is applicable to matters connected with the person's activities as a *Trader*;

(5) a *"Network Service Provider"* applies to a person registered as a *Network Service Provider* only in so far as it is applicable to matters connected with the person's *network services,* including *market network services* and *scheduled network services;*

(6) a "*Market Network Service Provider"* or "*Scheduled Network Service Provider"* applies to a person only in so far as it is applicable to matters connected with the person's *market network services* or *scheduled network services* respectively;

(7) a "*Market Participant"* applies to a person who is a *Market Participant* and:

(i) where that person is registered as a *Market Generator*, in so far as it is applicable to matters connected with the person's *market generating units* or *ancillary services generating units;* and

(ii) where that person is registered as a *Market Customer*, in so far as it is applicable to matters connected with the person's *market loads* or *market ancillary service loads*; and

(iii) where that person is registered as a *Market Network Service Provider*, in so far as it is applicable to matters connected with the person's *market network services*; and

(iv) where that person is registered in any category of *Market Participant* additional to a *Market Generator* and/or a *Market Customer* and/or a *Market Network Service Provider*, to the extent to which the reference would otherwise apply to the person if it were not taken to be a *Market Generator*, *Market Customer* or *Market Network Service Provider;* and

(8) a "*Registered Participant*" applies to a person who is registered under Chapter 2 and:

(i) where that person is registered as a *Generator*, in so far as it is applicable to matters connected with any of the *Generator's scheduled generating units, non-scheduled generating units, market generating units* and *non-market generating units*;

(ii) where that person is registered as a *Customer*, in so far as it is applicable to matters connected with any of the *Customer's first-tier loads, second-tier loads* or *market loads*; and

(iii) where that person is registered in any other *Registered Participant* category, to the extent to which the reference would apply to the person if it were not registered in another *Registered Participant* category.

(c) In clause 2.12, "matter" includes any assets, liabilities, acts, omissions or operations (whether past, present or future).

CHAPTER 3

3. Market Rules

3.1 Introduction to Market Rules

3.1.1 Purpose

This Chapter sets out the procedures which govern the operation of the *market* relating to the wholesale trading of electricity and the provision of *ancillary services* and includes provisions relating to:

(a) *prudential requirements* to be met for participation in the *market*;

(b) the operation of the *spot market*;

(c) bidding and *dispatch*;

(d) *spot price* determination;

(d1) the determination of *ancillary service prices*;

(e) *NEMMCO* clearing house and trading functions;

(f) *market* information requirements and obligations;

(g) the conditions and procedures for *market suspension*; and

(h) *settlements*.

3.1.2 [Deleted]

3.1.3 [Deleted]

3.1.4 Market design principles

(a) This Chapter is intended to give effect to the following market design principles:

(1) minimisation of *NEMMCO* decision-making to allow *Market Participants* the greatest amount of commercial freedom to decide how they will operate in the *market*;

(2) maximum level of *market* transparency in the interests of achieving a very high degree of *market* efficiency;

(3) avoidance of any special treatment in respect of different technologies used by *Market Participants*;

(4) consistency between *central dispatch* and pricing;

(5) equal access to the market for existing and prospective *Market Participants*;

(6) *ancillary services* should, to the extent that it is efficient, be acquired through competitive market arrangements and as far as practicable determined on a dynamic basis. Where dynamic determination is not practicable, competitive commercial contracts between *NEMMCO* and service providers should be used in preference to bilaterally negotiated arrangements;

(7) the power of direction to provide *ancillary services* as a last resort to ensure system security should not be affected by the competitive market arrangements;

(8) where arrangements require participants to pay a proportion of *NEMMCO* costs for *ancillary services*, charges should where possible be allocated to provide incentives to lower overall costs of the national electricity market. Costs unable to be reasonably allocated this way should be apportioned as broadly as possible whilst minimising distortions to production, consumption and investment decisions; and

(9) where arrangements provide for *NEMMCO* to *dispatch* or procure an *ancillary service*, *NEMMCO* should be responsible for settlement of the service.

(a1) *NEMMCO* must review, prepare and publish a report on:

(1) a long term strategy for the provision of *system restart* services, taking into account:

(i) the need to ensure sufficient *system restart* services to restore normal *power system* operation within a reasonable time period;

(ii) the desirability of acquiring supplementary *system restart* capability on a competitive basis to reduce the time required to resupply *loads* where benefits outweigh the costs; and

(iii) options, including *embedded generation*, that could be developed over a 3 year period to provide *system restart* capability;

(2) the operation and effectiveness of the *spot market* for *market ancillary services* within the overall *central dispatch* and any recommendations for their improvement, including:

(i) simplification of the arrangements for the provision of *market ancillary services*; and

(ii) improving the determination of *market ancillary services* requirements;

(3) the potential future implementation of a usage market for *market ancillary services* whilst retaining an enabling market to assist *NEMMCO* with its obligations with respect to system security; and

(4) the provision of *network control ancillary services* including:

(i) a review of the responsibilities of *NEMMCO* and *Transmission Network Service Providers* for the provision of *reactive power support*;

(ii) a review of the formulation of those generic *network constraints* within *central dispatch* that are dependant on the provision of *network control ancillary services*; and

(iii) a program to assess the potential implementation of market mechanisms for the recruitment and *dispatch* of *NCAS*.

(a2) In conducting the reviews under clause 3.1.4(a1), *NEMMCO* must:

(1) seek and take account of the opinion of the *Reliability Panel* on matters to be considered in, and the draft conclusions of, the review set out in clause 3.1.4(a1)(1);

(2) **[Deleted]**

(3) *publish* a program for the conduct of the reviews within three months of the *market ancillary services commencement date*;

(4) take into account when setting the program of the reviews the need to balance the benefit of utilising the results of other reviews or *market* experience and the need to progress *market* development;

(5) use the *Rules consultation procedures* in conducting each review;

(6) *publish* a review outline and indicative timelines at the commencement of each review;

(7) complete each review and deliver to the *AEMC* a report of the findings and recommendations of the review within 12 months of the commencement of the review; and

(8) deliver to the *AEMC* within 3 months of the conclusion of each review any proposed *Rule* changes required to implement the recommendations of the review.

(b) This Chapter is not intended to regulate anti-competitive behaviour by *Market Participants* which, as in all other markets, is subject to the relevant provisions of the Trade Practices Act, 1974 and the Competition Codes of *participating jurisdictions*.

3.1.5 Time for undertaking action

The provisions of clause 1.7.1(l) do not apply to this Chapter and, under the provisions of this Chapter, an event which is required to occur on or by a stipulated *day* must occur on or by that *day* whether or not a *business day*.

3.2 NEMMCO's Market Responsibilities

3.2.1 Market functions of NEMMCO

(a) *NEMMCO* must operate and administer the *market* in accordance with this Chapter.

(b) *NEMMCO* must establish, maintain and *publish* a register of all current *Market Participants*.

(c) *NEMMCO* must:

(1) establish procedures for consultation with *Registered Participants* in respect of the manner in which *NEMMCO* fulfils its functions and obligations under the *Rules*; and

(2) *publish* annually performance indicators to monitor *NEMMCO's* performance in respect of its market management functions.

3.2.2 Spot market

NEMMCO must do all things necessary to operate and administer a *spot market* for the sale and purchase of electricity and *market ancillary services* in accordance with this Chapter including:

(a) the provision of facilities for the receipt and processing of *dispatch bids, dispatch offers* and *market ancillary service offers* for the *spot market*;

(b) the management of a centralised national *dispatch* process, including the publication of *pre-dispatch schedules* and *spot price forecasts*;

(c) the determination and publication of *spot prices* at each *regional reference node* for each *trading interval*;

(c1) the determination and publication of *ancillary service prices* at each *regional reference node* for each *dispatch interval*;

(d) the compilation and publication of *spot market* trading statistics;

(e) the identification of *regions* and *regional reference nodes* for *spot price* and *ancillary service price* determination;

(f) the determination and publication of *inter-regional loss factors* and *intra-regional loss factors*;

(g) the suspension of the *spot market* under conditions prescribed in clause 3.14; and

(h) the collection and dissemination of information necessary to enable the *market* to operate efficiently.

3.2.3 Power system operations

(a) Subject to Chapter 4, *NEMMCO* must manage the day to day operation of the *power system*, using its reasonable endeavours to maintain *power system security* in accordance with this Chapter.

(b) *NEMMCO* must perform *projected assessment of system adequacy processes* ("PASA") in accordance with clause 3.7, *publish* the details of these assessments in accordance with clause 3.13 and implement an escalating series of *market* interventions in accordance with this Chapter to maintain *power system security*.

3.2.4 Ancillary services function

(a) *NEMMCO* must determine the *market's* requirements for *non-market ancillary services* in accordance with clause 3.11.

(b) *NEMMCO* must use reasonable endeavours to ensure adequate *non-market ancillary services* are available in accordance with clause 3.11.

3.2.5 Reserves

NEMMCO must trade in *reserves* by negotiating and entering into contracts to secure the availability of *plant* for *reserves* in accordance with clause 3.12.

3.2.6 Settlements

NEMMCO must provide a financial *settlements* service in accordance with clause 3.15, including billing and clearance for all *market* trading.

3.2.7 [Deleted]

3.3 Prudential Requirements

3.3.1 Market Participant criteria

Each *Market Participant* must whilst participating in the *market*:

(a) be resident in, or have a permanent establishment in, Australia;

(b) not be under external administration (as defined in the Corporations Act) or under a similar form of administration under any laws applicable to it in any jurisdiction;

(c) not be immune from suit in respect of the obligations of the *Market Participant* under the *Rules*; and

(d) be capable of being sued in its own name in a court of Australia.

3.3.2 Credit support

Where at any time a *Market Participant* does not meet the *acceptable credit criteria*, the *Market Participant* must procure that *NEMMCO* holds the benefit of *credit support* in respect of that *Market Participant*. A *credit support* is an obligation in writing which:

(a) is from an entity (the "*Credit Support Provider*") which meets the *acceptable credit criteria* and which is not itself a *Market Participant*;

(b) is a guarantee or bank letter of credit in a form prescribed by *NEMMCO;*

(c) is duly executed by the *Credit Support Provider* and delivered unconditionally to *NEMMCO*;

(d) constitutes valid and binding unsubordinated obligations of the *Credit Support Provider* to pay to *NEMMCO* amounts in accordance with its terms which relate to obligations of the relevant *Market Participant* under the *Rules*; and

(e) permits drawings or claims by *NEMMCO* to a stated certain amount.

3.3.3 Acceptable credit criteria

Where the *Rules* require that an entity meet the *acceptable credit criteria*, this means that the entity must:

(a) be either:

(1) any entity under the prudential supervision of the Australian Prudential Regulation Authority; or

(2) a central borrowing authority of an Australian State or Territory which has been established by an Act of Parliament of that State or Territory;

(b) be resident in, or have a permanent establishment in, Australia;

(c) not be an externally administered body corporate (as defined in the Corporations Act) or under a similar form of administration under any laws applicable to it in any jurisdiction;

(d) not be immune from suit;

(e) be capable of being sued in its own name in a court of Australia; and

(f) have an *acceptable credit rating*.

3.3.4 Acceptable credit rating

(a) *NEMMCO* may from time to time, after complying with the *Rules consultation procedures*, determine what constitutes an *acceptable credit rating* for the purposes of the *Rules*, including (without limitation) determining which organisations publishing ratings will be used for this purpose, which of the type of ratings issued will be used for this purpose, and which level of rating is to be acceptable.

(b) Until varied by determination of *NEMMCO*, an *acceptable credit rating* is either:

(1) a rating of A-1 or higher for short term unsecured counterparty obligations of the entity, as rated by Standard and Poor's (Australia) Pty. Limited; or

(2) a rating of P-1 or higher for short term unsecured counterparty obligations of the entity, as rated by Moodys Investor Service Pty. Limited.

(c) Any determination of *NEMMCO* which varies what constitutes an *acceptable credit rating* will take effect from such date (not being earlier than 30 *business days* after the date of notification of the determination to *Market Participants*) as *NEMMCO* specifies by notice to the *Market Participants*.

3.3.5 Amount of credit support

A *Market Participant* which does not meet the *acceptable credit criteria* must procure that at all times the aggregate undrawn or unclaimed amounts of then

current and valid *credit support* held by *NEMMCO* in respect of the *Market Participant* is not less than the current *maximum credit limit* for that *Market Participant*.

3.3.6 Changes to credit support

(a) If:

(1) a *credit support* provided to *NEMMCO* by a *Market Participant* under this clause 3.3 (called the "existing *credit support")*, is due to expire or terminate; and

(2) after that *credit support* expires or terminates the total *credit support* held by *NEMMCO* in respect of that *Market Participant* will be less than the *Market Participant's maximum credit limit*,

then at least 10 *business days* prior to the time at which the existing *credit support* is due to expire or terminate the *Market Participant* must procure a replacement *credit support* which will become effective upon expiry of the existing *credit support* such that it complies with the requirements of this clause 3.3.

(b) Where a *credit support* otherwise ceases to be current or valid, whether by reason of the *Credit Support Provider* ceasing to meet the *acceptable credit criteria* or any other reason, the *Market Participant* must procure the replacement of that *credit support* so as to comply with its obligation to maintain aggregate undrawn current and valid *credit support* of not less than the current *maximum credit limit* for that *Market Participant*. The *Market Participant* must procure that the replacement *credit support* is issued to *NEMMCO* within 24 hours after the *Market Participant* first becomes aware that the *credit support* has ceased to be current or valid (whether by reason of the *Market Participant's* own knowledge or a notification by *NEMMCO*).

3.3.7 Drawings on credit support

(a) If *NEMMCO* exercises its rights under a *credit support* provided by a *Market Participant* under this clause 3.3 in accordance with clause 3.15.21(b)(2), then *NEMMCO* must notify the *Market Participant.*

(b) If, as a result of *NEMMCO* exercising its rights under a *credit support* provided by a *Market Participant* under this clause 3.3 in accordance with clause 3.15.21(b)(2), the remaining *credit support* held by *NEMMCO* in respect of that *Market Participant* is less than the *Market Participant's maximum credit limit* then, within 24 hours of receiving a notice under clause 3.3.7(a), the *Market Participant* must procure for *NEMMCO* additional *credit support* complying with the requirements of this clause 3.3, such that the aggregate undrawn and valid *credit support* held by

NEMMCO in respect of the *Market Participant* is not less than the amount of *credit support* which that *Market Participant* is required to provide under this clause 3.3.

3.3.8 Maximum credit limit

(a) *NEMMCO* must determine for each *Market Participant* a *maximum credit limit*.

(b) The *maximum credit limit* for a *Market Participant* is a dollar amount to be determined by *NEMMCO* in accordance with this clause 3.3.8 on the basis of a "reasonable worst case" estimate by *NEMMCO* of the aggregate payments (after reallocation) to be made by the *Market Participant* to *NEMMCO* for the *credit period* applicable to that *Market Participant*, to a probability level that the estimate would not be exceeded more than once in 48 months.

(c) In determining the *maximum credit limit* for a *Market Participant*, *NEMMCO* must do so in accordance with the principles set out in schedule 3.3, as varied as permitted by the *Rules*.

(d) *NEMMCO* must *publish* details of the methodology as applies from time to time used by it in determining *maximum credit limits*.

(e) *NEMMCO* shall review the *maximum credit limit* of each *Market Participant* not less than once each year.

(f) *NEMMCO* may change the *maximum credit limit* for a *Market Participant* at any time (whether by reason of an annual review or otherwise), provided that any change to the *maximum credit limit* will apply with effect from such time (not being earlier than the time of notification of the changed *maximum credit limit* to the *Market Participant*) as *NEMMCO* specifies.

(g) *NEMMCO* must notify the *Market Participant* of any determination of that *Market Participant's maximum credit limit* and, on request from that *Market Participant*, provide details of the basis for that determination including the trading, price and volatility assumptions and the average *spot prices* and *ancillary service prices* and average *trading amounts*.

(h) **[Deleted]**

3.3.8A Security Deposits

At any time, a *Market Participant* may provide a security deposit to *NEMMCO* to secure payment of any amount which may become payable in respect of a *billing period*.

3.3.9 Outstandings

At any time the "*outstandings"* of a *Market Participant* is the dollar amount determined by the formula:

O = A + B - (C + D + E)

where:

O is the amount of the *outstandings* of the *Market Participant*, to be determined;

A is the aggregate of the *settlement amounts* payable by the *Market Participant* to *NEMMCO* in respect of *billing periods* prior to the current *billing period* which remain unpaid by the *Market Participant* (whether or not the *payment date* has yet been reached);

B is the *settlement amount* payable by the *Market Participant* to *NEMMCO* in respect of *transactions* for *trading intervals* which have already occurred in the current *billing period*;

C is the aggregate of the s*ettlement amounts* payable to the *Market Participant* by *NEMMCO* in respect of *billing periods* prior to the current *billing period* which remain unpaid by *NEMMCO* (whether or not the *payment date* has yet been reached);

D is the *settlement amount* payable to the *Market Participant* by *NEMMCO* in respect of *transactions* for *trading intervals* which have already occurred in the current *billing period*; and

E is the balance (if any) of the *Market Participant* in the security deposit fund in which case a credit balance will be a positive amount and a debit balance will be a negative amount,

but if O is negative then the *outstandings* of the *Market Participant* are zero. The amounts to be used in this calculation will be the actual *settlement amounts* for *billing periods* where *final statements* have been issued by *NEMMCO* or *NEMMCO's* reasonable estimate of the *settlement amounts* for *billing periods* where *final statements* have not been issued by *NEMMCO*.

3.3.10 Trading limit

(a) The *trading limit* for a *Market Participant* is the dollar amount which is the product of the *prudential factor* and the greater of:

(i) the *Market Participant's maximum credit limit*; or

(ii) the *credit support* provided by the *Market Participant*.

(b) *NEMMCO* shall from time to time in its discretion, and after consultation with *Market Participants* in accordance with the *Rules consultation procedures*, set and *publish* the *prudential factor*. The *prudential factor* shall be set on the basis that the product of the *prudential factor* and a *Market Participant's maximum credit limit* will result in a *trading limit* (at which *call notices* can be issued by *NEMMCO* in accordance with clause 3.3.11) which is sufficiently less than the *maximum credit limit*, such that if the *Market Participant* fails to comply with a *call notice* it would be expected that *default event* and suspension procedures could be applied to the *Market Participant* before the *outstandings* of the *Market Participant* exceed the *maximum credit limit*, on the basis of the trading, price and volatility assumptions used in calculating the *maximum credit limit* for that *Market Participant*.

(c) Until otherwise determined and *published* by *NEMMCO*, the *prudential factor* is:

(1) 84% where the *maximum credit limit* is calculated on a *payment period* of 28 *days*; or

(2) 75% where the *Market Participant* has lodged and *NEMMCO* has accepted a *reduced payment period request* for the *maximum credit limit* to be calculated on a *payment period* of 14 *days*.

3.3.11 Call notices

(a) If at any time the *outstandings* of a *Market Participant* exceed the *trading limit* for that *Market Participant*, *NEMMCO* may do either or both of the following:

(1) give the *Market Participant* an "*interim statement*" covering any *transactions* for *trading intervals* not already the subject of issued *preliminary* or *final statements* or another *interim statement*, notwithstanding that the usual time for the issue of a *preliminary* or *final statement* for those *trading intervals* has not been reached; and

(2) give the *Market Participant* a notice (a "*call notice*") which specifies an "*invoiced amount*", the current *maximum credit limit* for the *Market Participant*, the current *trading limit* for the *Market Participant*, and the *call amount*, where:

Call Amount = IA - TA - SDA

except where the formula produces a negative result, in which case the *call amount* is zero,

where:

IA is the *invoiced amount*, being the aggregate of all *interim*, *preliminary* or *final statements*, which at the time of issue of the *call notice* are unpaid by the *Market Participant*, notwithstanding that the usual time for issue or payment of those *settlement statements* has not been reached;

TA is the *typical accrual* for the *Market Participant* as at the date of the issue of the *call notice*; and

SDA is the balance (if any) of the *Market Participant* in the security deposit fund, in which case a credit balance will be a positive amount and a debit balance will be a negative amount.

(b) *NEMMCO* may, in its absolute discretion, cancel a *call notice* or *interim statement* issued under this clause at any time. The cancellation of a *call notice* or *interim statement* does not affect *NEMMCO's* rights to issue a further *call notice* or *interim statement* on the same grounds that gave rise to *NEMMCO* issuing the cancelled *call notice* or *interim statement*.

3.3.12 Typical accrual

(a) The *typical accrual* for a *Market Participant* at any time is the amount which *NEMMCO* determines would have been the *outstandings* of the *Market Participant* at that time had the *spot prices* and *ancillary service prices* and the *trading amounts* of the *Market Participant* been at the level of the average *spot price* and *ancillary service prices* and average *trading amounts* of the *Market Participant* used by *NEMMCO* for the purposes of the most recent determination of the *maximum credit limit* of the *Market Participant*.

(b) *NEMMCO* must, on request from a *Market Participant*, provide that *Market Participant* with details of any *typical accrual* for that *Market Participant*.

3.3.13 Response to Call Notices

(a) Subject to clause 3.3.13(b), where *NEMMCO* has given a *call notice* to a *Market Participant*, the *Market Participant* must before 11.00 am (*Sydney time*) on the next *business day* following the issue of the *call notice* either:

(1) agree with *NEMMCO* to an increase in the *Market Participant's maximum credit limit* by an amount not less than the *call amount*, and provide to *NEMMCO* additional *credit support* where, by virtue of the increase in the *maximum credit limit*, the *Market Participant* no longer complies with its obligations under clause 3.3.5;

(2) (where clause 3.3.13(a)(1) is not satisfied) pay to *NEMMCO* in cleared funds a security deposit of an amount not less than the *call amount*;

(3) lodge a *reallocation request* of an amount which is not less than the *call amount* and which is accepted by *NEMMCO*; or

(4) provide to *NEMMCO* any combination of clauses 3.3.13(a)(1), (2) and (3) such that the aggregate of the amount which can be drawn under the additional *credit support* provided and the amount of the security deposit paid and the amount of the *reallocation request* accepted by NEMMCO is not less than the *call amount.*

(b) If *NEMMCO* gives a *call notice* to a *Market Participant* after noon (*Sydney time*), then *NEMMCO* is deemed to have given that *call notice* on the next *business day* for the purposes of this clause.

3.3.13A Application of monies in the security deposit fund

(a) Subject to clauses 3.3.13A(b) and (e), *NEMMCO* may apply money from the security deposit fund recorded as a credit balance in the name of a *Market Participant* in payment of monies owing by that *Market Participant* to *NEMMCO*:

(1) in respect of any *final statement* previously given to that *Market Participant* which has not been fully paid by the appointed time on the due date and remains unpaid; or

(2) at the time of issuing any *final statement*,

in which case *NEMMCO* may set off all, or part of, any amount by which a *Market Participant* is in credit in the security deposit fund at that time against any amounts owing to *NEMMCO* under the *final statement*.

(b) Subject to clause 3.3.13A(c):

(1) a *Market Participant* may, by giving notice at least one *business day* prior to the due time for the issue of a *final statement*, seek agreement with *NEMMCO* on the arrangements to apply to the application of security deposits paid by that *Market Participant* under clause 3.3.8A against amounts owing to *NEMMCO* under a particular *final statement* or *final statements*; and

(2) *NEMMCO* must apply the security deposits in accordance with an agreement reached under clause 3.3.13A(b)(1).

If agreement is not reached between *NEMMCO* and the *Market Participant* under this clause, then *NEMMCO* has a discretion to apply the security deposit funds of that *Market Participant* in payment of moneys that the *Market Participant* owes *NEMMCO* as set out in clauses 3.3.13A(a)(1) and (2).

(c) Despite any agreement under clause 3.3.13A(b), if a *default event* occurs in relation to a *Market Participant*, then *NEMMCO* has a discretion as to which amounts owing to *NEMMCO* under *final statements* it applies or partially applies security deposits paid by that *Market Participant* under clause 3.3.8A.

(d) In the case of security deposits paid by a *Market Participant* in the security deposit fund under clause 3.3.13, *NEMMCO* has a discretion as to which *final statements* it applies or partially applies those monies against.

(e) However, in exercising its discretion in clauses 3.3.13A(b), (c) or (d), if a *Market Participant* pays *NEMMCO* a security deposit, then *NEMMCO* must apply any remaining portion of the security deposit (taking into account deductions for any liabilities or expenses of the security deposit fund) against the longest outstanding amounts owing to *NEMMCO* under *final statements* issued not later than the *final statement* for the *billing period* in which the security deposit was paid to *NEMMCO*. If, for any reason, *NEMMCO* has not fully applied such security deposit within this time, then *NEMMCO* must apply the remainder to amounts owing to *NEMMCO* under the next *final statement* or *statements* until it has been fully applied.

(f) If:

(1) a *Market Participant* has a credit balance in the security deposit fund and ceases, or intends to cease, being a *Market Participant*; and

(2) that *Market Participant* has paid all money owing to *NEMMCO* and *NEMMCO* reasonably considers that the *Market Participant* will not owe any money to *NEMMCO* in the future arising from that person's activities as a *Market Participant*,

then *NEMMCO* must return any credit balance for that *Market Participant* in the security deposit fund to that *Market Participant* (subject to deduction for any liabilities and expenses of the security deposit fund).

(g) If, for any reason, there is a debit balance in the security deposit fund for a *Market Participant*, then the *Market Participant* must pay that amount to *NEMMCO*. For this purpose, *NEMMCO* may:

(1) include that amount in the next *final statement*; or

(2) issue an account to that *Market Participant* for payment of that debit balance and the *Market Participant* must pay that amount within 2 *business days*.

3.3.14 Potential value of a transaction

At any time, the *potential value* of a *transaction*, or of any bid or offer by a *Market Participant* to effect a *transaction*, under which the *trading amount* payable to *NEMMCO* is determined by reference to one or more specified *regional reference prices* or *ancillary service prices*, is the dollar amount determined by this procedure:

(a) the *transaction* is first tested to determine the *trading amount* which would result for the *Market Participant* if the *regional reference price* or *ancillary service price* applicable to the *transaction* was equal to the *scheduled high price*;

(b) the *transaction* is then tested to determine the *trading amount* which would result for the *Market Participant* if the *regional reference price* or *ancillary service price* applicable to the *transaction* was equal to the *scheduled low price*;

(c) if the *trading amount* resulting for both tests is a positive amount or zero, then the *potential value* of the *transaction* is zero;

(d) if the *trading amount* resulting for either test is a negative amount, then the *potential value* of the *transaction* is the absolute value of the negative amount (or, where both tests produce a negative amount, the *potential value* of the *transaction* is the absolute value of the most negative amount).

3.3.15 Trading margin

At any time, the *trading margin* for a *Market Participant* is a dollar amount equal to the amount by which its *trading limit* exceeds its current *outstandings* due to *NEMMCO* and if the *outstandings* are equal to or exceed the *trading limit*, the *trading margin* is zero.

3.3.16 Limitation on entry of transactions

(a) A *Market Participant* must not submit any bid or offer to effect any *transaction* with *NEMMCO* where the *potential value* of that *transaction*, plus the *potential value* of all other *uncompleted transactions*, exceeds the *trading margin* for the *Market Participant*.

(b) A *transaction* is an *uncompleted transaction* if some or all of the *trading intervals* to which that *transaction* relates have not yet occurred.

3.3.17 Scheduled prices

(a) The *scheduled high price* and the *scheduled low price* are amounts determined by *NEMMCO* in its absolute discretion from time to time as a

basis upon which to determine the *potential value* of a *transaction* in accordance with clause 3.3.14.

(b) *NEMMCO* may determine different *scheduled high prices* and *scheduled low prices* for each *region*.

(c) The *scheduled high price* for *energy* and *market ancillary services* cannot be greater than *VoLL* and the *scheduled low price* for:

(i) *energy*, cannot be less than the *market floor price*; and

(ii) *market ancillary services*, cannot be less than zero.

(d) *NEMMCO* must notify all *Market Participants* without delay of any determination of *scheduled high prices* and *scheduled low prices*.

(e) For *Market Participants* who do not trade in the *spot market*, the *scheduled high price* shall be *VoLL* and the *scheduled low price* shall be zero.

3.3.18 Additional credit support

(a) Where at any time the aggregate *potential value* of a *Market Participant's uncompleted transactions* exceeds the *trading margin* for the *Market Participant* (including without limitation where this is a result of a redetermination of *scheduled high prices* or *scheduled low prices*) the *Market Participant* must provide to *NEMMCO* additional *credit support* satisfying the criteria in clause 3.3.2 for an amount not less than the amount by which the *trading margin* is exceeded. The *Market Participant* must procure that the additional *credit support* is provided to *NEMMCO* within 24 hours after *NEMMCO* has notified the *Market Participant* that additional *credit support* is required.

(b) *Credit support* required pursuant to this clause 3.3.18 is in addition to and not inclusive of the *credit support* which a *Market Participant* is required to procure pursuant to other provisions of the *Rules*.

3.3.19 Consideration of other Market Participant transactions

(a) For the purposes of determining the *prudential requirements* to be satisfied by *Market Participants* in accordance with this clause 3.3, *NEMMCO* must consult with *Market Participants* and any other person *NEMMCO* considers appropriate and use its reasonable endeavours to establish procedures to enable *Market Participants* to create *reallocation transactions* in respect of electricity trading transactions other than those conducted through the *market* and/or establish mutual indemnification arrangements with other operators of markets for electricity-based trading.

(b) *NEMMCO* is not required to meet its obligations under clause 3.3.19(a) in any way which increases *NEMMCO*'s risks in the collection of moneys owed to it in accordance with any of the provisions of the *Rules*.

3.4 Spot Market

3.4.1 Establishment of spot market

(a) *NEMMCO* must establish and operate a *spot market* as a mechanism for:

(1) balancing electricity *supply* and demand;

(2) acquiring *market ancillary services*; and

(3) setting a *spot price* for electricity at each *regional reference node* and *market connection point* for each *trading interval* and *ancillary service prices* at each *regional reference node* for each *dispatch interval*.

(b) *NEMMCO* must determine and *publish* in accordance with clause 3.9:

(1) a *spot price* for *energy* to apply at each *regional reference node* in each *trading interval*; and

(2) a*ncillary service prices* to apply at each *regional reference node* for each *dispatch interval*.

3.4.2 Trading day and trading interval

(a) A *trading interval* is a 30 minute period ending on the hour or on the half hour.

(b) A *trading interval* is identified by the *time* at which it ends.

(c) The *trading day* in the *spot market* will be the 24 hour period commencing at 4.00 am Eastern Standard Time.

3.4.3 Spot market operations timetable

(a) *NEMMCO* must operate the *spot market* according to the *timetable* which must be approved by the *AEMC* and *published* by *NEMMCO* following compliance with the *Rules consultation procedures*.

(b) If *NEMMCO* wishes to change the *timetable* at any time, it may do so following compliance with the *Rules consultation procedures*.

3.5 Regions

3.5.1 Determination of regions and regional reference nodes

(a) For the purpose of conducting the *spot market*, the *market* is to be divided into *region*s recommended by *NEMMCO* and approved by the *AEMC* in accordance with this clause 3.5.1. A *region* is an area served by a particular part of the *transmission network* containing one or more major *load centres* or *generation centres* or both.

(b) In formulating its recommendations under clause 3.5.1(a), 3.5.2 or 3.5.3 *NEMMCO* must:

(1) consult with *Market Participants* in accordance with the *Rules consultation procedures*; and

(2) base its recommendations on the following principles (provided that these principles are listed in order of priority and the definition of a *region*'*s* boundaries may not satisfy all principles):

(i) The boundary of a *region* will be closed and will enclose at least one significant *load centre* and/or *generation centre*.

(ii) Where practicable significant *generation* and/or *load centres* separated by *network constraints* should be located in separate *regions* where those *network constraints* are likely to influence the optimal *dispatch* of *generation* and/or *scheduled load* in the order of 50 hours or more in the *financial year* for which the *intra-regional loss factors* were pre-determined.

(iii) The *region* boundaries should be located so that transfer limits between *region*s can be clearly defined, and transfer flows across *region*s easily measured, at the *region* boundary.

(iv) The application of pre-determined static *intra-regional loss factors* within the proposed *region* and the application of a pre-determined *inter-regional loss factor* equation will not impact significantly on the *central dispatch* of *generation* and/or *scheduled load* that would result from a fully optimised *dispatch* process taking into account the effect of losses.

(v) *NEMMCO* must aim to minimise the variation between the set of pre-determined *loss factors* and the resultant averaged *intra-regional loss factors*, and also any errors in the *inter-regional loss factor* equation across the *trading intervals* in the *financial year* for which the *intra-regional loss* factors were pre-determined.

(vi) Where a *connection point* can be assigned to more than one *region* such that the criteria set out in clause 3.5.1(b)(2)(ii), (iii) and (iv) can each be met in either *region*, then the *transmission network connection point* will be assigned to the *region* such that the variation between the set of pre-determined *intra-regional loss factors* and the resultant averaged *loss factors* is minimised.

(vii) Within the requirements of clauses 3.5.1(b)(2)(i) to 3.5.1(b)(2)(v), the number of *region*s created should be minimised.

(c) Each *region* must have a single *regional reference node* which is to be deemed by *NEMMCO* to be a notional *busbar* at:

(1) a nominated major *transmission substation* located at or close to the largest *load centre* within the *region*; or

(2) where a *region* has no major *load centre* or there is some other reasonable cause for not defining a *regional reference node* at a particular major *load centre*, a nominated major *transmission substation* located at the largest *generation centre* within the *region*.

(d) Each *transmission network connection point* will be assigned by *NEMMCO* to a single *region* in a manner consistent with this clause 3.5.

(e) **[Deleted]**

(f) **[Deleted]**

3.5.2 Revision of boundaries and regional reference nodes

If, within a *region*, circumstances change so that the criteria set out in clause 3.5.1(b)(2) are no longer achieved, then the boundaries of the *region* must be reviewed by *NEMMCO* and, if necessary, the boundaries may be altered and/or a new *region* may be formed in accordance with clause 3.5.1.

3.5.3 Alteration and notification of regions

(a) If *NEMMCO* in its reasonable discretion determines that the current definition of a *region* or location of a *regional reference node* materially fails to satisfy the criteria specified in clause 3.5.1 and is likely to continue to do so, *NEMMCO* may alter the boundary of a *region* or the location of a *regional reference node*:

(1) after consulting with *Market Participants* in accordance with the *Rules consultation procedures*;

(2) with the approval of the *AEMC*; and

(3) in accordance with this clause 3.5.

(b) A change in the boundaries of any *region* or the location of a *regional reference node* will not take effect until the date determined by *NEMMCO*, which must be a minimum of one year after the date the *AEMC* approves such a change.

(c) *NEMMCO* must establish, maintain, review and, by 1 April each year, *publish* a list of all *region*s, *regional reference node*s and the *region* to which each *market connection point* is assigned as determined, or approved by the *AEMC* for alteration, under this clause 3.5 and clause 3.6.

3.5.4 Commencement of clauses 3.5.2 and 3.5.3

Clauses 3.5.2 and 3.5.3 do not come into operation until declared to do so by the *AEMC* in a written notice published in the South Australian Government Gazette.

3.6 Network Losses and Constraints

3.6.1 Inter-regional losses

(a) *Inter-regional losses* are *electrical energy losses* due to a notional transfer of electricity through *regulated interconnectors* from the *regional reference node* in one *region* to the *regional reference node* in an adjacent *region*.

(b) *Inter-regional loss factors*:

(1) describe the *marginal electrical energy losses* for electricity transmitted through *regulated interconnectors* from a *regional reference node* in one *region* to the *regional reference node* in an adjacent *region* for a particular time period and a defined range of operating conditions;

(2) to apply between each pair of adjacent *regional reference nodes* are to be determined as part of the *central dispatch* process using *inter-regional loss factor* equations derived in accordance with the methodology determined by *NEMMCO* pursuant to clause 3.6.1(c); and

(3) are to be used in the *central dispatch* process as a notional adjustment to relate the prices of electricity at *regional reference nodes* in adjacent *regions* so as to reflect the cost of *inter-regional losses*.

(c) *NEMMCO* must determine, *publish* and maintain, in accordance with the *Rules consultation procedures*, a methodology for the determination of *inter-regional loss factor* equations for a *financial year*, describing *inter-*

regional loss factors between each pair of adjacent *regional reference nodes* in terms of significant variables.

(d) In preparing the methodology for the determination of *inter-regional loss factor* equations referred to in clause 3.6.1(c), *NEMMCO* must implement the following principles:

(1) *Inter-regional loss factor* equations are to apply for a *financial year*.

(2) *Inter-regional loss factor* equations must be suitable for use in *central dispatch*.

(3) *Inter-regional loss factors* are determined as part of the *central dispatch* process using *inter-regional loss factor* equations. The *inter-regional loss factors* must:

(i) as closely as is reasonably practicable, describe the *marginal electrical energy losses* for electricity transmitted through the relevant *regulated interconnector* between the 2 relevant *regional reference nodes* in adjacent *regions* for each *trading interval* of the *financial year* in respect of which the relevant *inter-regional loss factor* equations apply; and

(ii) aim to minimise the impact on the *central dispatch* process of *generation* and *scheduled load* as compared to the *dispatch* of *generation* and *scheduled load* which would result from a fully optimised dispatch process taking into account the effect of losses.

(4) *Inter-regional loss factor* equations are determined using forecast *load* and *generation* data and, if required, modelled *load* and *generation* data for the *financial year* in which the *inter-regional loss factor* equations are to apply. The forecast *load* and *generation* data and modelled *load* and *generation* data, if any, used must be that *load* and *generation* data prepared by *NEMMCO* pursuant to clause 3.6.2A.

(5) *Inter-regional loss factor* equations are determined by applying regression analysis to the *load* and *generation* data referred to in clause 3.6.1(d)(4) to determine:

(i) the variables which have a significant effect on the *marginal electrical energy losses* for electricity transmitted through each *regulated interconnector* for both directions of flow on those *regulated interconnectors*; and

(ii) the parameters that represent the relationship between each of those variables and the *marginal electrical energy losses*.

(e) *NEMMCO* must determine the *inter-regional loss factor* equations used to calculate *inter-regional loss factors* in each *financial year* in accordance with the methodology prepared and *published* by *NEMMCO* under clause 3.6.1(c).

(f) *NEMMCO* must *publish* the *inter-regional loss factor* equations determined under clause 3.6.1(e) by 1 April prior to the *financial year* in which they are to apply.

3.6.2 Intra-regional losses

(a) *Intra-regional losses* are *electrical energy losses* that occur due to the transfer of electricity between a *regional reference node* and *transmission network connection points* in the same *region*.

(b) *Intra-regional loss factors*:

(1) notionally describe the *marginal electrical energy losses* for electricity transmitted between a *regional reference node* and a *transmission network connection point* in the same *region* for a defined time period and associated set of operating conditions;

(2) will be a single static *intra-regional loss factor* that applies for a *financial year* derived in accordance with the methodology determined by *NEMMCO* pursuant to clause 3.6.2(d) for each *transmission network connection point*; and

(3) may, with the agreement of the *Jurisdictional Regulator*, be averaged over an adjacent group of *transmission network connection points* within a single *region*. If averaging is used, the relevant *transmission network connection points* will be collectively defined as a *virtual transmission node* with a *loss factor* calculated as the volume weighted average of the *transmission loss factors* of the constituent *transmission network connection points*.

(c) An *intra-regiona*l *loss factor* is to be used as a price multiplier that can be applied to the *regional reference price* to determine the *local spot price* at each *transmission network connection point* and *virtual transmission node*.

(d) *NEMMCO* must determine, *publish* and maintain, in accordance with *Rules consultation procedures*, a methodology for the determination of *intra-regional loss factors* to apply for a *financial year* for each *transmission network connection point*.

(e) In preparing the methodology referred to in clause 3.6.2(d), *NEMMCO* must implement the following principles:

(1) *Intra-regional loss factors* are to apply for a *financial year*.

(2) An *intra-regional loss factor* must, as closely as is reasonably practicable, describe the average of the *marginal electrical energy losses* for electricity transmitted between a *transmission network connection point* and the *regional reference node* in the same *region* for each *trading interval* of the *financial year* in which the *intra-regional loss factor* applies.

(2A) *Intra-regional loss factors* must aim to minimise the impact on the *central dispatch* process of *generation* and *scheduled load* compared to that which would result from a fully optimised dispatch process taking into account the effect of losses.

(3) Forecast *load* and *generation* data for the *financial year* for which the *intra-regional loss factor* is to apply must be used. The forecast *load* and *generation* data used must be that *load* and *generation* data prepared by *NEMMCO* pursuant to clause 3.6.2A.

(4) The *load* and *generation* data referred to in clause 3.6.2(e)(3) must be used to determine *marginal loss factors* for each *transmission network connection point* for each *trading interval* in the *financial year* to which the *load* and *generation* data relates.

(5) The *intra-regional loss factor* for each *transmission network connection point* is determined using a volume weighted average of the *marginal loss factors* for the *transmission network connection point*.

(6) In determining the *intra-regional loss factor* for a *transmission network connection point*, flows in *network elements* that solely or principally provide *market network services* will be treated as invariant, as the methodology is not seeking to calculate the *marginal losses* within such *network elements*.

(f) *NEMMCO* must calculate *intra-regional loss factors* for each *transmission network connection point* for each *financial year* in accordance with the methodology prepared and published by *NEMMCO* under clause 3.6.2(d).

(f1) By 1 April in each year, *NEMMCO* must *publish* the *intra-regional loss factors* revised under clause 3.6.2(f) and to apply for the next *financial year*.

(g) *NEMMCO* must, in accordance with the *Rules consultation procedures*, determine, *publish* and maintain the methodology which is to apply to the calculation of average *transmission loss factors*, determined in accordance with clause 3.6.2(b)(3), for each *virtual transmission node* proposed by a *Distribution Network Service Provider*.

(h) As soon as practicable after the *publication* of the methodology referred to in clause 3.6.2(g), and thereafter by 1 April in each year, *NEMMCO* must

calculate and *publish* the *transmission loss factors* for each *virtual transmission node*, determined in accordance with clause 3.6.2(b)(3), that are to apply for the next *financial year*.

(i) Notwithstanding clauses 3.6.2(a) to (f1), *NEMMCO* must:

(1) determine an *intra-regional loss factor* in the *financial year* in which the *intra-regional loss factor* is to apply for a *transmission network connection point* which is established in that *financial year* in accordance with the procedure for establishing *connection* set out in clause 5.3, provided that *NEMMCO* did not determine an *intra-regional loss factor* for the *transmission network connection point* pursuant to clause 3.6.2(f1) in the *financial year* preceding that in which the *connection point* is established; or

(2) revise an *intra-regional loss factor* in the *financial year* in which the *intra-regional loss factor* is to apply for a *transmission network connection point* which is modified in that *financial year* in accordance with the procedure for modifying *connection* set out in clause 5.3, provided that, in *NEMMCO*'s reasonable opinion, the modification to that *connection point* results in a material change in the capacity of the *connection point*.

(j) *NEMMCO* must, where required to determine the *intra-regional loss factor* for an established or modified *transmission network connection point* under clause 3.6.2(i), do so as far as practicable in accordance with the methodology *published* by *NEMMCO* pursuant to clause 3.6.2(d).

(k) For the purposes of clause 3.6.2(j), the forecast *load* and *generation* data used to calculate the *intra-regional loss factor* for the *transmission network connection point* must be determined using the forecast *load* and *generation* data determined by *NEMMCO* under clause 3.6.2A for other *transmission network connection points* in the same *region* for that *financial year* adjusted to take into account the effect of the established or modified *connection point*. Notwithstanding this clause 3.6.2(k), *Registered Participants* must comply with their obligations with respect to the provision of information to *NEMMCO*, for the purpose of determining new or revised *intra-regional loss factors* for *connection points* that are established or modified during the *financial year* in which the *intra-regional loss factors* are to apply, specified by the methodology developed and *published* by *NEMMCO* under clause 3.6.2A.

(l) In the case of a *connection point* that is established in the *financial year* in which the *intra-regional loss factor* is to apply:

(1) the *intra-regional loss factor* determined by *NEMMCO* in accordance with clause 3.6.2(i) will apply from the time the *intra-regional loss factor* is determined and *published* by *NEMMCO*; and

(2) *NEMMCO* must use reasonable endeavours to determine and *publish* the *intra-regional loss factor* at least 45 *business days* prior to the commencement of operation of the established *connection point*, where the relevant *Registered Participants* comply with any applicable requirements and deadlines for the provision of information to *NEMMCO* specified by the methodology *published* by *NEMMCO* under clause 3.6.2A.

(m) In the case of a *connection point* that is modified in the *financial year* in which the *intra-regional loss factor* is to apply:

(1) the *intra-regional loss factor* determined by *NEMMCO* in accordance with clause 3.6.2(i) will apply from the date when the modification to the *connection point* takes effect; and

(2) *NEMMCO* must use reasonable endeavours to *publish* the *intra-regional loss factor* at least 45 *business days* prior to the date when the modification to the *connection point* takes effect, where the relevant *Registered Participants* comply with any applicable requirements and deadlines for the provision of information to *NEMMCO* specified by the methodology *published* by *NEMMCO* under clause 3.6.2A.

(n) For the avoidance of doubt, where *NEMMCO* determines an *intra-regional loss factor* for a *transmission network connection point* under clause 3.6.2(i), which is to apply in the *financial year* in which the *transmission network connection point* is established or modified, the *intra-regional loss factors* for all other *transmission network connection points* for that *financial year*, determined in accordance with clauses 3.6.2(a) to (g), must remain unchanged.

3.6.2A Load and generation data used to determine inter-regional loss factor equations and intra-regional loss factors

(a) *NEMMCO* must prepare *load* and *generation* data for each *financial year* to be used in both the determination of *inter-regional loss factor* equations under clause 3.6.1 and *intra-regional loss factors* under clause 3.6.2 in accordance with the methodology determined, *published* and maintained by *NEMMCO* for this purpose, under clause 3.6.2A(b).

(b) *NEMMCO* must determine, *publish* and maintain, in accordance with the *Rules consultation procedures*, a methodology for:

(1) forecasting the *load* and *generation* data to be used in both the determination of *inter-regional loss factor* equations and *intra-regional loss factors*, including new or revised *intra-regional loss factors* for *connection points* that are established or modified,

respectively, during the *financial year* in which the *intra-regional loss factors* are to apply;

(2) modelling additional *load* and *generation* data, where required, to be used in determining *inter-regional loss factor* equations; and

(3) the collection of relevant data from *Registered Participants*, including without limitation deadlines for the provision of that data by *Registered Participants.*

(c) The methodology developed and *published* by *NEMMCO* under clause 3.6.2A(b) must specify information reasonably required by *NEMMCO* to fulfil its obligations under clause 3.6.2A, including without limitation historic *load* and *generation* data, forecast *energy* and *maximum demand* data for a *connection point* and forecast data for any new *loads*. In particular, the methodology must specify information to be provided by *Registered Participants* that is in addition to the information provided by those *Registered Participants* under other provisions of the *Rules*.

(d) In preparing the methodology for forecasting and modelling *load* and *generation* data under clause 3.6.2A(b), *NEMMCO* must implement the following principles:

(1) The forecast *load* and *generation* data must be representative of expected *load* and *generation* in the *financial year* in which the *inter-regional loss factor* equations or *intra-regional loss factors* are to apply having regard to:

(i) actual *load* and *generation* data available for a 12 month period defined by the methodology with the objective to use the most recent *load* and *generation* data practicable;

(ii) projected *load* growth between each calendar month to which the actual *load* and *generation* data referred to in clause 3.6.2A(d)(1)(i) relates and the same calendar month in the *financial year* for which the forecast *load* and *generation* data is determined; and

(iii) the projected *network* configuration and projected *network* performance for the *financial year* in which the *inter-regional loss factor* equation or *intra-regional loss factor*, as the case may be, is to apply.

(2) Additional modelled *load* and *generation* data sets must only be used:

(i) in the determination of *inter-regional loss factor* equations under clause 3.6.1; and

(ii) where the range of forecast *load* and *generation* data is not sufficient to derive *inter-regional loss factor* equations to apply over the full range of transfer capability of the *regulated interconnector*.

(e) *Registered Participants* must comply with the obligations to provide information set out in the methodology developed and *published* by *NEMMCO* under this clause 3.6.2A, including the deadlines for the provision of that information and any other obligations with respect to the provision of that information set out in the methodology.

3.6.2B [Deleted]

3.6.3 Distribution losses

(a) *Distribution losses* are *electrical energy losses* incurred in the conveyance of electricity over a *distribution network.*

(b) *Distribution loss factors*:

(1) notionally describe the *average electrical energy losses* for electricity transmitted on a *distribution network* between a *distribution network connection point* and a *transmission network connection point* or *virtual transmission node* for the financial year in which they apply;

(2) will be either:

(i) a site specific *distribution loss factor* derived in accordance with the methodology determined by the *Jurisdictional Regulator* or the *Distribution Network Service Provider* pursuant to clause 3.6.3(h), for each *distribution network connection point* of the following types:

(A) a *connection point* for an *embedded generating unit* with actual *generation* of more than 10MW, based on the most recent data available for a consecutive 12 month period at the time of determining the *distribution loss factor*. Where relevant data is not available for a consecutive 12 month period as a *distribution network connection point* is newly established or has been modified, a *Network Service Provider* may determine whether an *embedded generating unit* has *generation* of more than 10MW, based on its best projection of *generation* in the *financial year* in which the *distribution loss factor* is to apply, taking into account the terms of the relevant *connection agreement*;

(B) a *connection point* for an end-user with actual or forecast *load* of more than 40GWh or an electrical demand of more

than 10MW, based on the most recent data available for a consecutive 12 month period at the time of determining the *distribution loss factor*. Where relevant data is not available for a consecutive 12 month period as a *distribution network connection point* is newly established or has been modified, a *Network Service Provider* may determine whether an end-user has *load* of more than 40GWh or forecast *peak load* of more than 10MW, based on its best projection of *load* in the *financial year* in which the *distribution loss factor* is to apply, taking into account the terms of the relevant *connection agreement*;

(C) a *connection point* for a *market network service provider*; and

(D) a *connection point* between two or more *distribution networks*; or

(ii) derived, in accordance with the methodology determined by the *Jurisdictional Regulator* or the *Distribution Network Service Provider* pursuant to clause 3.6.3(h), using the volume weighted average of the *average electrical energy loss* between the *transmission network connection point* or *virtual transmission node* to which it is assigned and each *distribution network connection point* in the relevant *voltage* class (determined in accordance with clause 3.6.3(d)(2)) assigned to that *transmission network connection point* or *virtual transmission node*, for all *connection points* on a *distribution network* not of a type described in clause 3.6.3(b)(2)(i);

(3) are to be used in the settlement process as a notional adjustment to the electrical *energy*, expressed in MWh, flowing at a *distribution network connection point* in a *trading interval* to determine the *adjusted gross energy* amount for that *connection point* in that *trading interval*, in accordance with clause 3.15.4.

(b1) Where a *Generator* meets the reasonable cost of the *Distribution Network Service Provider* in performing the necessary calculation in respect of a *generating unit* of up to 10MW or 40GWh per annum capacity, the *Distribution Network Service Provider* must calculate a site specific *distribution loss factor* that, notwithstanding any other provision of the *Rules* to the contrary, for the purposes of the *Rules* is to apply in respect of that *generating unit* on the same basis as applies for a *generating unit* of more than 10MW or 40GWh per annum capacity as though the *generating unit* were a unit of more than 10MW or 40GWh per annum capacity.

(c) Each *Distribution Network Service Provider* must assign each *connection point* on its *distribution network*, of a type described in clause 3.6.3(b)(2)(i), to a single *transmission network connection point* taking into account normal *network* configurations and predominant *load* flows.

(a1) **[Deleted]**

(d) Each *Distribution Network Service Provider* must assign each *connection point* on its distribution network, not of a type described in clause 3.6.3(b)(2)(i):

(1) where practicable, to a single *transmission network connection point* or otherwise, to a *virtual transmission node*, taking into account normal network configurations and predominant *load* flows; and

(2) to a class of *distribution network connection points* based on the location of, *voltage* of and pattern of electrical *energy* flows at the *distribution network connection point*.

(e) So far as practicable, the assignment of *connection points* on the *distribution network* to:

(1) *transmission network connection points* under clause 3.6.3(c); or

(2) *transmission network connection points* or *virtual transmission nodes* and a class of *distribution network connection points* under clause 3.6.3(d),

must be consistent with the geographic boundaries of the *pricing zones* determined in accordance with clause 6.13.2 for use in *distribution service* pricing, and the *voltage* levels incorporated within those *pricing zones*.

(f) The assignment of *connection points* on a distribution network:

(1) to a single *transmission network connection point* under clause 3.6.3(c); or

(2) to a *transmission network connection point* or *virtual transmission node* and a class of *distribution network connection points* under clause 3.6.3(d),

is subject to the approval of the relevant *Jurisdictional Regulator* and the *Distribution Network Service Provider* must inform *NEMMCO* of such approved assignments.

(g) *Distribution loss factors* must be determined by a *Distribution Network Service Provider* for all *connection points* on its *distribution network* either individually, for all connection points assigned to a single *transmission*

network connection point under clause 3.6.3(c), or collectively, for all *connection points* assigned to a *transmission network connection point* or a *virtual transmission node* and a particular *distribution network connection point* class under clause 3.6.3(d), in accordance with:

(1) the methodology developed, *published* and maintained by the *Jurisdictional Regulator* for the determination of *distribution loss factors*; or

(2) where the *Jurisdictional Regulator* has not *published* a methodology under clause 3.6.3(g)(1), the methodology developed, *published* and maintained by the *Distribution Network Service Provider* for the determination of *distribution loss factors*.

(h) The methodology for the determination of *distribution loss factors* referred to in clause 3.6.3(g) must be developed having regard to the following principles:

(1) The aggregate of the *adjusted gross energy* amounts for a *distribution network*, determined in accordance with clause 3.15.4 using the *distribution loss factors* for the *financial year* in which the *distribution loss factors* are to apply should equal, as closely as is reasonably practicable, the sum of:

A. the amount of electrical *energy*, expressed in MWh, flowing at all *connection points* in the *distribution network* in the *financial year* in which the *distribution loss factors* are to apply; and

B. the total *electrical energy losses* incurred on the *distribution network* in the *financial year* in which the *distribution loss factors* are to apply.

(2) The methodology used to determine *distribution loss factors* for a *financial year* should incorporate provisions requiring a *Distribution Network Service Provider* to undertake a reconciliation between the aggregate of the *adjusted gross energy* amounts for its *distribution network* for the previous *financial year* determined in accordance with clause 3.15.4 using the *distribution loss factors* that applied for *connection points* in that *distribution network* in the previous *financial year* and the sum of:

(i) the amount of electrical *energy*, expressed in MWh flowing, at all *connection points* in its *distribution network* in the previous *financial year*; and

(ii) the total *electrical energy losses* incurred on its *distribution network* in the previous *financial year*.

(3) The *distribution loss factor* for a *distribution network connection point*, other than those described in clause 3.6.3(b)(2)(i), is determined using a volume weighted average of the *average electrical energy loss* between the *transmission network connection point* or *virtual transmission node* to which it is assigned and each *distribution network connection point* in the relevant class of *distribution network connection points* assigned to that *transmission network connection point* or *virtual transmission node* for the *financial year* in which the *distribution loss factor* is to apply.

(4) The *distribution loss factor* for a *distribution network connection point* described in clause 3.6.3(b)(2)(i) is determined using the *average electrical energy loss* between the *distribution network connection point* and the *transmission network connection point* to which it is assigned in the *financial year* in which the *distribution loss factor* is to apply.

(5) In determining the *average electrical energy losses* referred to in clauses 3.6.3(h)(3) and (4), the *Distribution Network Service Provider* must use the most recent actual *load* and *generation* data available for a consecutive 12 month period but may adjust this *load* and *generation* data to take into account projected *load* and / or *generation* growth in the *financial year* in which the *distribution loss factors* are to apply.

(6) In determining *distribution loss factors*, flows in *network elements* that solely or principally provide *market network services* will be treated as invariant, as the methodology is not seeking to calculate the *marginal losses* within such *network elements*.

(i) Each year the *Distribution Network Service Provider* must determine the *distribution loss factors* to apply in the next *financial year* in accordance with clause 3.6.3(g) and provide these to *NEMMCO* for *publication* by 1 April. Before providing the *distribution loss factors* to *NEMMCO* for *publication*, the *Distribution Network Service Provider* must obtain the approval of the relevant *Jurisdictional Regulator* for the *distribution loss factors* it has determined for the next *financial year*.

3.6.4 Network constraints

(a) Conveyance of electricity between *regions* through a *regulated interconnector* is *constrained* when for operational reasons it is not acceptable for the *regulated interconnector* to transfer the level of electricity between *regions* that would be transferred if the limitation was removed and the condition impacts on the *dispatch* of other *regulated interconnectors, generation, scheduled network services* or *loads.*

(a1) Conveyance of electricity between *regions* by means of a *scheduled network service* is *constrained* when the *dispatch* of the relevant *scheduled network service* is limited by the notified available capacity or *ramp rate* and the limitation impacts on the *dispatch* of *generation, regulated interconnectors,* other *scheduled network services* or *loads.*

(b) Conveyance of electricity within a *region* is *constrained* when for operational reasons it is not acceptable for a *network* to transfer the level of electricity between different parts of the *region* that would be transferred if the limitation was removed and the condition impacts on the *dispatch* of *generation, scheduled network services* or *loads*.

(c) For every *trading interval NEMMCO* must record any *constraints* including a description and the duration of the *constraint*.

(d) Any *constraints* which occur within a *region* or between *regions* must be taken into account in the *dispatch* process under clause 3.8.10.

3.6.5 Settlements residue due to network losses and constraints

(a) *Settlements residue* will be allocated, and distributed or recovered by *NEMMCO* in accordance with the following principles:

(1) full effect is to be given to the *jurisdictional derogations* contained in Chapter 9 relating to *settlements residue*;

(2) the portion of the *settlements residue* attributable to *regulated interconnectors* (as adjusted to take into account the effect of any applicable *jurisdictional derogations* referred to in clause 3.6.5(a)(1)) will be distributed or recovered in accordance with clause 3.18;

(3) the remaining *settlements residue*, including the portion of *settlements residue* due to *intra-regional loss factors*, will be distributed to or recovered from the appropriate *Transmission Network Service Providers* (which will not include *Market Network Service Providers*);

(4) if the *settlements residue* arising in respect of a *trading interval*, after taking into account any adjustment in accordance with clauses 5.7.7(aa)(3) or (ab), is a negative amount, then the amount may be recovered:

(i) to the extent to which the *settlements residue* would have been distributed in accordance with clause 3.6.5(a)(2), from *eligible persons* participating in the *auctions* conducted under clause 3.18 either from positive *settlements residue* amounts arising in the same *billing period* or otherwise as part of future *auction expense fees*; and

(ii) from the *Network Service Provider* to which the *settlements residue* would have been distributed had it been a positive amount; and

(5) for the purposes of the distribution or recovery of *settlements residue* that is attributable to *regulated interconnectors*:

(i) all of the *settlements residue* relating to electricity that is transferred from one *region* (the "exporting region") to another *region* (the "importing region") must be allocated to *Network Service Providers* in respect of a *network* located in the importing region (or part of a *network* located in the importing region);

(ii) the importing region must, in respect of the period from *market commencement* until 1 July 2006, pay a charge to the exporting region reflecting the extent of the use of a *network* located in the exporting region (or part of a *network* located in the exporting region) to transfer the electricity from the exporting region to the importing region; and

(iii) the amount of the charge described in clause 3.6.5(a)(5)(i) and (ii) must not exceed the amount of the *settlements residue* and must be agreed between the *participating jurisdictions* in which the importing region and the exporting region are located; and

(6) any portion of *settlements residue* distributed to a *Network Service Provider* or amount paid on that portion under clause 3.15.11A (if any), or clause 3.18 to a *Network Service Provider*, including any such payments as adjusted by a *routine revised statement* or *special revised statement* issued under clause 3.15, net of any portion of *settlements residue* recovered from the *Network Service Provider* in accordance with clause 3.6.5(a)(4), will be used to offset *network service* charges.

(b) A *Transmission Network Service Provider* or its jurisdictional delegate is a *Market Participant* for the purposes of clauses 3.3.1 and 3.15 (excluding clause 3.15.1(b)) but not otherwise.

(c) **[Deleted]**

(d) **[Deleted]**

3.7 Projected Assessment of System Adequacy

3.7.1 Administration of PASA

(a) *NEMMCO* must administer medium term and short term *projected assessment of system adequacy processes* to be known as *PASA*.

(b) The *PASA* is a comprehensive program of information collection, analysis, and disclosure of medium term and short term *power system security* prospects so that *Scheduled Generators* and *Market Participants* are properly informed to enable them to make decisions about *supply*, demand and *outages* of *transmission networks* in respect of periods up to 2 years in advance.

(c) On a weekly basis *NEMMCO* must:

(1) collect and analyse information from all *Scheduled Generators*, *Market Customers*, *Transmission Network Service Providers* and *Market Network Service Providers* about their intentions for:

(i) *generation*, *transmission* and *Market Network Service* maintenance scheduling;

(ii) intended *plant* availabilities;

(iii) *energy constraints*;

(iv) other *plant* conditions which could materially impact upon *power system security*; and

(v) significant changes to *load* forecasts previously notified to *NEMMCO*,

for the following 24 months; and

(2) following analysis and assessment, *publish* information that will:

(i) assist *Scheduled Generators* and *Market Participants* to plan any scheduled work on *plant*; and

(ii) inform the *market* of possible *power system security* problems.

(d) *NEMMCO* must use its reasonable endeavours to ensure that it provides to *Scheduled Generators* and *Market Participants* sufficient information to allow *Scheduled Generators* and *Market Participants* to undertake maintenance and *outage* planning without violating *power system security* and to allow the *market* to operate effectively with a minimal amount of intervention by *NEMMCO*.

3.7.2 Medium term PASA

(a) The *medium term PASA* covers the 24 month period commencing from the *day* 8 *days* after the *day* of publication with a daily resolution, and must be reviewed and issued every week by *NEMMCO* in accordance with the *timetable*.

(b) *NEMMCO* may publish additional updated versions of the *medium term PASA* in the event of *changes* which, in the judgment of *NEMMCO*, are materially significant and should be communicated to *Scheduled Generators* and *Market Participants*.

(c) The following *PASA* inputs are to be prepared by *NEMMCO*:

(1) forecast *load* which is:

(i) to indicate for each *region* the most probable *peak load*, time of the peak, and daily *energy* on the basis of past trends, day type and special events including all anticipated *scheduled load* and other *load* except pumped storage *loads*;

(ii) subsequently to be adjusted by an amount anticipated in the forecast as *scheduled load* by *load* bidders;

(iii) an indicative half hourly *load* profile for each day type for each *region* for each month of the year;

(2) reserve requirements of each *region* determined in accordance with the *medium term capacity reserve standards* set out in the *power system security and reliability standards*; and

(3) forecast *inter-regional network constraints* and *intra-regional network constraints* known to *NEMMCO* at the time.

(d) The following *medium term PASA* inputs must be submitted by each relevant *Scheduled Generator* or *Market Participant* in accordance with the *timetable*:

(1) *PASA availability* of each *scheduled generating unit, scheduled load* or *scheduled network service* for each *day*; and

(2) weekly *energy constraints* applying to each *generating unit* or *scheduled load*.

(e) *Network Service Providers* must provide to *NEMMCO* an outline of planned *network outages* in accordance with the *timetable* and provide to *NEMMCO* any other information on planned *network outages* that is reasonably requested by *NEMMCO* to assist *NEMMCO* to meet its obligations under clause 3.7.2(f)(4).

(f) *NEMMCO* must prepare and *publish* the following information in respect of each day covered by the *medium term PASA* in accordance with clause 3.13.4:

(1) forecasts of the most probable peak *power system load* plus required *reserve*, adjusted to make allowance for *scheduled load*, for each *region* and for the total *power system*;

(2) forecasts of the most probable *energy* consumption for each *region* and for the total *power system*;

(3) aggregate *generating unit PASA availability* for each *region*, calculated by adding the following two categories:

(i) the capacity of *generating units* which are able to operate at full capacity on a continuous basis to meet forecast *load*; and

(ii) an allocation of *generation* which cannot be *generated* continuously at the nominated capacity of the *generating unit* for the period covered due to specified *energy constraints*;

(4) identification and quantification of:

(i) any projected *violations* of *power system security*;

(ii) any *days* on which *low reserve* or *lack of reserve* conditions are forecast to apply;

(iii) where a projected *supply* deficit in one *region* can be supplemented by a surplus in another *region* (dependent on forecast *interconnector* transfer capabilities);

(iv) forecast *interconnector* transfer capabilities and the discrepancy between forecast *interconnector* transfer capabilities and the forecast capacity of the relevant *interconnector* in the absence of *outages* on the relevant *interconnector* only; and

(v) when and where *network constraints* may become binding on the *dispatch* of *generation* or *load*.

(g) *NEMMCO* must document the procedure it uses for preparation of the *medium term PASA* and make it available to all *Scheduled Generators* and *Market Participants* on a cost recovery basis.

3.7.3 Short term PASA

(a) The *short term PASA* must be issued at least daily by *NEMMCO* in accordance with the *timetable*.

(b) The *short term PASA* covers the period of six *trading days* starting from the end of the *trading day* covered by the most recently *published pre-dispatch schedule* with a half hourly resolution.

(c) *NEMMCO* may *publish* additional updated versions of the *short term PASA* in the event of *changes* which, in the judgement of *NEMMCO*, are materially significant and should be communicated to *Scheduled Generators* and *Market Participants*.

(d) The following *short term PASA inputs* are to be prepared by *NEMMCO*:

(1) forecast *load* which is to include:

(i) the most probable half hourly *profile* on the basis of past trends, day type, and special events; and

(ii) all *scheduled load* and other *load* except for pumped storage *loads*,

which must subsequently be adjusted in accordance with *dispatch offers* for *scheduled load*;

(2) *reserve* requirements for each *region* determined in accordance with the *short term capacity reserve standards*; and

(3) anticipated *inter-regional network constraints* and *intra-regional network constraints* known to *NEMMCO* at the time.

(e) The following *short term PASA* inputs must be submitted by each relevant *Scheduled Generator* and *Market Participant* in accordance with the *timetable* and must represent the *Scheduled Generator's* or *Market Participant's* current intentions and best estimates:

(1) availability of each *scheduled generating unit*, *scheduled load* or *scheduled network service* for each *trading interval* under expected *market* conditions;

(1A) *PASA availability* of each *scheduled generating unit*, *scheduled load* or *scheduled network service* for each *trading interval*;

(2) *generating unit synchronisation/de-synchronisation* times for *slow start generating units*;

(3) projected daily *energy* availability for *energy constrained scheduled generating units* and *loads*; and

(4) anticipated *self-dispatch level* for each *scheduled generating unit* or *scheduled load* for each *trading interval*.

(f) If *NEMMCO* considers it reasonably necessary for adequate *power system* operation and the maintenance of *power system security*, *Registered Participants* who may otherwise be exempted from providing inputs for the *PASA* process must do so to the extent specified by *NEMMCO*.

(g) *Network Service Providers* must provide to *NEMMCO* an outline of planned *network outages* in accordance with the *timetable* and provide to *NEMMCO* any other information on planned *network outages* that is reasonably requested by *NEMMCO* to assist *NEMMCO* to meet its obligations under clause 3.7.3(h)(5).

(h) *NEMMCO* must prepare and *publish* the following information as *short term PASA* outputs for each *trading interval* in the period covered in accordance with clause 3.13.4(c):

(1) forecasts of the most probable *power system load* plus required *reserve* adjusted to make allowance for *scheduled load*, for each *region* and for the total *power system*;

(2) forecasts of *power system load* for each *region* with 10% and 90% probability of exceedence;

(3) forecasts of the most probable *energy* consumption for each *region* and for the total *power system*;

(4) aggregate *generating unit* availability for each *region* calculated by adding the following two categories:

(i) the capacity of *generating units* which are able to operate at full capacity on a continuous basis to meet forecast *power system load*; and

(ii) an allocation of *generation* which cannot be *generated* continuously at the offered capacity of the *generating unit* for the period covered due to specified *energy constraints*;

(4A) aggregate *generating unit PASA availability* for each region;

(5) identification and quantification of:

(i) any projected *violations* of *power system security*;

(ii) any *trading intervals* for which *low reserve* or *lack of reserve* conditions are forecast to apply;

(iii) where a projected *supply* deficit in one *region* can be supplemented by a surplus in another *region* (dependent on forecast *interconnector* transfer capabilities);

(iv) forecast *interconnector* transfer capabilities and the discrepancy between forecast *interconnector* transfer capabilities and the forecast capacity of the relevant *interconnector* in the absence of outages on the relevant *interconnector* only; and

(v) when and where *network constraints* may become binding on the *dispatch* of *generation* or *load*.

(i) In the event that in performing the *short-term PASA NEMMCO* identifies any projected *low reserve* or *lack of reserve* conditions in respect of a *participating jurisdiction*, then *NEMMCO* must use its reasonable endeavours to advise the *Jurisdictional Co-ordinator* for that *participating jurisdiction* of any potential requirements during such conditions to shed *sensitive loads*.

(j) *NEMMCO* must document the procedure it uses for preparation of the *short term PASA* and make it available to all *Scheduled Generators* and *Market Participants* on a cost recovery basis.

(k) **[Deleted]**

3.7A Market Information on planned network outages

(a) The objective of this clause 3.7A is to provide *Market Participants* with the information on planned *network outages* required so that *Market Participants* are properly informed to enable them to make projections of *market* outcomes, including projections of *settlement residue auction* outcomes, and decisions with respect to *hedge contracts* and other financial risk management tools. Information on planned *network outages* made available to *Market Participants* by *NEMMCO* and *Transmission Network Service Providers* under this clause 3.7A, however, represents a *Transmission Network Service Provider's* current intentions and best estimates regarding planned *network outages* at the time the information is made available. Further, a *Transmission Network Service Provider* may not be bound to comply with an advised *outage* program. A planned *outage* program may be subject to change due to unforeseen circumstances outside the control of the *Transmission Network Service Provider*. Accordingly, information on planned *network outages* may be subject to change.

(b) In addition to the obligations imposed on *Transmission Network Service Providers* and *NEMMCO* by clause 3.7 to provide information on planned *network outages* for the purpose of *PASA*, *Transmission Network Service Providers* must provide to *NEMMCO* and *publish*, and *NEMMCO* must determine and *publish*, the information required under this clause 3.7A with respect to planned *network outages*.

(c) Each month, in accordance with the *timetable* for the provision of information to *medium term PASA*, each *Transmission Network Service Provider* must provide to *NEMMCO* and *publish*:

(1) details of the forecast timing and the factors affecting the timing of planned *network outages* and the likelihood that the planned timing will vary;

(2) details of the reason for the planned *network outage*, including the nature and extent of works required, if any; and

(3) any other information with respect to planned *network outages* that is reasonably requested by *NEMMCO* with a view to achieving the objective set out in clause 3.7A(a),

for those *network outages* planned for the following thirteen months that, in the reasonable opinion of the *Transmission Network Service Provider*, will have or are likely to have a material effect on transfer capabilities.

(d) Each month, in accordance with the *timetable* for the provision of information to *medium term PASA*, *NEMMCO* must determine and *publish*:

(1) an assessment of the projected impact on *intra-regional power transfer capabilities*, the accuracy of which must be appropriate to meet the objective in clause 3.7A(a) in a cost effective manner;

(2) an assessment of the projected impact on *inter-regional power transfer capabilities*, the accuracy of which must be appropriate to meet the objective in clause 3.7A(a) in a cost effective manner; and

(3) any other information with respect to planned *network outages* that, in *NEMMCO's* opinion, would assist in achieving the objective set out in clause 3.7A(a),

for those planned *network outages* in respect of which a *Transmission Network Service Provider* has provided information to *NEMMCO* under clause 3.7A(c).

3.8 Central Dispatch and Spot Market Operation

3.8.1 Central Dispatch

(a) *NEMMCO* must operate a *central dispatch* process to *dispatch scheduled generating units*, *scheduled loads*, *scheduled network services* and *market ancillary services* in order to balance *power system supply* and demand, using its reasonable endeavours to maintain *power system security* in accordance with Chapter 4 and to maximise the value of *spot market* trading on the basis of *dispatch offers* and *dispatch bids*.

(b) The *central dispatch* process should aim to maximise the value of *spot market* trading i.e. to maximise the value of *dispatched load* based on *dispatch bids* less the combined cost of *dispatched generation* based on

generation dispatch offers, *dispatched network services* based on *network dispatch offers*, and *dispatched market ancillary services* based on *market ancillary service offers* subject to:

(1) *dispatch offers*, *dispatch bids* and *market ancillary service offers*;

(2) *constraints* due to availability and *commitment*;

(3) *non-scheduled load* requirements in each *region*;

(4) *power system security* requirements determined as described in Chapter 4 and the *power system security and reliability standards*;

(5) *intra-regional network constraints* and *intra-regional losses*;

(6) *inter-regional network constraints* and *inter-regional losses*;

(7) *constraints* consistent with *registered bid and offer* data;

(8) current levels of *dispatched generation, load* and *market network services*;

(9) *constraints* imposed by *ancillary services* requirements;

(10) arrangements designed to ensure pro-rata loading of tied *registered bid and offer data*; and

(11) ensuring that as far as reasonably practical, in relation to a *direction* or *dispatch* of *plant* under a *reserve contract*:

(A) the number of *Affected Participants* is minimised; and

(B) the effect on *interconnector flows* is minimised.

(c) *NEMMCO* must establish procedures to allow relaxation of *power system constraints* listed in clause 3.8.1(b) in order to resolve infeasible *dispatch* solutions, subject to the following principles:

(1) the procedures are developed in consultation with *Registered Participants* to achieve a reasonable *dispatch* outcome while maintaining consistency with *NEMMCO's* obligations to maintain *power system security* and the pricing principles listed in clause 3.9.1; and

(2) *NEMMCO* must report to *Registered Participants* any events requiring the relaxation of these *constraints*.

(d) *NEMMCO* must develop and *publish* a *dispatch algorithm* to be used by *NEMMCO* for the purpose of *central dispatch* and pricing in accordance with clauses 3.8 and 3.9.

(e) *NEMMCO* must use the *dispatch algorithm* to determine the *loading level* in MW for each *scheduled generating unit*, *scheduled network service* or *scheduled load* in each *dispatch interval* in accordance with the principles set out in clause 3.8.1(b).

(e1) *NEMMCO* must use the *dispatch algorithm* to determine the quantity of each *market ancillary service* which will be *enabled* for each *ancillary service generating unit* or *ancillary service load*.

(e2) When *NEMMCO* determines the quantity of each *market ancillary service* which will be *enabled*, *NEMMCO* must determine:

(1) the required quantity of each *market ancillary service* that may be sourced from any *region* (referred to as the "*global market ancillary service requirement*"); and

(2) any required quantity of such *market ancillary service* which must only be sourced from one or more nominated *regions (*referred to as a "*local market ancillary service requirement*"*)*.

(f) *NEMMCO* may investigate from time to time:

(1) the scope for further development of the *dispatch algorithm* beyond the minimum requirements specified in clause 3.8.1(b); and

(2) the sufficiency of the *dispatch algorithm* in meeting the minimum requirements specified in clause 3.8.1(b),

and following compliance with the *Rules consultation procedures*, *publish* a report setting out its recommendations.

3.8.2 Participation in central dispatch

(a) A *Scheduled Generator* must submit *generation dispatch offers* in respect of each of its *scheduled generating units* for each *trading day* in accordance with clause 3.8.6.

(b) *Generation dispatch offers* for a *scheduled generating unit* must include a specified *self-dispatch level* and may include prices and MW quantities for increased or decreased levels of *generation* above or below this *self-dispatch level*.

(b1) A *Scheduled Network Service Provider* must submit *network dispatch offers* in respect of each of its *scheduled network services* for each *trading day* in accordance with clause 3.8.6A.

(c) Subject to clause 3.8.2(d), *dispatch bids* may be submitted by *Market Participants* in respect of *scheduled loads*, in accordance with clause 3.8.7, and may specify prices and MW quantities for any *trading interval* either for reductions or increases in *load*.

(c1) *Market ancillary service offers* may be submitted by *Ancillary Service Providers* in respect of *market ancillary service*s in accordance with clause 3.8.7A.

(d) *Dispatch bids* and *market ancillary service offers* will only be included in the *central dispatch* process by *NEMMCO* if it is satisfied that adequate communication and/or telemetry is available to support the issuing of *dispatch instructions* and the audit of responses.

(e) If *NEMMCO* considers it reasonably necessary for adequate system operation and the maintenance of *power system security*, *Registered Participants* who may otherwise be exempted from participating in the *central dispatch* process must do so to the extent and in the capacity specified by *NEMMCO*.

3.8.3 Bid and offer aggregation guidelines

(a) *Scheduled Generators* or *Market Participants* who wish to aggregate their *scheduled generating units*, *scheduled network services* or *scheduled loads* for the purpose of *central dispatch* and *settlements* must apply to *NEMMCO* to do so.

(b) *NEMMCO* must approve applications for aggregation if the following conditions are fulfilled by the *Scheduled Generator* or *Market Participant*:

(1) aggregated *generating units* or *loads* must be *connected* at a single site with the same *intra-regional loss factor* and be operated by a single *Scheduled Generator* or *Market Participant*;

(1a) aggregated *scheduled network services* must be *connected* at the same two sites, have the same *intra-regional loss factors*, have the same *distribution loss factors* where applicable and be operated by the same *Scheduled Generator* or *Market Participant*;

(2) *power system security* must not be materially affected by the proposed aggregation;

(3) *control systems* such as *automatic generation control systems* must satisfy the *Rules* after aggregation;

(4) communication protocols for operational control between *NEMMCO* and the aggregated *generating units*, *scheduled network services* or *loads* must satisfy the *Rules* after aggregation; and

(5) *metering systems* for *settlements* purposes must satisfy the *Rules* after aggregation.

(c) Notwithstanding that one or more of the conditions set out in clause 3.8.3(b) may not have been fulfilled by the *Scheduled Generator* or *Market Participant*, *NEMMCO* may approve an application for aggregation provided that such aggregation would not materially distort *central dispatch*.

(d) All requirements in the *Rules* applying to *generating units*, *scheduled network services* and *scheduled loads* are to apply equally to aggregated *generating units*, aggregated *scheduled network services* and aggregated *scheduled loads*.

(e) *NEMMCO* must evaluate applications for aggregation and reply within 20 *business days* of receipt of the application setting out whether the application is to be approved and the conditions that apply to the proposed approval.

(f) *Scheduled Generators* and *Market Participants* that have been granted aggregated status must, if required by *NEMMCO,* declare individual *generating unit, scheduled network service* or *scheduled load* availability and operating status to *NEMMCO* in the *PASA* process under clause 3.7 to allow *power system security* to be effectively monitored.

(g) *NEMMCO* must provide reasons to a *Scheduled Generator* or *Market Participant* whose application for aggregation is denied by *NEMMCO*.

(h) **[Deleted]**

(i) *NEMMCO* must notify *Scheduled Generators* and *Market Participants* of newly approved aggregations.

(j) *NEMMCO* must maintain a database of aggregated *scheduled generating units*, *scheduled network services* and *scheduled loads* and their components.

3.8.4 Notification of scheduled capacity

All *Scheduled Generators* and *Market Participants* with *scheduled generating units*, *scheduled network services* and/or *scheduled loads* must inform *NEMMCO* of their available capacity as follows in accordance with the *timetable*:

(a) *Scheduled Generators* and *Market Participants* must notify *NEMMCO* of the available capacity of each *scheduled generating unit*, *scheduled network service* and/or *scheduled load* for each *trading interval* of the *trading day*;

(b) subsequent *changes* may only be made to the information provided under clause 3.8.4(c), (d) and (e) in accordance with clause 3.8.22;

(c) for *Scheduled Generators*, two *days* ahead of each *trading day*:

(1) a MW capacity profile that specifies the MW available for each of the 48 *trading intervals* in the *trading day*;

(2) estimated *commitment* or *decommitment* times;

(3) daily *energy* availability for *energy constrained generating units*; and

(4) *ramp rate constraints*;

(d) for *scheduled loads*, two *days* ahead of each *trading day*:

(1) a MW capacity profile that specifies the MW available for *dispatch* for each of the 48 *trading intervals* in the *trading day*;

(2) daily *energy* availability for *energy constrained scheduled load*; and

(3) *ramp rate constraints*;

(e) for *scheduled network services*, two *days* ahead of each *trading day*:

(1) a MW capacity profile that specifies the *power transfer capability* in each direction available for each of the 48 *trading intervals* in the *trading day;* and

(2) *ramp rate constraints*.

3.8.5 Submission timing

(a) To be valid for inclusion in the *central dispatch* process, a *dispatch bid* or *dispatch offer* or *market ancillary service offer* must be submitted according to the *timetable*.

(b) Subject to clause 3.8.22, changes to the:

(1) MW quantities in the *dispatch bids;*

(2) MW quantities and *off-loading prices* in the *generation dispatch offers*; and

(3) MW quantities in the *network dispatch offers*,

may be made after the relevant deadline in the *timetable.*

(c) The submission of *dispatch bids*, *dispatch offers* and *market ancillary service offers* to *NEMMCO* must be made using the *electronic communication system* unless otherwise approved by *NEMMCO*.

3.8.6 Generating unit offers for dispatch

The following requirements apply to all *dispatch offers* for *scheduled generating units*:

(a) *dispatch offers* must contain the *Scheduled Generator's* intended *self-dispatch level* for each *trading interval*, and may contain up to 10 *price bands* which may be either for possible *dispatch* above the intended *self-dispatch level* or for possible *off-loading* below the intended *self-dispatch level* by *dispatch instruction*;

(b) the *dispatch offer* must specify for each of the 48 *trading intervals* in the *trading day*:

(1) a MW capacity for the intended *self-dispatch level*;

(2) an incremental MW amount for each *price band* specified in the *dispatch offer*; and

(3) a MW/min *ramp rate* capability;

(c) the MW quantities specified are to apply at the terminals of the *scheduled generating unit* or, with *NEMMCO*'s agreement, at any other point in the *Scheduled Generator's* electrical installation or on the *network*;

(d) a *dispatch offer* which specifies a *self-dispatch level* of more than zero must specify at least one *price band* for *off-loading* below the intended *self-dispatch level* and the total MW quantity in *price bands* specified for *off-loading* in each *trading interval* must equal the MW quantity of the *self-dispatch level* for that *trading interval* to enable possible *off-loading* to a zero *dispatch* level;

(e) the *dispatch offer* must specify a *loading price* or an *off-loading price* for each *price band* specified in the *dispatch offer*, in dollars and whole cents per MWh, and this price is to apply to the *price band* throughout the *trading day*;

(f) prices specified for each *price band* specified in the *dispatch offer* must increase monotonically with an increase in available MWs;

(g) prices specified are to apply at the *scheduled generating unit's connection point* and for the purposes of *central dispatch* shall be referred to the

regional reference node to which that *connection point* is assigned as follows:

RP = DOP ÷ LF

where

RP is the price specified in the *dispatch offer* when referred to the appropriate *regional reference node*;

DOP is the price as specified in the *dispatch offer*; and

LF where the *scheduled generating unit's connection point* is a *transmission network connection point*, is the *intra-regional loss factor* at that *connection point*, or where the *scheduled generating unit's connection point* is a *distribution network connection point*, is the product of the *distribution loss factor* at that *connection point* multiplied by the *intra-regional loss factor* at the *transmission network connection point* to which it is assigned;

(h) *loading prices* offered must be equal to or greater than $0/MWh and may not exceed the product of *VoLL* multiplied by the *intra-regional loss factor* at the *Scheduled Generator's transmission network connection point* for the *generating unit*;

(i) *off-loading prices* must be less than $0/MWh, i.e. negative in sign and may not be less than the product of the *market floor price* multiplied by the *intra-regional loss factor* at the *Scheduled Generator's transmission network connection point* for the *generating unit*;

(j) a *loading price* specified for a *price band* is to be interpreted as the minimum price at which up to the specified MW increment is to be loaded in the *central dispatch* process;

(k) **[Deleted]**

(l) an *off-loading price* specified for a *price band* is to be interpreted as the maximum price payable to *NEMMCO* by the *Scheduled Generator* in respect of the *generating unit*'s *sent out generation* with the *generating unit's* output reduced below its specified *self-dispatch level* in the *central dispatch* process by an amount less than the specified MW increment;

(m) the MW quantity specified in each *price band* in each *trading interval* must be specified in whole MW; and

(n) the *dispatch offer* may specify the daily *energy* available for *energy constrained generating units*.

3.8.6A Scheduled network service offers for dispatch

The following requirements apply to a *network dispatch offer* to provide *scheduled network services*:

(a) the *network dispatch offer* may contain up to a maximum of ten *price bands* for each direction of power flow for the *scheduled network service;*

(b) the *network dispatch offer* must specify for each of the 48 *trading intervals* in the *trading day*:

(1) an incremental power delivery range for each *price band* specified in the *network dispatch offer*; and

(2) a MW/min *ramp rate* capability;

(c) the *network dispatch offer* must specify a price for each *price band* in dollars and whole cents per MWh and this price is to apply to the *price band* throughout the *trading day;*

(d) within the set of *price bands* applying to a particular direction of power flow, prices specified for each *price band* specified in the *network dispatch offer* must increase monotonically with an increase in available MWs;

(e) if negative prices are employed, the absolute value of the most negative price in one direction cannot exceed the price for the first *price band* in the opposite direction, after adjustment for losses;

(f) the price specified in a *price band* for power transfer from the *scheduled network service's connection point* A to *connection point* B is to be interpreted in the *central dispatch* process as meaning that the *Scheduled Network Service Provider* is willing to deliver an increment of power to *connection point* B, within the power delivery range of the power band, provided that the net revenue which is expected to be derived from that increment per MWh delivered to *connection point* B is not less than the specified price;

(g) for the purposes of this clause 3.8.6A, the net revenue that a *Scheduled Network Service Provider* expects to receive for energy delivered by the *scheduled network service* to *connection point* B is to be determined as follows:

net revenue = $PB \times FB - PA \times FA$

where

PA and PB — are the prices at the *scheduled network service's connection points* A and B, which are assumed not to change as a result of the incremental transfer;

FA and FB — are the energy transfers scheduled by *central dispatch* for receipt by the *scheduled network service* at *connection point* A and delivery at *connection point* B respectively; and

FA and FB — are deemed to be related by the loss vs flow relationship notified in accordance with schedule 3.1;

(h) for the purposes of this clause 3.8.6A, the price at a *connection point* will be deemed to be related as follows to the price at the *regional reference node* to which that *connection point* is assigned:

$P = RP \times LF$

where

P is the price at the *connection point*;

RP is the price at the appropriate *regional reference node*; and

LF where the *scheduled network service's connection point* is a *transmission network connection point*, is the *intra-regional loss factor* at that *connection point*, or where the *scheduled network service's connection point* is a *distribution network connection point*, is the product of the *distribution loss factor* at that *connection point* multiplied by the *intra-regional loss factor* at the *transmission network connection point* to which it is assigned;

(i) prices specified in the *network dispatch offer* must not exceed *VoLL*; and

(j) the power delivery range specified in each *price band* in each *trading interval* must be specified in whole MW.

3.8.7 Bids for scheduled load

The following requirements apply to a *dispatch bid* for *scheduled loads*:

(a) the *dispatch bid* must specify whether the *scheduled load* is to be considered as *normally on* or *normally off*;

(b) the *dispatch bid* may contain up to a maximum of ten *price bands*;

(c) the *dispatch bid* must specify for each of the 48 *trading intervals* in the *trading day*:

(1) an incremental MW amount for each *price band* specified in the *dispatch bid*; and

(2) a MW/min *ramp rate* capability;

(d) the *dispatch bid* must specify a price for each *price band* in dollars and whole cents per MWh and this price is to apply to the *price band* throughout the *trading day*;

(e) prices specified for each *price band* specified in the *dispatch bid* must increase monotonically with an increase in available MWs;

(f) prices specified are to apply at the *scheduled load's connection point* and for the purposes of *central dispatch* shall be referred to the *regional reference node* to which that *connection point* is assigned as follows:

$$RP = DOP \div LF$$

where

RP is the price specified in the *dispatch bid* when referred to the appropriate *regional reference node*;

DOP is the price as specified in the *dispatch bid*; and

LF where the *scheduled load's connection point* is a *transmission network connection point*, is the *intra-regional loss factor* at that *connection point*, or where the *scheduled load's connection point* is a *distribution network connection point*, is the product of the *distribution loss factor* at that *connection point* multiplied by the *intra-regional loss factor* at the *transmission network connection point* to which it is assigned;

(g) MW quantities specified for a *price band* are to apply at the *scheduled load's connection point* or at any other point in the *Market Participant's* electrical installation or on the *network* as agreed to by *NEMMCO*;

(h) prices specified must be:

(1) more than the product of the *market floor price* multiplied by the *intra-regional loss factor* at the *scheduled load's transmission network connection point*; and

(2) less than the product of *VoLL* multiplied by the *intra-regional loss factor* at the *scheduled load's transmission network connection point*;

(i) for a *scheduled load* specified in the *dispatch bid* as being *normally on*, the price specified for a *price band* is to be interpreted in the *central dispatch* process as the price at or above which the *scheduled load* will reduce electricity consumed by up to the MW increment specified in that *price band*;

(j) for a *scheduled load* specified in the *dispatch bid* as being *normally off*, the price specified for a *price band* is to be interpreted in the *central dispatch*

process as the price at or below which the *scheduled load* will increase electricity consumed by up to the MW increment specified in that *price band*;

(k) the MW capacity quantity specified in each *price band* in each *trading interval* must be specified in whole MW;

(l) the sum of the MW quantities specified in each *price band* in any *trading interval* must not exceed the maximum capacity of the *scheduled load*; and

(m) the *dispatch bid* may specify the daily *energy* available for *energy constrained scheduled loads*.

3.8.7A Market ancillary services offers

The following requirements apply to all *market ancillary service offers* for each type of *market ancillary service*:

(a) the *market ancillary service offer* may contain up to 10 *price band*s;

(b) the *market ancillary service offer* must specify for each of the 48 *trading intervals* in the *trading day* an incremental MW amount for each *price band* specified in the *market ancillary service offer*;

(c) the MW quantities specified are to apply at the nominated *connection point* of the *Market Participant* or, with *NEMMCO's* agreement, at any other point in the *Market Participant's* electrical installation or on the *network*;

(d) the *ancillary service offer* must specify a price for each *price band* specified in the *market ancillary service offer*, in dollars and whole cents per MW per hour (an '*enabling price*'), and this price is to apply to the *price band* throughout the *trading day*;

(e) *enabling prices* for each *price band* specified in the *market ancillary service offer* must increase monotonically with an increase in available MWs;

(f) *enabling prices* are to apply at the nominated *connection point* of the *Market Participant* or, with *NEMMCO's* agreement, at any other point in the *Market Participant's* electrical installation or on the *network*;

(g) *enabling prices* offered must be equal to or greater than $0 per MW per hour and may not exceed *VoLL*;

(h) the *enabling price* for a *price band* is to be interpreted as the minimum price at which up to the specified MW response is to be enabled in the *central dispatch* process;

(i) the MW quantity in each *price band* in each *trading interval* must be specified in whole MW;

(j) the *market ancillary service offer* must include the following values:

(1) the *response breakpoint*;

(2) the upper and lower *enablement limits*; and

(3) the *response capability*; and

(k) an *Ancillary Service Provider* that submits a *market ancillary service offer* must ensure that the *ancillary service generating unit* or *ancillary service load*, as the case may be, is at all times capable of responding in the manner contemplated by the *market ancillary service specification*.

3.8.7B [Deleted]

3.8.8 Validation of dispatch bids and offers

(a) If a *dispatch offer*, *dispatch bid* or *market ancillary service offer* is made in accordance with clauses 3.8.6, 3.8.6A, 3.8.7 or 3.8.7A (whichever is applicable), *NEMMCO* must make available to the *Scheduled Generator* or *Market Participant* who submitted the *dispatch offer*, *dispatch bid* or *market ancillary service offer* the following information without delay:

(1) acknowledgement of receipt of a valid *dispatch offer*, *dispatch bid* or *market ancillary service offer*; and

(2) the data contained in the *dispatch offer*, *dispatch bid* or *market ancillary service offer* as it will be used by *NEMMCO* in the *central dispatch* process.

(b) It is the responsibility of each *Scheduled Generator* and *Market Participant* to check that the data contained in its *dispatch offer*, *dispatch bid* or *market ancillary service offer* as received and to be used by *NEMMCO* in the *central dispatch* process is correct.

(c) If a *dispatch offer*, *dispatch bid* or *market ancillary service offer* is not made in accordance with clauses 3.8.6, 3.8.6A, 3.8.7 or 3.8.7A (whichever is applicable), *NEMMCO* must not include that *dispatch offer*, *dispatch bid* or *market ancillary service offer* in the *central dispatch* process and must without delay notify the *Scheduled Generator* or *Market Participant* submitting the *dispatch offer*, *dispatch bid* or *market ancillary service offer* of its invalidity and provide to that *Scheduled Generator* or *Market Participant* details of the invalid data.

(d) If any details contained within a *dispatch offer*, *dispatch bid* or *market ancillary service offer* are inconsistent with the *registered bid and offer data* provided by the relevant *Scheduled Generator* or *Market Participant* then *NEMMCO* has the right to treat that *dispatch offer*, *dispatch bid* or *market ancillary service offer* as invalid and if it does so must notify the *Scheduled Generator* or *Market Participant* without delay.

3.8.9 Default offers and bids

(a) *Scheduled Generators* and *Market Participants* may, at any time, submit a *dispatch offer*, a *dispatch bid* or a *market ancillary service offer* in respect of a *scheduled generating unit*, *scheduled load*, *scheduled network service*, *ancillary service generating unit* or *ancillary service load* to apply from a specified future *trading day*.

(b) A *Scheduled Generator* or *Market Participant* may vary or withdraw a *default dispatch bid*, *default dispatch offer* or *market ancillary service offer* at any time prior to the deadline for submissions of *dispatch offers*, *dispatch bids* and *market ancillary service offers* for a *trading day* in accordance with the *timetable*.

(c) Subject to any procedures *published* in accordance with clause 3.8.9(d), *default dispatch offer*, *default dispatch bid* or *market ancillary service offer* applicable to a *trading day* must be included by *NEMMCO* in the *central dispatch* process when the deadline for submission of *dispatch offers*, *dispatch bids* and *market ancillary service offers* for that *trading day* arrives in accordance with the *timetable* if, and only if, no later valid *dispatch offer*, *dispatch bid* or *market ancillary service offer* has been submitted pursuant to clauses 3.8.6, 3.8.6A, 3.8.7, 3.8.7A or 3.8.9(b).

(d) *NEMMCO*, in consultation with *Scheduled Generators* and *Market Participants* in accordance with the *Rules consultation procedures*, must develop and *publish* procedures to determine the circumstances when *NEMMCO* may use a prior *dispatch offer* or *dispatch bid* lodged by a *Scheduled Generator* or *Market Participant* as a substitute for a *default dispatch offer* or *default dispatch bid*.

(e) *NEMMCO* may disregard a *default dispatch offer* or a *default dispatch bid* and substitute a prior *dispatch offer* or *dispatch bid* or *market ancillary service offer* lodged by a *Scheduled Generator* or a *Market Participant* determined in accordance with a procedure developed under clause 3.8.9(d) as input to *PASA*, *pre-dispatch* and *central dispatch*.

3.8.10 Network constraints

(a) In accordance with the *NEMMCO power system security responsibilities* and any other standards set out in Chapter 4, *NEMMCO* must determine any

constraints on the *dispatch* of *scheduled generating units*, *scheduled network services*, *scheduled loads*, *ancillary service generating units* or *ancillary service loads* which may result from planned *network outages*.

(b) *NEMMCO* must represent *intra-regional network constraints* and *inter-regional network constraints* as inputs to the *dispatch* process in a form that can be reviewed after the *trading interval* in which they occurred.

(c) The process used by *NEMMCO* to derive the *network constraints* must be clearly documented and made available to *Scheduled Generators* and *Market Participants*.

3.8.11 Ancillary services constraints

(a) *NEMMCO* must determine the quantity and nature of *ancillary services* which:

(1) have been provided or procured in accordance with the *NEMMCO power system security responsibilities* set out in clause 4.3.1 or are otherwise available;

(2) are required to be managed in conjunction with *dispatch*; and

(3) may impose constraints on *central dispatch*.

(a1) For each *dispatch interval NEMMCO* must impose constraints upon the *dispatch algorithm* to determine the quantity of each *global market ancillary service requirement* and any *local market ancillary service requirements*.

(b) **[Deleted]**

(c) **[Deleted]**

3.8.12 System reserve constraints

NEMMCO must use its reasonable endeavours to ensure that the *dispatch* process meets all requirements for *reserves* as described in Chapter 4.

3.8.13 Notification of constraints

NEMMCO must *publish* the parameters used in the *dispatch algorithm* for the modelling of *network constraints*, *regulating capability constraints*, *power system reserve constraints* and *ancillary services*.

3.8.14 Dispatch under conditions of supply scarcity

NEMMCO must ensure that, during times of *supply* scarcity, the actions set out below occur in the following sequence:

(a) subject to any adjustments which may be necessary to implement action under clause 3.8.14(c), all valid *dispatch bids* and *dispatch offers* submitted by *Scheduled Generators* or *Market Participants* are *dispatched*, including those priced at *VoLL*;

(b) subject to any adjustments which may be necessary to implement action under clause 3.8.14(c), after all valid *dispatch bids* and *dispatch offers* submitted by *Scheduled Generators* and *Market Participants* have been exhausted, *dispatch bids* or *dispatch offers* submitted by *NEMMCO* in respect of *plant* or *scheduled network services* under contracts for the provision of *reserves* are *dispatched;* and

(c) any further corrective actions required are implemented in accordance with clauses 4.8.5B and 4.8.9.

3.8.15 [Deleted]

3.8.16 Equal priced dispatch bids and dispatch offers

If there are *scheduled generating units* or *scheduled loads*, in the same *region*, for which the prices submitted in *dispatch bids* or *dispatch offers* for a particular *trading interval* result in identical prices at their *regional reference node*, then the MW quantities specified in the relevant *price bands* of those *dispatch bids* or *dispatch offers* must be *dispatched* on a pro-rata basis, where this can be achieved without imposing undue costs on any party, or violating other constraints.

3.8.17 Self-commitment

(a) *Slow start generating units* are *generating units* which are unable to *synchronise* and increase *generation* within 30 minutes of receiving an instruction from *NEMMCO*.

(b) *Slow start generating units* must *self-commit* to be eligible for *dispatch*.

(c) A *Generator* may only *self-commit* a *scheduled generating unit* in accordance with this clause.

(d) A *Scheduled Generator* has a right to *synchronise* its *generating unit* to the *power system* and have *NEMMCO dispatch* that *generating unit* subject to the *dispatch* procedures as set out in this clause 3.8.

(e) A *Scheduled Generator* must advise *NEMMCO* of its intention to *synchronise* a *generating unit* in the *PASA* process. The *Scheduled*

Generator advises this intention by submitting a capacity profile of the *generating unit* into the *market information bulletin board*.

(f) The exact time of *synchronisation* will be subject to directions from *NEMMCO* in accordance with Chapter 4.

(g) *Scheduled Generators* and *Market Participants* must notify *NEMMCO* of any changes to *self-commitment* decisions without delay.

(h) *NEMMCO* must notify all *Scheduled Generators* and *Market Participants* of any changes to *commitment* decisions without delay.

3.8.18 Self-decommitment

(a) A *Generator* may only *self-decommit* a *scheduled generating unit* in accordance with this clause.

(b) *Scheduled Generators* must notify *NEMMCO* of their planned *self-decommitment* decisions in relation to *slow start generating units* at least 2 *days* in advance of *dispatch*.

(c) *Scheduled Generators* and *Market Participants* must notify *NEMMCO* as soon as practicable of any changes in their *self-decommitment* decisions.

(d) *NEMMCO* must notify all *Scheduled Generators* and *Market Participants* of any changes to *de-commitment* decisions as soon as practicable.

3.8.19 Dispatch inflexibilities

(a) If a *Scheduled Generator* or *Market Participant* reasonably expects one or more of its *scheduled generating units*, *scheduled network services* or *scheduled loads* to be unable to operate in accordance with *dispatch instructions* in any *trading interval*, due to abnormal *plant* conditions or other abnormal operating requirements in respect of that *scheduled generating unit*, *scheduled network service* or *scheduled load*, it must advise *NEMMCO* through the *PASA* process or in its *dispatch offer* or *dispatch bid* in respect of that *scheduled generating unit*, *scheduled network service* or *scheduled load*, as appropriate under this Chapter, that the *scheduled generating unit*, *scheduled network service* or *scheduled load* is *inflexible* in that *trading interval* and must specify a fixed *loading level* at which the *scheduled generating unit*, *scheduled network service* or *scheduled load* is to be operated in that *trading interval*.

(b) Where a *Scheduled Generator* or *Market Participant* advises *NEMMCO* that a *scheduled generating unit*, *scheduled network service* or *scheduled load* is *inflexible* in accordance with clause 3.8.19(a) the *Scheduled Generator* or *Market Participant* must:

(1) provide *NEMMCO* with a brief, verifiable and specific reason why the *scheduled generating unit, scheduled network service* or *scheduled load* is *inflexible* at the same time as it advises *NEMMCO* of the *inflexibility*; and

(2) provide to the *AER*, upon written request, in accordance with the guidelines issued by the *AER* from time to time in accordance with the *Rules consultation procedures* such additional information to substantiate and verify the reason for such *inflexibility* as the *AER* may require from time to time. The *AER* must provide information provided to it in accordance with this clause 3.8.19(b)(2) to any *Market Participant* that requests such information, except to the extent that the information can be reasonably claimed to be *confidential information.*

(c) Other than in *trading intervals* for which it has been specified by a *Scheduled Generator* or *Market Participant* in the relevant *dispatch offer* or *dispatch bid* for a *scheduled generating unit, scheduled network service* or *scheduled load* that the *scheduled generating unit, scheduled network service* or *scheduled load* is *inflexible*, then *NEMMCO* will *dispatch* the *scheduled generating unit, scheduled network service* or *scheduled load* in accordance with the prices and *price bands* specified in the relevant *dispatch offer* or *dispatch bid*.

(d) In respect of *scheduled loads* or *scheduled generating units* which are not *slow start generating units*, *Scheduled Generators* and *Market Participants* may provide *NEMMCO*, as part of the *registered bid and offer data* in respect of those *scheduled loads* or *generating units*, with a *dispatch inflexibility profile*.

(e) A *dispatch inflexibility profile* for a *generating unit* must contain the following parameters to indicate its MW capacity and time related *inflexibilities*:

(1) The time, T1, in minutes, following the issue of a *dispatch instruction* by *NEMMCO* to increase its loading from 0 MW, which is required for the *plant* to begin to vary its *dispatch* level from 0 MW in accordance with the instruction;

(2) The time, T2, in minutes, that the *plant* requires after T1 (as specified in clause 3.8.19(e)(1)) to reach a specified minimum MW *loading level*;

(3) The time, T3, in minutes, that the *plant* requires to be operated at or above its minimum *loading level* before it can be reduced below that level;

(4) The time, T4, in minutes, following the issue of a *dispatch instruction* by *NEMMCO* to reduce loading from the minimum *loading level* (specified under clause 3.8.19(e)(2)) to zero, that the *plant* requires to completely comply with that instruction.

(5) T1, T2, T3 and T4 must all be equal to or greater than zero.

(6) The sum (T1 + T2) must be less than or equal to 30 minutes.

(7) The sum (T1 + T2 + T3 + T4) must be less than 60 minutes.

(e1) A *dispatch inflexibility profile* for a *scheduled load* must contain parameters to indicate its MW capacity and time related *inflexibilities*.

(f) *NEMMCO* must use reasonable endeavours not to issue a *dispatch instruction* which is inconsistent with a *Scheduled Generator's* or *Market Participant's dispatch inflexibility profile*.

3.8.20 Pre-dispatch schedule

(a) Each *day*, in accordance with the *timetable*, *NEMMCO* must prepare and *publish* a *pre-dispatch schedule* covering each *trading interval* of the period commencing from the next *trading interval* after the current *trading interval* up to and including the final *trading interval* of the last *trading day* for which all valid *dispatch bids* and *dispatch offers* have been received in accordance with the *timetable* and applied by the *pre-dispatch* process.

(b) The *pre-dispatch* process is to have a resolution of one *trading interval* and no analysis will be made of operations within the *trading interval*, other than to ensure that *contingency capacity reserves* are adequate as set out in Chapter 4.

(c) *NEMMCO* must determine the *pre-dispatch schedule* for each *trading interval* on the basis of *dispatch bids*, *dispatch offers* and *market ancillary service offers* submitted for that *trading interval* and *NEMMCO's* forecast *power system load* for each *region* for that *trading interval*, and by using a process consistent with the principles for *central dispatch* as set out in clause 3.8.1.

(d) In determining the *pre-dispatch schedule NEMMCO* shall not take account of any *dispatch inflexibility profile* submitted in accordance with clause 3.8.19.

(e) Any inputs made to the *pre-dispatch* process by *NEMMCO* for the purpose of achieving a physically realisable schedule or to satisfy *power system security* requirements must be made prior to release of the *pre-dispatch schedule* and recorded by *NEMMCO* in a manner suitable for audit.

(f) The *pre-dispatch schedule* must include the details set out in clause 3.13.4(f).

(g) Each *Scheduled Generator*, *Scheduled Network Service Provider* and *Market Customer* which has classified a *scheduled load* and *Market Participant* (which has classified an *ancillary service generating unit* or *ancillary service load*) must ensure that it is able to *dispatch* its plant as required under the *pre-dispatch schedule* and is responsible for changing inputs to the *central dispatch* process, if necessary to achieve this, via the rebidding provisions under clause 3.8.22.

(h) The *pre-dispatch schedule* must be re-calculated and the results re-*published* by *NEMMCO* regularly in accordance with the *timetable*, or more often if a change in circumstances is deemed by *NEMMCO* to be likely to have a significant effect on the operation of the *market*.

(i) *NEMMCO* must fully document the operation of the *pre-dispatch* process, including the principles adopted in making calculations required to be included and all such documentation must be made available to *Scheduled Generators* and *Market Participants* at a fee to be set by *NEMMCO* to cover its costs of supplying such documentation.

(j) The following *pre-dispatch* outputs relating specifically to a *generating unit*, *scheduled network service*, *scheduled load* or *ancillary service load* operated by a *Scheduled Generator* or *Market Participant* must be made available electronically to that *Scheduled Generator* or *Market Participant* on a confidential basis:

(1) the scheduled times of *commitment* and *de-commitment* of individual *slow start generating units*;

(2) scheduled half hourly *loading* for each scheduled entity;

(3) scheduled provision of *ancillary services*;

(4) scheduled *constraints* for the provision of *ancillary services*; and

(5) scheduled *constraints* due to *network* limitations.

(k) Where the *pre-dispatch schedule* may have failed to maximise the joint value of *energy* and *ancillary services pre-dispatch* outputs of a *scheduled generating unit*, due to the *scheduled generating unit* operating outside its *enablement limit*, *NEMMCO* must notify the *Scheduled Generator* or *Market Participant* operating the *scheduled generating unit*, electronically on a confidential basis.

3.8.21 On-line dispatch process

(a) *Dispatch bids* and *dispatch offers* must be *centrally dispatched* by *NEMMCO* using the *dispatch algorithm*.

(a1) A *dispatch interval* is to be five minutes in duration.

(b) The *dispatch algorithm* is to be run by *NEMMCO* for each *dispatch interval*. If the *dispatch algorithm* is not successfully run for any *dispatch interval* then the values of the last successful run of the *dispatch algorithm* must be used for that *dispatch interval*.

(c) *Central dispatch* results in the setting of *dispatch prices* and *ancillary services prices* for each *dispatch interval* and *spot prices* for each *trading interval* in accordance with clause 3.9.

(d) Where possible, *dispatch instructions* will be issued electronically via the *automatic generation control system* or via an electronic display in the *Scheduled Generator's* or *Market Participant's plant* control room. *NEMMCO* may issue *dispatch instructions* in some other form if in its reasonable opinion the methods described in this clause 3.8.21(d) are not possible.

(e) A *Scheduled Generator* or *Market Participant* must ensure it has facilities to receive *dispatch instructions* in the manner described in this clause.

(f) *Dispatch instructions* that are issued via the *automatic generation control system* are to be issued progressively at intervals of no more than 5 minutes following re-evaluation of *central dispatch* to achieve a prompt and smooth implementation of the outcomes of each *central dispatch* update.

(g) With the exception of instructions issued by telephone, all *dispatch instructions* and the times at which they are issued are to be logged automatically and *dispatch instructions* that are issued by telephone must be recorded by *NEMMCO*.

(h) *NEMMCO* may modify or override the *dispatch algorithm* outcome in accordance with the requirements of clause 4.8.9 or due to *plant* not conforming to *dispatch instructions* and in such circumstances *NEMMCO* must record the details of the event and the reasons for its action for audit purposes.

(i) **[Deleted]**

(j) If a *scheduled load* or *scheduled generating unit,* in respect of which a *dispatch inflexibility profile* has been notified to *NEMMCO* in accordance with clause 3.8.19, is *dispatched* from 0 MW in any *dispatch interval* by the *central dispatch* process, then the specified *dispatch inflexibility profile*

must be used by *NEMMCO* as a *constraint* on the *dispatch* of that *plant* for the relevant subsequent *dispatch intervals*.

(k) A *scheduled load* or *generating unit* whose *dispatch* is *constrained* in any *dispatch interval* due to a *dispatch inflexibility profile* submitted under clause 3.8.19 cannot be used as the basis for setting the *dispatch price* in that *dispatch interval* at any location.

(l) *NEMMCO* must fully document the operation of the process described in this clause 3.8.21, including the software, algorithms, and the principles adopted in making judgments where they are required in the process and all such documentation must be made available to *Scheduled Generators* and *Market Participants* at a price reflective of costs incurred by *NEMMCO* in providing such documentation.

(m) Where the *central dispatch* process may have failed to *dispatch* a *scheduled generating unit* to maximise the joint value of *energy* and *ancillary services* due to the *scheduled generating unit* operating outside its *enablement limit*, *NEMMCO* must notify the *Scheduled Generator* or *Market Participant* operating the *scheduled generating unit* on a confidential basis.

3.8.22 Rebidding

(a) Prices for each *price band* that are specified in *dispatch bids, dispatch offers* and *market ancillary service offers* are firm and no changes to the price for any *price band* are to be accepted under any circumstances.

(b) Subject to clauses 3.8.22(c) and 3.8.22A, a *Scheduled Generator* or *Market Participant* may vary its available capacity, daily *energy constraints*, *dispatch inflexibilities* and *ramp rates* of *generating units*, *scheduled network services* and *scheduled loads*, and the *response breakpoints*, *enablement limits* and response limits of *market ancillary services*.

(c) A *Scheduled Generator* or *Market Participant* must provide:

(1) all *rebids* to *NEMMCO* electronically unless otherwise approved by *NEMMCO;*

(2) to *NEMMCO*, at the same time as the *rebid* is made:

(i) a brief, verifiable and specific reason for the *rebid;* and

(ii) the time at which the event(s) or other occurrence(s) adduced by the *Scheduled Generator* or *Market Participant* as the reason for the *rebid* occurred;

(3) to the *AER*, upon written request, in accordance with guidelines published by the *AER* from time to time under this clause 3.8.22 in

accordance with the *Rules consultation procedures* such additional information to substantiate and verify the reason for a *rebid* as the *AER* may require from time to time. The *AER* must provide information provided to it in accordance with this clause 3.8.22(c)(3) to any *Scheduled Generator* or *Market Participant* that requests such information, except to the extent that the information can be reasonably claimed to be *confidential information*. The guidelines developed by the *AER* under this clause 3.8.22(c)(3) must include:

(i) the amount of detail to be included in the information provided to *NEMMCO* under clause 3.8.22(c)(2); and

(ii) procedures for handling claims by *Scheduled Generators* or *Market Participants* in accordance with clause 3.8.22(c)(3) or 3.8.19(b)(2) that information provided to the *AER* by such *Scheduled Generators* or *Market Participants* under those clauses is *confidential information.*

The *AER* must publish the guidelines developed under this clause 3.8.22 and may amend such guidelines from time to time.

(d) *NEMMCO* must:

(1) subject to the *Scheduled Generator* or *Market Participant* complying with clause 3.8.22(c)(1) and (c)(2)(i) and (ii), accept the *rebid;* and

(2) *publish*, in accordance with clause 3.13.4(p), the time the *rebid* was made and the reason provided by the *Scheduled Generator* or *Market Participant* under clause 3.8.22(c)(2)(i).

3.8.22A Variation of offer, bid or rebid

(a) *Scheduled Generators* and *Market Participants* must make *dispatch offers, dispatch bids* and *rebids* in good faith.

(b) In clause 3.8.22A(a) a *dispatch offer*, *dispatch bid* or *rebid* is taken to be made in good faith if, at the time of making such an offer, bid or *rebid*, a *Scheduled Generator* or *Market Participant* has a genuine intention to honour that offer, bid or *rebid*, if the material conditions and circumstances upon which the offer, bid or *rebid* were based remain unchanged until the relevant *dispatch interval*.

(c) A *Scheduled Generator* or *Market Participant* may be taken to have contravened clause 3.8.22A(a) notwithstanding that, after all the evidence has been considered, the intention of the *Scheduled Generator* or *Market Participant* is ascertainable only by inference from the conduct of the *Scheduled Generator* or *Market Participant*, or of any other person, or from relevant circumstances.

3.8.23 Failure to conform to dispatch instructions

(a) If a *scheduled generating unit*, *scheduled network service* or *scheduled load* fails to respond to a *dispatch instruction* within a tolerable time and accuracy (as determined in *NEMMCO's* reasonable opinion), then:

(1) the *scheduled generating unit*, *scheduled network service* or *scheduled load* (as the case may be) is to be declared and identified as non-conforming; and

(2) the *scheduled generating unit*, *scheduled network service* or *scheduled load* (as the case may be) cannot be used as the basis for setting *spot prices*.

(3) **[Deleted]**

(b) If a *scheduled generating unit*, *scheduled network service* or *scheduled load* is identified as non-conforming under clause 3.8.23(a):

(1) *NEMMCO* must advise the *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* that the *generating unit*, *scheduled network service* or *scheduled load* is identified as non-conforming, and request a reason for the non-compliance with the *dispatch instruction*, which reason is to be logged;

(2) if in *NEMMCO's* opinion modification of *plant* parameters is necessary or desirable, *NEMMCO* must request the *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* to submit modified *plant* parameters to satisfy *NEMMCO* that a realistic real time *dispatch* schedule can be carried out;

(3) should a *Scheduled Generator* fail to meet the requests set out in clauses 3.8.23(b)(1) and (2) or if *NEMMCO* is not satisfied that the *generating unit* will respond to future *dispatch instructions* as required, *NEMMCO* must direct the *generating unit's* output to follow, as far as is practicable, a specified output profile to be determined at its discretion by *NEMMCO*;

(4) should a *Scheduled Network Service Provider* fail to meet the requests set out in clauses 3.8.23(b)(1) and (2) or if *NEMMCO* is not satisfied that the *scheduled network service* will respond to future *dispatch instructions* as required, *NEMMCO* must direct the *scheduled network service* to follow, as far as is practicable, a specified transfer profile to be determined at its discretion by *NEMMCO*; and

(5) should a *Market Customer* not meet the requests set out in clauses 3.8.23(b)(1) and (2) within a reasonable time of the request, or if *NEMMCO* is not satisfied that the *scheduled load* will respond to

future *dispatch instructions* as required, *NEMMCO* acting reasonably may invoke a *default dispatch bid* lodged by the relevant *Market Customer* or apply *constraints* as it deems appropriate.

(c) Until a *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* satisfactorily responds to the requests under clauses 3.8.23(b)(1) and (2) and *NEMMCO* is satisfied that the *generating unit*, *scheduled network service* or *scheduled load* (as the case may be) will respond to future *dispatch instructions* as required, the *generating unit*, *scheduled network service* or *scheduled load* (as the case may be) continues to be non-conforming.

(d) If a *generating unit*, *scheduled network service* or *scheduled load* (as the case may be) continues to be non-conforming after a reasonable period of time, *NEMMCO* must prepare a report setting out the details of the non-conformance and forward a copy of the report to the *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* (as the case may be) and the *AER*.

(e) The direction referred to in clauses 3.8.23(b)(3) and (4) must remain in place until the *Scheduled Generator* or *Scheduled Network Service Provider* (whichever is relevant) satisfies *NEMMCO* of rectification of the cause of the non-conformance.

(f) If an *ancillary service generating unit* or *ancillary service load* is *enabled* to provide a *market ancillary service* and fails to respond in the manner contemplated by the *market ancillary service specification* (as determined in *NEMMCO's* reasonable opinion), then:

(1) the *ancillary service generating unit* or *ancillary service load* is to be declared and identified as non-conforming;

(2) *NEMMCO* must advise the relevant *Market Participant* that the *ancillary service generating unit* or *ancillary service load* is identified as non-conforming, and request a reason for the non-conformance. The relevant *Market Participant* must promptly provide a reason if requested to do so, and the reason is to be logged; and

(3) *NEMMCO* may set a fixed level for the relevant *ancillary service* (in this clause 3.8.23 called the 'fixed constraint') for the *ancillary service generating unit* or *ancillary service load* and the relevant *Market Participant* must ensure that the *ancillary service generating unit* or *ancillary service load* complies with the fixed constraint set by *NEMMCO*.

(g) *NEMMCO* must lift the fixed constraint in respect of an *ancillary service generating unit* or *ancillary service load* when *NEMMCO* is reasonably satisfied (as a result of a test or otherwise) that the *ancillary service*

generating unit or *ancillary service load* is capable of responding in the manner contemplated by the *market ancillary service specification*.

(h) In assessing a report of non-conformance with a *dispatch instruction* by a *scheduled load*, the *AER* shall have regard to whether a *default dispatch bid* had been lodged with *NEMMCO* and was, or could have reasonably been, applied in the circumstances applicable to that *scheduled load*.

3.8.24 Scheduling errors

If either:

(a) the *dispute resolution panel* determines under clause 8.2 that *NEMMCO* has failed to follow the *central dispatch* process set out in this clause 3.8; or

(b) *NEMMCO* declares that it has made a *scheduling error*,

a *scheduling error* will be deemed to have occurred. *Spot prices* and *ancillary service prices* will not be adjusted when a *scheduling error* is deemed to have occurred.

3.9 Price Determination

3.9.1 Principles applicable to spot price determination

(a) The principles applying to the determination of prices in the *spot market* are as follows:

(1) a *dispatch price* at a *regional reference node* is determined by the *central dispatch* process for each *dispatch interval*;

(2) a *spot price* at a *regional reference node* is the time-weighted average of the *dispatch prices* at that *regional reference node* in a *trading interval*;

(2A) the *central dispatch* process must determine an *ancillary service price* for each *market ancillary service* at each *regional reference node* for every *dispatch interval*;

(3) *dispatch prices* determine *dispatch* such that a *generating unit* or *load* whose *dispatch bid* or *dispatch offer* at a location is below the *spot price* at that location will normally be *dispatched*;

(3A) *generating units*, *scheduled network services* or *scheduled loads* which operate in accordance with a *direction*, are to be taken into account in the *central dispatch* process, but the *dispatch offer*, in the case of a *generating unit* or *scheduled network service*, which operates in accordance with a *direction*, or the *dispatch bid*, in the case of a

scheduled load which operates in accordance with a *direction*, will not be used in the calculation of the *dispatch price* in the relevant *dispatch interval*;

(3B) *ancillary service generating units* and *ancillary service loads* the subject of a fixed constraint (within the meaning of clause 3.8.23(f)) are to be taken into account in the *central dispatch* process, but the price in a *market ancillary service offer* which operates in accordance with a fixed constraint will not be used in the calculation of the *ancillary service price* for that *market ancillary service* in the relevant *dispatch interval*;

(3C) *generating units* or *loads* which operate in accordance with a *direction* to provide an *ancillary service* are to be taken into account in the *central dispatch* process, but the price in a *market ancillary service offer* which operates in accordance with a *direction*, will not be used in the calculation of the *ancillary service price* for that *market ancillary service* in the relevant *dispatch interval*;

(4) *network losses*, *network constraints*, the availability of *scheduled network services* and *network dispatch offers* are taken into account in the determination of *dispatch* and consequently affect *dispatch prices*, *spot prices* and (apart from *network losses*) *ancillary services prices*;

(5) where the *energy* output of a *Registered Participant* is limited above or below the level at which it would otherwise have been *dispatched* by *NEMMCO* on the basis of its *dispatch offer* or *dispatch bid* due to an *ancillary services direction*, the *Registered Participant's dispatch offer* or *dispatch bid* is taken into account in the determination of *dispatch* but the *dispatch offer* or *dispatch bid* will not be used in the calculation of the *dispatch price* for *energy* in the relevant *dispatch interval*;

(5A) *market ancillary service offers*, in other *ancillary services markets*, due to an *ancillary services direction* are taken into account in the determination of *dispatch* and consequently affect *ancillary service prices* in those other *ancillary services markets*;

(6) when the *spot price* is determined, it applies to both sales and purchases of electricity at a particular location and time;

(6A) when an *ancillary service price* is determined for an *ancillary service*, it applies to purchases of that *ancillary service*;

(7) *spot prices* and *dispatch prices* provide *Market Participants* with signals as to the value of providing or cost of consuming electricity at a particular location at a particular time; and

(7A) *ancillary service prices* provide *Ancillary Service Providers* with signals as to the value of providing the relevant *market ancillary service* within a particular *region* at a particular time.

(8) **[Deleted]**

(b) A single *regional reference price* which is the *spot price* at the *regional reference node* provides a reference from which the *spot prices* are determined within each *region*.

(c) The *local spot price* at each *transmission network connection point* is the *spot price* at the *regional reference node* for the *region* to which the *connection point* is assigned multiplied by the *intra-regional loss factor* applicable to that *connection point*.

3.9.2 Determination of spot prices

(a) **[Deleted]**

(b) **[Deleted]**

(c) Each time the *dispatch algorithm* is run by *NEMMCO*, it must determine a *dispatch price* for each *regional reference node* for a *dispatch interval* in accordance with clause 3.8.21(b), provided that if *NEMMCO* fails to run the *dispatch algorithm* to determine *dispatch prices* for any *dispatch interval* then the *dispatch price* for that *dispatch interval* is the last *dispatch price* determined by the *dispatch algorithm* prior to the relevant *dispatch interval*.

(d) The *dispatch price* at a *regional reference node* represents the marginal value of *supply* at that location and time, this being determined as the price of meeting an incremental change in *load* at that location and time in accordance with clause 3.8.1(b).

(e) Notwithstanding clauses 3.9.2(c) or (d), for any *dispatch interval* if:

(1) the *dispatch price* for that *dispatch interval* has not already been set by the *central dispatch* process and *NEMMCO* reasonably determines that the *central dispatch* process may determine that:

(i) all *load* in a *region* could not otherwise be supplied and *NEMMCO* issues instructions that are current for that *dispatch interval* to *Network Service Providers* or *Market Participants* to shed *load*; or

(ii) no more *interruptible load* that had been shed as a result of a *contingency event* can be restored in a *dispatch interval* immediately following the restoration of the frequency of the

power system to within the normal band of the *frequency operating standards*,

then, subject to 3.9.2(f), *NEMMCO* must set the *dispatch price* at that *region's regional reference node* to equal *VoLL*;

(2) *NEMMCO* has declared a *dispatch interval* to be an *intervention price dispatch interval* under clause 3.9.3(a), then subject to clauses 3.9.3(a2) and 3.9.3(a3) *NEMMCO* must set the *dispatch price* in accordance with clause 3.9.3; and

(3) **[Deleted]**

(4) an *administered price period* in accordance with clause 3.14 applies, then *NEMMCO* must limit the *dispatch price* in accordance with clause 3.14.2(c)(1).

(f) If *interruptible load* is shed as a result of a *contingency event* and *NEMMCO* has not set the *dispatch price* to equal *VoLL* pursuant to clause 3.9.2(e)(1)(i), *NEMMCO* must not set the *dispatch price* to *VoLL* pursuant to clause 3.9.2(e)(1)(ii) prior to the commencement of the third *dispatch interval* following the restoration of the *power system* to a *secure operating state* and the restoration of the *frequency* of the *power system* to the normal band of the *frequency operating standards*.

(g) **[Deleted]**

(h) The *spot price* at a *regional reference node* for a *trading interval* equals the time weighted average of the *dispatch prices* at the *regional reference node* for each of the *dispatch intervals* in the *trading interval*, provided that if *NEMMCO* has made a declaration that the *market* is suspended under clause 3.14.3, then the *spot price* in any *trading interval* during the period during which the *spot market* is suspended must be determined in accordance with clause 3.14.5.

(i) **[Deleted]**

(j) **[Deleted]**

(k) If a test is being conducted on a *generating unit* or *scheduled load* in accordance with clause 3.11.7 and for the purpose of conducting that test, the *generating unit* or *scheduled load* is excluded from *central dispatch*, then that *generating unit* or *scheduled load* cannot be used to set the *dispatch price* for *energy* in the relevant *dispatch interval*.

3.9.2A Determination of ancillary services prices

(a) Each time the *dispatch algorithm* is run by *NEMMCO*, it must determine an *ancillary service price* for each *market ancillary service* for each *regional reference node* which is to apply until the next time the *dispatch algorithm* is run, provided that if *NEMMCO* fails to run the *dispatch algorithm* to determine *ancillary service prices* for any *dispatch interval* then the *ancillary service price* for that *dispatch interval* is the last *ancillary service price* determined by the *dispatch algorithm* prior to the relevant *dispatch interval*.

(b) For each *market ancillary service*, other than the *regulating raise service* and the *regulating lower service*, each time the *dispatch algorithm* is run by NEMMCO where a local *ancillary services* constraint has been applied, NEMMCO must:

(1) calculate the marginal price of meeting any *global market ancillary service requirement* for that service;

(2) calculate the marginal price of meeting each *local market ancillary service requirement* for that service and;

(3) identify for each *local market ancillary service requirement* the *regions* requiring the service.

(b1) An *ancillary service price* for a *region* is the sum of:

(1) the marginal price of meeting any *global market ancillary service requirement* for that service; and

(2) the marginal price of meeting each *local market ancillary service requirement* for that service in that *region*.

(c) If an *ancillary service price* determined using the *dispatch algorithm* under clause 3.9.2A(a):

(1) is less than zero, then the *ancillary service price* is reset to zero; and

(2) is greater than *VoLL*, then the *ancillary service price* is reset to *VoLL*.

(c1) If a marginal price calculated pursuant to clause 3.9.2A(b) is greater than *VoLL*, then that marginal price is reset to *VoLL*.

(d) If a test is being conducted on a *generating unit* or *scheduled load* in accordance with clause 3.11.7 and for the purpose of conducting that test, the *generating unit* or *scheduled load* is excluded from *central dispatch*, then that *generating unit* or *scheduled load* cannot be used to set *market ancillary service prices*.

3.9.3 Pricing in the event of intervention by NEMMCO

(a) In respect of a *dispatch interval* in which *NEMMCO dispatches plant* provided under a *reserve contract*, or a *direction* is in effect, *NEMMCO* must declare the next *dispatch interval* to be an *intervention price dispatch interval*.

(a1) Subject to clauses 3.9.3(a2) and 3.9.3(a3), *NEMMCO* must in accordance with the methodology or assumptions *published* pursuant to clause 3.9.3(b) set the *dispatch price* and *ancillary service prices* for an *intervention price dispatch interval* at the value which *NEMMCO*, in its reasonable opinion, considers would have applied as the *dispatch price* and *ancillary service prices* for that *dispatch interval* in the relevant *region* had the *plant* provided under the *reserve contract* not been *dispatched* or had the *direction* not been issued.

(a2) *NEMMCO* may continue to set *dispatch prices* pursuant to clause 3.9.2 and *ancillary service prices* pursuant to clause 3.9.2A until the later of:

(1) the second *dispatch interval* after the first *dispatch interval* in which the *direction* has effect or *NEMMCO dispatches plant* provided under a *reserve contract*; or

(2) if applicable, the second *dispatch interval* after the restoration of the *power system* to a *secure operating state* after the *direction* was issued,

provided that *NEMMCO* must use its reasonable endeavours to set *dispatch prices* and *ancillary service prices* pursuant to clause 3.9.3 as soon as reasonably practicable following a *direction* or *dispatch* of *plant* provided under a *reserve contract.*

(a3) *NEMMCO* must continue to set *dispatch prices* pursuant to clause 3.9.2 and *ancillary service prices* pursuant to clause 3.9.2A if a *direction* given to a *Registered Participant* in respect of *plant* at the *regional reference node* would not in *NEMMCO's* reasonable opinion have avoided the need for the *direction* issued.

(b) *NEMMCO* must develop in accordance with the *Rules consultation procedures* and *publish* details of the methodology it will use, and any assumptions it may be required to make, to determine *dispatch prices* and *ancillary service prices* for the purposes of clause 3.9.3(a1). The methodology must wherever reasonably practicable:

(1) be consistent with the principles for *spot price* determination set out in clause 3.9.1;

(2) enable *NEMMCO* to determine and *publish* such prices in accordance with clause 3.13.4; and

(3) be consistent with the principles for *ancillary service price* determination set out in clauses 3.9.2 and 3.9.2A.

(c) **[Deleted]**

3.9.4 VoLL

(a) *VoLL* is a price cap which is to be applied to *dispatch prices*.

(b) The value of *VoLL* is $10,000/MWh.

(c) By 30 April each year the *Reliability Panel* must conduct a review in accordance with the *Rules consultation procedures* and publish a report on the value of *VoLL* that it recommends should apply from 1 July in the year commencing 2 years after the year in which the review is conducted. In conducting a review in accordance with this clause 3.9.4(c) the *Reliability Panel* must have regard, in addition to any other *Rules* obligations, to the potential impact of any proposed increase in *VoLL* on:

(1) *spot prices*;

(2) investment in the national electricity market; and

(3) the reliability of the *power system*.

(c1) The value of *VoLL* recommended by the *Reliability Panel* must be a level which the *Reliability Panel* considers will:

(1) allow the standard for reliability established by the *Reliability Panel* as part of the *power system security and reliability standards* to be satisfied without use of *NEMMCO's* powers to intervene under clauses 4.8.6(a) and 4.8.9(a);

(2) in conjunction with other provisions of the *Rules*, not create risks which threaten the overall integrity of the *market*; and

(3) take into account any other matters the *Reliability Panel* considers relevant.

(c2) The *Reliability Panel's* report must set out the conclusions of its review and the recommendation in relation to the level of *VoLL* along with supporting information including:

(1) details of all relevant *market* conditions and circumstances on which the recommendation is based; and

(2) an assessment of whether the level of *VoLL* together with the operation of the *cumulative price threshold* has achieved the objectives set out in clauses 3.9.4(c1)(1) and (2).

(d) As part of the review conducted pursuant to clause 3.9.4(c), the *Reliability Panel* may review the value of *VoLL* for the year commencing on 1 July in the year following the year in which the current review is conducted. The *Reliability Panel* may only recommend a change to the level of *VoLL* for the year commencing on 1 July in the year following the year in which the review is being conducted where:

(1) in the *Reliability Panel's* opinion, it is highly probable that the relevant *market* conditions and circumstances on which the recommendation for that year were based as stated in the report from the Panel under clause 3.9.4(c) will not eventuate; and

(2) the *Reliability Panel* has given due consideration to the impact of the change to the value of *VoLL* on *Market Participants* and in the event of a decrease in the level of *VoLL*, any alternative arrangements considered necessary to ensure that the reliability standard set out in the *power system security and reliability standards* is maintained.

3.9.5 Application of VoLL

(a) *Dispatch prices* at *regional reference nodes* must not exceed *VoLL*.

(b) If *central dispatch* and determination of *dispatch prices* in accordance with clauses 3.8, 3.9.2 and 3.9.3 would otherwise result in a *dispatch price* greater than *VoLL* at any *regional reference node*, then subject to clause 3.9.5(c), the *dispatch price* at that *regional reference node* must be set to *VoLL*.

(c) If the *dispatch price* at any *regional reference node* is set to *VoLL* under clause 3.9.2 or clause 3.9.5 then *dispatch prices* at all other *regional reference nodes* connected by a *regulated interconnector* or *regulated interconnectors* that have an *energy* flow towards that *regional reference node* must not exceed the product of *VoLL* multiplied by the average *loss factor* for that *dispatch interval* between that *regional reference node* and the *regional reference node* at which *dispatch prices* have been set to *VoLL* determined in accordance with clause 3.9.5(d).

(d) *NEMMCO* must determine the average *loss factors* applicable to clause 3.9.5(c) by reference to the *inter-regional loss factor* equations relating to the relevant *regulated interconnector*.

3.9.6 Market Floor Price

(a) The *market floor price* is a price floor which is to be applied to *dispatch prices*.

(b) The value of the *market floor price* is $-1,000/MWh.

(c) By 30 April each year the *Reliability Panel* must, as part of its review of *VoLL* under clause 3.9.4(c), conduct a review in accordance with the *Rules consultation procedures* and publish a report on the value of the *market floor price* that it recommends should apply from 1 July in the year commencing after the year in which the review is conducted.

(d) The value of the *market floor price* recommended by the *Reliability Panel* must be a level which the *Reliability Panel* considers will:

(1) allow the *market* to clear in most circumstances;

(2) not create substantial risks which threaten the overall stability and integrity of the *market*; and

(3) take into account any other matters the *Reliability Panel* considers relevant.

(e) The *Reliability Panel's* report must set out the conclusions of its review and the recommendation in relation to the level of the *market floor price*, including details of all relevant *market* conditions and circumstances on which the recommendation is based.

3.9.6A Application of the Market Floor Price

(a) *Dispatch prices* at *regional reference nodes* must not be less than the *market floor price*.

(b) If *central dispatch* and determination of *dispatch prices* in accordance with clauses 3.8, 3.9.2 and 3.9.3 would otherwise result in a *dispatch price* less than the *market floor price* at any *regional reference node*, then subject to clause 3.9.6A(c), the *dispatch price* at that *regional reference node* must be set to the *market floor price*.

(c) If the *dispatch price* at any *regional reference node* is set to the *market floor price* under clause 3.9.6A then *dispatch prices* at all other *regional reference nodes* connected by a *regulated interconnector* or *regulated interconnectors* that have an *energy* flow towards that *regional reference node* must be equal to or greater than the product of *market floor price* multiplied by the average *loss factor* for that *dispatch interval* between that *regional reference node* and the *regional reference node* at which *dispatch*

prices have been set to the *market floor price* in accordance with clause 3.9.6A.

(d) *NEMMCO* must determine the average *loss factors* applicable to clause 3.9.6A(c) by reference to the *inter-regional loss factor* equations relating to the relevant *regulated interconnector*.

3.9.7 Pricing for constrained-on scheduled generating units

(a) In the event that an *intra-regional network constraint* causes a *scheduled generating unit* to be *constrained-on* in any *dispatch interval*, that *scheduled generating unit* must comply with *dispatch instructions* from *NEMMCO* in accordance with its availability as specified in its *dispatch offer* but may not be taken into account in the determination of the *dispatch price* in that *dispatch interval*.

(b) A *Scheduled Generator* that is *constrained-on* in accordance with clause 3.9.7(a) is not entitled to receive from *NEMMCO* any compensation due to its *dispatch price* being less than its *dispatch offer price*.

3.10 [Deleted]

3.11 Ancillary Services

3.11.1 Introduction

(a) *Ancillary services* are services that are essential to the management of *power system security*, facilitate orderly trading in electricity and ensure that electricity supplies are of acceptable quality.

(b) *Market ancillary services* are *ancillary services* which are acquired by *NEMMCO* as part of the *spot market* in accordance with this Chapter 3. The prices for *market ancillary services* are determined using the *dispatch algorithm*.

(c) *Non-market ancillary services* are *ancillary services* which are not acquired by *NEMMCO* as part of the *spot market*, but under agreements which are entered into following a call for offers in accordance with this clause 3.11. The prices for *non-market ancillary services* are determined in accordance with the relevant *ancillary services agreements*.

3.11.2 Market ancillary services

(a) The *market ancillary services* are:

(1) the *fast raise service*;

(2) the *fast lower service*;

(3) the *slow raise service*;

(4) the *slow lower service*;

(5) the *regulating raise service*;

(6) the *regulating lower service*;

(7) the *delayed raise service*; and

(8) the *delayed lower service*.

(b) *NEMMCO* must make and *publish* a *market ancillary service specification* containing:

(1) a detailed description of each kind of *market ancillary service*; and

(2) the performance parameters and requirements which must be satisfied in order for a service to qualify as the relevant *market ancillary service* and also when a *Market Participant* provides the relevant kind of *market ancillary service*.

(c) *NEMMCO* may amend the *market ancillary service specification*, from time to time.

(d) *NEMMCO* must comply with the *Rules consultation procedures* when making or amending the *market ancillary service specification*.

(e) An amendment to the *market ancillary service specification* must not take effect until at least 30 days after the amendment has been *published*.

3.11.3 Procedure for determining quantities of non-market ancillary services

(a) *NEMMCO* must develop and *publish* a detailed description of each *non-market ancillary service*.

(b) *NEMMCO* must develop and *publish* a procedure for determining the quantity of each kind of *non-market 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 *non-market 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 3.11.3, from time to time.

(d) *NEMMCO* must comply with the *Rules consultation procedures* when making or amending descriptions or procedures under this clause 3.11.3.

3.11.4 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 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 3.11.4(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 3.11.4(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 3.11.4(b) and any *Registered Participant* so instructed must use reasonable endeavours to comply with any such instruction.

3.11.5 Tender process for non-market ancillary services

(a) Except as provided in clause 4.8.9, if *NEMMCO* wishes to acquire a *non-market ancillary service*, then *NEMMCO* must call for offers 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* in an invitation to tender.

(b) A *Registered Participant* is not under any obligation to submit an offer in response to a call for offers under this clause 3.11.5.

(c) *NEMMCO* is not under any obligation to accept an offer in response to a call for offers under this clause 3.11.5.

(d) Where a *Registered Participant* submits an offer in response to a call for offers under this clause 3.11.5 and *NEMMCO* wishes to negotiate an aspect of that offer, then *NEMMCO* and the *Registered Participant* must negotiate in good faith concerning that aspect.

(d1) In assessing any offers submitted in response to a call for offers under this clause 3.11.5, *NEMMCO* must seek to acquire the quantity of the relevant kind of *non-market ancillary service* determined in accordance with clause 3.11.3 by competitive tender in accordance with this clause 3.11.5(d1). A tender will be deemed to be a competitive tender for a particular *non-market ancillary service* if the required quantity of that *non-market ancillary service* determined in accordance with clause 3.11.3 can be supplied from the conforming offers received by *NEMMCO* with any one conforming offer discarded or all conforming offers from any one party discarded. If a tender process is not deemed to be a competitive tender for a particular *non-market ancillary service*, then *NEMMCO* and those *Registered Participants* that submitted conforming and non-conforming tenders selected by *NEMMCO*, must negotiate in good faith to agree reasonable terms and conditions for the supply of the relevant kind of *non-market ancillary service*, taking into account the need to:

(1) subject to clause 3.11.5(d1)(2), so far as practicable minimise the overall cost of supply of that *non-market ancillary service*; and

(2) appropriately remunerate the providers of the relevant *non-market ancillary service* for that service.

(d2) If *NEMMCO* and the *Registered Participants* selected by *NEMMCO* cannot agree on the terms and conditions for the supply of a *non-market ancillary service* after 21 business days from delivery to the *Registered Participant* of a written notice to negotiate, then either *NEMMCO* or the *Registered Participant* may refer the matter to an *Adviser* for the determination of a dispute as to those terms and conditions in accordance with clause 8.2.

(e) Subject to clause 3.11.5(f), *NEMMCO* must not acquire *non-market ancillary services* from any person who is not a *Registered Participant*.

(f) *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*.

(g) 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 3.11.3).

(h) Within 5 business days of *NEMMCO* giving a notice under clause 3.11.5(g), *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.

(i) 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*.

3.11.6 Procedures for the dispatch of non-market ancillary services by NEMMCO

(a) *NEMMCO* must develop procedures for:

(1) dispatching each kind of *non-market ancillary service NEMMCO* requires in order to maintain the *power system* in a *secure operating state*; and

(2) reporting to *Registered Participants*, on a periodic basis, on the effectiveness of the *dispatch* of *non-market ancillary services* using criteria related to the performance of the *power system* specified in the procedures developed pursuant to clause 3.11.6(a)(1).

(b) *NEMMCO* must make the procedures developed under this clause 3.11.6 available to the *Registered Participants*.

(c) *NEMMCO* may amend a procedure developed under this clause 3.11.6, from time to time.

(d) *NEMMCO* must comply with the *Rules consultation procedures* when making or amending procedures pursuant to clause 3.11.6.

3.11.7 Performance and testing

(a) In addition to the requirements under clause 4.15, a *Market Participant* which has classified a *generating unit* as an *ancillary service generating unit* or a *market load* as an *ancillary service load* must install and maintain in accordance with the standards referred to in clause 3.11.7(b) monitoring equipment to monitor and record the response of the *ancillary service generating unit* or *ancillary service load* to changes in the *frequency* of the *power system*.

(b) *NEMMCO* must develop, and may amend from time to time, standards which must be met by *Market Participants* in installing and maintaining the equipment referred to in clause 3.11.7(a).

(c) *NEMMCO* may request a *Market Participant* with an *ancillary service generating unit* or an *ancillary service load* to provide to *NEMMCO* a report detailing how the relevant facility responded to a particular change or particular changes in the *frequency* of the *power system*. A *Market Participant* must provide a report requested under this clause 3.11.7(c) promptly but, in any event, in no more than 20 *business days* after notice to do so.

(d) *NEMMCO* may from time to time require a *Registered Participant* which provides a *market ancillary service* under the *Rules* or a *non-market ancillary service* under an *ancillary services agreement* to demonstrate the relevant *plant's* capability to provide the *ancillary service* to the satisfaction of *NEMMCO* according to standard test procedures. A *Registered Participant* must promptly comply with a request by *NEMMCO* under this clause.

3.11.8 [Deleted]

3.12 Market Intervention by NEMMCO

3.12.1 Reliability Safety Net

(a) *NEMMCO* may, prior to 1 July 2006, enter into *reserve contracts* in accordance with this clause 3.12 and the relevant guidelines and policies developed by the *Reliability Panel* as described in clause 8.8.1. *NEMMCO* must not enter into such contracts thereafter.

(b) *The Reliability Panel* must, at the same time as it conducts a review of *VoLL* under clause 3.9.4(c), recommend whether the reliability safety net provided for by the power granted to *NEMMCO* under this clause 3.12.1 to enter into *reserve contracts* can be removed from the *Rules* prior to 1 July 2006.

(c) In consultation with persons nominated by the relevant jurisdictions *NEMMCO* may determine to enter into *reserve contracts* for the provision of *reserve* to ensure that the *reliability* of *supply* in a *region* meets the reliability standard established by the *Reliability Panel*.

(d) In entering into *reserve contracts* under clause 3.12.1(c) *NEMMCO* must agree with the relevant nominated persons cost sharing arrangements between the *regions* for the purposes of determining charges under clause 3.15.9.

(e) If at any time *NEMMCO* deems it necessary to commence contract negotiations for the provision of *reserves*, or *market network services* to make *reserves* available where required, *NEMMCO* must *publish* a notice of its intention to do so.

(f) When contracting for the provision of *reserves*, *NEMMCO* must not enter contracts in relation to capacity of *generating units*, *scheduled network services* or *scheduled loads* for which *dispatch offers* or *dispatch bids* have been submitted or are considered by *NEMMCO* to be likely to be submitted or be otherwise available for *dispatch* in the *trading intervals* to which the contract relates.

(g) When contracting for the provision of *reserves*, or *market network services* to make *reserves* available where required, *NEMMCO* must give first priority to *facilities* which, if called upon, would result in the least distortion of the *spot price*.

(h) If *NEMMCO* requests a *Scheduled Generator* or *Market Participant* to enter into a *reserve contract* in relation to a *scheduled generating unit*, *scheduled network service* or a *scheduled load*, then the *Scheduled Generator* or *Market Participant* must negotiate with *NEMMCO* in good faith as to the terms and conditions of that contract.

3.12.2 [Deleted]

3.12.3 [Deleted]

3.12.4 [Deleted]

3.12.5 [Deleted]

3.12.6 [Deleted]

3.12.7 [Deleted]

3.12.8 NEMMCO's risk management and accounts relating to the reliability safety net

(a) *NEMMCO* may enter into insurance arrangements with an insurance provider with a view to minimising potential financial losses in respect of *NEMMCO's reserve* trading activities described in this clause 3.12.

(b) *NEMMCO* must ensure that, as described in clause 1.11, it maintains in its books separate accounts relating to the reliability safety net provided for by the powers granted to *NEMMCO* under clause 3.12.1 to enter into *reserve contracts*.

3.12.9 [Deleted]

3.12.10 Intervention settlement timetable

(a) *NEMMCO* must use reasonable endeavours to complete and fulfil its obligations set out in clauses 3.12.11, 3.12.11A, 3.15.7, 3.15.7A, 3.15.7B, 3.15.8 and 3.15.10C as soon as practicable and no later than:

(1) 100 *business days* after the end of the *direction* or *dispatch* of *plant* under a *reserve contract* or the end of a series of related *directions* or a related series of *dispatch* of *plant* under a *reserve contract* if *NEMMCO* is not required to appoint an independent expert pursuant to clause 3.15.7A; and

(2) 150 *business days* after the end of the *direction* or *dispatch* of *plant* under a *reserve contract* or the end of a series of related *directions* or a related series of *dispatch* of *plant* under a *reserve contract* if *NEMMCO* is required to appoint an independent expert pursuant to clause 3.15.7A.

(b) Subject to clause 3.12.10(a), *NEMMCO* must *publish* a timetable that sets a date for each of *NEMMCO's* and the independent expert's obligations pursuant to clauses 3.12.11, 3.12.11A, 3.15.7, 3.15.7A, 3.15.7B, 3.15.8 and 3.15.10C, where required (the "*intervention settlement timetable"*).

(c) *NEMMCO* must at least once a month revise and *publish* the *intervention settlement timetable* to reflect any changes to the *intervention settlement timetable.*

3.12.11 Affected Participants and Market Customers entitlements to compensation in relation to directions and reserve contracts

(a) In respect of each *intervention price trading interval*:

(1) an *Affected Participant* is entitled to receive from *NEMMCO*, or must pay to *NEMMCO*, an amount as determined in accordance with this clause 3.12.11 that will put the *Affected Participant* in the position that the *Affected Participant* would have been in regarding the *scheduled generating unit* or *scheduled network service*, as the case may be, had the *direction* not been issued or the *plant* under the *reserve contract* not been *dispatched*, as appropriate, taking into account solely the items listed in clause 3.12.11(d);

(2) a *Market Customer*, other than a *Market Customer* which was the subject of that *direction*, in respect of one or more of its *scheduled loads*, is entitled to receive an amount calculated by applying the following formula:

DC = ((RRP X LF) - BidP) x QD

where:

DC (in dollars) is the amount the *Market Customer* is entitled to receive in respect of that *scheduled load* for the relevant *intervention price trading interval*;

RRP (in dollars per MWh) is the *regional reference price* in the relevant *intervention price trading interval* determined in accordance with clause 3.9.3;

LF where the *scheduled load's connection point* is a *transmission network connection point*, is the *intra-regional loss factor* at that *connection point* or where the *scheduled load's connection point* is a *distribution network connection point*, is the product of the *distribution loss factor* at that *connection point* multiplied by the *intra-regional loss factor* at the *transmission network connection point* to which it is assigned;

BidP (in dollars per MWh) is the price of the highest priced *price band* specified in a *dispatch offer* for the *scheduled load* in the relevant *intervention price trading interval*;

QD (in MWh) is the difference between the amount of electricity consumed by the *scheduled load* during the relevant *intervention price trading interval* determined from the *metering data* and the amount of electricity which *NEMMCO* reasonably determines would have been consumed by the *scheduled load* if the *direction* had not been issued or the *plant* under the *reserve contract* not been *dispatched*, as appropriate,

provided that if DC is negative for the relevant *intervention price trading interval*, then the adjustment that the *Market Customer* is entitled to claim in respect of that *scheduled load* for that *intervention price trading interval* is zero.

(a1) In respect of a single *intervention price trading interval*, an *Affected Participant* or *Market Customer* is not entitled to receive from, or obliged to pay to, *NEMMCO* an amount pursuant to this clause 3.12.11 if such an amount is less than $5,000.

(b) In respect of each *intervention price trading interval*, *NEMMCO* must, in accordance with the *intervention settlement timetable*, notify, in writing:

(1) each *Affected Participant* (except *eligible persons*) of:

(i) the estimated level of *dispatch* in MW that its *plant* would have been *dispatched* at had the *direction* not been issued or the *plant* under *reserve contract* not been *dispatched;* and

(ii) an amount equal to:

(A) the estimated *trading amount* that it would have received had the *direction* not been issued or the *plant* under *reserve contract* had not been *dispatched* based on the level of *dispatch* in clause 3.12.11(b)(i), less:

(B) the *trading amount* for that *Affected Participant* (excluding from that *trading amount* the amount referred to in clause 3.15.10C(a)) as set out in its *final statement* provided pursuant to clause 3.15.14 for the *billing period* in which the *intervention price trading interval* occurs;

(2) each *eligible person* of:

(i) the estimated level of flow in MW of all relevant *directional interconnectors* that would have occurred had the *direction* not been issued or the *plant* under the *reserve contract* not been *dispatched;* and

(ii) an amount equal to:

(A) the estimated amount that person would have been entitled to receive pursuant to clause 3.18.1(b) had the *direction* not been issued or the *plant* under the *reserve contract* not been *dispatched* based upon the flows referred to in clause 3.12.11(b)(2)(i); less

(B) the actual entitlement of that person under clause 3.18.1(b); and

(3) each *Market Customer,* the amount calculated by *NEMMCO* in accordance with clause 3.12.11(a)(2) for that *Market Customer.*

(b1) *NEMMCO* must include in an *Affected Participant's* or *Market Customer's final statement* provided pursuant to clause 3.15.1 for a *billing period* in which one or more *intervention price trading intervals* occurred:

(1) the amount notified by *NEMMCO* pursuant to clause 3.12.11(b) if the absolute value of such amount is greater than $5,000; and

(2) in all other cases no amount in relation to compensation pursuant to clause 3.12.11.

(b2) If the figure calculated pursuant to clause 3.12.11(b) is:

(1) negative, the absolute value of that amount is the amount payable to *NEMMCO* by the relevant person; and

(2) positive, the absolute value of that amount is the amount receivable from *NEMMCO* by the relevant person.

(c) Subject to clauses 3.12.11(c2) and 3.12.11(c3), within 7 *business days* of receipt of the notice referred to in clause 3.12.11(b) an *Affected Participant* or *Market Customer* may make a written submission to *NEMMCO* in accordance with clause 3.12.11(c1) claiming that the amount set out in the notice is greater than, less than, or equal to its entitlement pursuant to clause 3.12.11(a)(1) as an *Affected Participant* or clause 3.12.11(a)(2) as a *Market Customer*, as the case may be.

(c1) A written submission made by an *Affected Participant* or *Market Customer* pursuant to clause 3.12.11(c) must:

(1) itemise each component of the claim;

(2) contain sufficient data and information to substantiate each component of the claim;

(3) if the *Affected Participant* claims that the amount calculated by *NEMMCO* pursuant to clauses 3.12.11(b)(1) or 3.12.11(b)(2) is less than the amount the *Affected Participant* is entitled to receive pursuant to clause 3.12.11(a)(1), specify the difference between such amounts (such difference being the "*affected participant's adjustment claim");*

(4) if the *Market Customer* claims that the amount calculated by *NEMMCO* pursuant to clause 3.12.11(b)(3) is less than the amount the *Market Customer* is entitled to receive pursuant to clause 3.12.11(a)(2), specify the difference between such amounts (such difference being the "*market customer's additional claim"*); and

(5) be signed by an authorised officer of the *Affected Participant* or *Market Customer* certifying that the written submission is true and correct.

(c2) If an *Affected Participant* or *Market Customer* does not deliver to *NEMMCO* a written submission in accordance with clause 3.12.11(c) it shall cease to have an entitlement to compensation under this clause 3.12.11.

(c3) In respect of a single *intervention price trading interval* an *Affected Participant* or *Market Customer* may only make a claim pursuant to clause 3.12.11(c) in respect of that *intervention price trading interval* if it claims

that its entitlement or liability pursuant to clause 3.12.11 is greater than $5,000.

(d) In determining the amount for the purposes of clause 3.12.11(a)(1), the following must, as appropriate, be taken into account:

(1) the direct costs incurred or avoided by the *Affected Participant* in respect of that *scheduled generating unit* or *scheduled network service*, as the case may be, as a result of the *direction*, or the *dispatch* of *plant* provided under the contract for the provisions of *reserves*, as appropriate, including without limitation:

(i) fuel costs in connection with the *scheduled generating unit* or *scheduled network service*;

(ii) incremental maintenance costs in connection with the *scheduled generating unit* or *scheduled network service*; and

(iii) incremental manning costs in connection with the *scheduled generating unit* or *scheduled network service*;

(2) any amounts which the *Affected Participant* is entitled to receive under clauses 3.15.6 and 3.15.6A; and

(3) the *regional reference price published* pursuant to clause 3.13.4(m).

(e) *NEMMCO* must in accordance with the *intervention settlement timetable* calculate the "*additional intervention claim*" being the total of:

(1) the sum of the *affected participant's adjustment claims* and *market customer's additional claims* in respect of a *direction* or *dispatch* of *plant* provided under a *reserve contract*, or in respect of, in *NEMMCO's* reasonable opinion, a series of related *directions* or *dispatch* of *plant* provided under a *reserve contract*; plus

(2) the total claims by *Directed Participants* pursuant to clauses 3.15.7B(a), 3.15.7B(a1) and 3.15.7B(a2) in respect of that *direction* or *dispatch* of that *plant* provided under a *reserve contract*, or in respect of that series of related *directions* or *dispatch* of *plant* provided under a *reserve contract*.

(f) *NEMMCO* must in accordance with the *intervention settlement timetable*:

(1) refer an *affected participant's adjustment claim* or *market customer's additional claim* to an independent expert to determine such claim in accordance with clause 3.12.11A if the claim is equal to or greater than $20,000 and the *additional intervention claim* that includes that claim is equal to or greater than $100,000; and

(2) determine in its sole discretion whether all other *affected participants' adjustment claims* and *market customers' additional claims* are reasonable and if so pay the amounts claimed in accordance with clause 3.15.10C.

(g) If *NEMMCO* determines pursuant to clause 3.12.11(f) that an *affected participant's adjustment claim* or *market customer's additional claim* in respect of a *direction* or *dispatch* of *plant* provided under a *reserve contract* is unreasonable, it must in accordance with the *intervention settlement timetable:*

(1) advise the *Affected Participant* or *Market Customer*, as the case may be, in writing of its determination including its reasons for the determination; and

(2) refer the matter to an independent expert to determine the claim for compensation in accordance with clause 3.12.11A.

(h) For the purposes of clauses 3.15.8 and 3.15.10C(b) any payment pursuant to clause 3.12.11(a) must include interest on the sum of that amount less the payment made in accordance with clause 3.15.10C(1), computed at the average *bank bill rate* for the period from the date on which payment was required to be made under clauses 3.15.16 and 3.15.17 in respect of the *final statement* for the *billing period* in which the *direction* was issued or *plant* provided under a *reserve contract* was *dispatched* pursuant to clause 4.8.6 to the date on which payment is required to be made pursuant to clause 3.15.10C.

3.12.11A Role of the Independent Expert in calculating payments in relation to intervention by NEMMCO

(a) Subject to clause 3.12.11A(a1), if a matter is to be referred to an independent expert pursuant to clauses 3.12.11(f), 3.12.11(g) or 3.15.7B, *NEMMCO* must in accordance with the *intervention settlement timetable publish* a notice of its proposed nominee as independent expert and appoint such nominee.

(a1) If within 3 *business days* of *publication* of *NEMMCO's* nominee pursuant to clause 3.12.11A(a) more than 25% of the *Referred Affected Participants*, *Referred Market Customers* and *Referred Directed Participants* in relation to that *direction* object in writing to *NEMMCO's* nominee *NEMMCO* must, as soon as reasonably practicable thereafter, request the *AEMC* to nominate an independent expert.

(a2) If a valid objection pursuant to clause 3.12.11A(a1) is made, the *AEMC* must, within 3 *business days* of a written request from *NEMMCO*, nominate

an independent expert to be appointed by *NEMMCO* for the purposes of this clause 3.12.11A.

(b) *NEMMCO* must provide to the independent expert a copy of all written submissions made by *Referred Affected Participants, Referred Market Customers* or *Referred Directed Participants* under clause 3.12.11(c) or 3.15.7B (a).

(b1) To the extent reasonably practicable, all claims arising out of a single *direction* or *dispatch* of *reserve plant* or arising out of, in *NEMMCO's* reasonable opinion, a series of related *directions* or *dispatch* of *plant* provided under a *reserve contract*, should be determined by the same independent expert as part of the same process.

(c) *NEMMCO* must include as part of the independent expert's terms of appointment the following requirements:

(1) In accordance with the *intervention settlement timetable* the independent expert must:

(i) determine and *publish* a draft report setting out:

(A) as appropriate, the total compensation payable by, or receivable by, *Referred Affected Participants* and *Referred Market Customers* under clause 3.12.11(a) pursuant to claims referred to the independent expert pursuant to clauses 3.12.11(f) and 3.12.11(g) in respect of the *intervention price trading interval*;

(B) the total amount of compensation payable to *Referred Directed Participants* pursuant to clause 3.15.7B; and

(C) the methodology and assumptions, if any, used by the independent expert in making the determination in clauses 3.12.11A(c)(1)(ii) and 3.12.11A(c)(1)(iii);

(ii) notify individual assessments by delivery to each *Referred Affected Participant* and *Referred Market Customer* and to *NEMMCO* of a draft assessment detailing the amount payable or receivable by that party, as the case may be, pursuant to clause 3.12.11(a); and

(iii) deliver to each *Referred Directed Participant* and to *NEMMCO* a draft assessment detailing the calculation of the amount of compensation receivable by that party pursuant to 3.15.7B.

(2) The independent expert must call for submissions from all relevant *Referred Affected Participant*s, *Referred Market Customer*s and

*Referred Directed Participant*s after *publishing* the draft report and delivering the draft assessment under clause 3.12.11A(c)(1).

(3) Before the *publication* of the final report and delivery of the final assessment pursuant to clause 3.12.11A(c)(4), the independent expert must:

(i) if requested to do so by a *Referred Affected Participant*, *Referred Market Customer* or *Referred Directed Participant*, within 15 *business days* of the *publication* of the draft report and draft assessment, meet with *representatives* of the *Referred Affected Participant*, *Referred Market Customer*, or *Directed Participant* to discuss any queries it has in relation to the draft report or draft assessment as appropriate; and

(ii) take into consideration, any further written submissions made by a *Referred Affected Participant, Referred Market Customer* or *Referred Directed Participant* in relation to the draft report or draft assessment, as the case may be, if the independent expert receives those submissions within 15 *business days* of the *publication* of the draft report and draft assessment.

(4) The independent expert must in accordance with the *intervention settlement timetable*:

(i) prepare and *publish* a final report;

(ii) prepare and deliver his or her final assessment of the amounts payable or receivable by the relevant party pursuant to clause 3.12.11(a) or 3.15.7B, as the case may be; and

(iii) deliver to *NEMMCO* a final tax invoice for the services rendered by the independent expert and a copy of all final assessments issued pursuant to clause 3.12.11A(c)(ii).

(5) A report prepared under clauses 3.12.11A(c)(1)(i) and 3.12.11A(c)(4)(i) must not disclose *confidential information*.

(6) If the independent expert requires further information than that contained in a written submission made by the *Referred Affected Participant, Referred Market Customer* or *Referred Directed Participant* under clause 3.12.11(c) or 3.15.7B(a), the independent expert may advise the relevant party in writing of the information required.

(7) If the relevant party has not provided that information to the independent expert within 10 *business days* of the date of the request for further information, then the independent expert, acting

reasonably, is entitled to make such assumptions concerning that information as he or she thinks appropriate.

(8) The independent expert must enter into, and deliver, a confidentiality deed for the benefit of each *Referred Affected Participant*, *Referred Market Customer* and *Referred Directed Participant* in a form developed by *NEMMCO* pursuant to clause 3.12.11A(e).

(d) A final report and a final assessment of an independent expert prepared in accordance with clause 3.12.11A(c)(4) is final and binding.

(e) *NEMMCO* must in accordance with the *Rules consultation procedures* prepare and *publish* a confidentiality deed for the purposes of this clause 3.12.11A.

3.12A Mandatory restrictions

3.12A.1 Restriction offers

(a) *NEMMCO* must develop, and may vary from time to time, in accordance with the *Rules consultation procedures* a *mandatory restrictions* trading system. The trading system must include:

(1) procedures for the acquisition by *NEMMCO* of capacity the subject of *restriction offers*;

(2) the standard terms and conditions upon which *NEMMCO* shall accept a *restriction offer*;

(3) the criteria to be applied by *NEMMCO* in the appointment of an appropriately qualified independent expert for the purposes of clause 3.12A.7(g)(ii); and

(4) procedures for the rebidding and *dispatch* of capacity the subject of an *accepted restriction offer.*

(b) The *restriction offer procedures* must take into account the following principles:

(1) *NEMMCO* may accept a *restriction offer* for all or part of the capacity of a *scheduled generating unit* or *scheduled network service*, as recorded in the *registered bid and offer data* for that *scheduled generating unit* or *scheduled network service*.

(2) *NEMMCO* must use its reasonable endeavours to acquire capacity from valid *restriction offers* or to terminate in whole or part an *accepted restriction offer* in a manner that minimises the estimated *restriction shortfall amount*.

(3) *NEMMCO* may at any time terminate an *accepted restriction offer* in whole or in part by providing 4 hours notice to the relevant *Scheduled Generator* or *Scheduled Network Service Provider* that an *accepted restriction offer* is so terminated.

(4) The submission of *restriction offers* must be made in the form and by the means set out in procedures developed and *published* by *NEMMCO* for the purpose of the submission of *restriction offers*.

(5) If a *restriction offer* is made in accordance with the *restriction offer procedures*, *NEMMCO* must make available to the parties who submitted the *restriction offer* the following information without delay:

(i) acknowledgment of receipt of a valid *restriction offe*r; and

(ii) notification detailing why a *restriction offer* is invalid, if appropriate.

(6) If any details contained within a *restriction offer* are inconsistent with the *registered bid and offer data* provided by the relevant party then *NEMMCO* has the right to reject that *restriction offer* as invalid.

(7) A valid *restriction offer* must set out for each *trading interval* of a *trading da*y:

(i) the price offered in $/MWh or as otherwise permitted by the *restriction offer procedures;* and

(ii) MW amount for that *trading interval* being offered.

(8) *NEMMCO* must only accept *restriction offers* from *Scheduled Generators* and *Scheduled Network Service Providers* with a *connection point* located in the *region* in which *mandatory restrictions* apply or are proposed to apply.

(c) The standard terms and conditions developed by *NEMMCO* pursuant to clause 3.12A.1(a)(2) must take into account the following principles:

(1) All capacity the subject of the *restriction offer* must be available for immediate *dispatch* in the *central dispatch* process at all times.

(2) An *accepted restriction offer* is binding and may only be revoked or varied if the *Scheduled Generator* or *Scheduled Network Service Provider* notifies *NEMMCO* in accordance with the *restriction offer procedures* of a revocation or variation. Immediately upon receipt of such notification *NEMMCO* must amend the *accepted restriction offer* to reduce the capacity of the *accepted restriction offer* by the notified

capacity. Such capacity must not be *dispatched* by *NEMMCO* pursuant to a *dispatch offer* for such capacity during the remainder of the *trading day* in which the *accepted restriction offer* was revoked or varied in accordance with this clause 3.12.A.1(c) provided that such capacity may be re-offered as a *restriction offer*.

(3) A *restriction offer* may be amended or revoked in accordance with the *restriction offer procedures* at any time prior to it becoming an *accepted restriction offer.*

3.12A.2 Mandatory restrictions schedule

(a) *NEMMCO* must, within 4 hours of receipt of a formal written notice from a *Jurisdictional Co-ordinator* advising that the relevant *participating jurisdiction* proposes to invoke *mandatory restriction*s:

(1) in consultation with such *participating jurisdictio*n, and in accordance with any procedures developed with that *participating jurisdictio*n, estimate the effect in MW of the *mandatory restrictions* on the *region's* demand for each *trading interval* of the next *trading day* of the proposed *mandatory restriction period*; and

(2) prepare and deliver to the *Jurisdictional Co-ordinator* a schedule of capacity for each *trading interval* of the next *trading day* of the proposed *mandatory restriction period* which is approximately equal to the estimated reduction in *regional* demand due to the *mandatory restrictions* net of all *scheduled loads* in that *region*.

(b) *NEMMCO* must regularly in conjunction with the relevant *Jurisdictional Co-ordinator* review the current *mandatory restriction schedule* and when appropriate prepare and deliver to the *Jurisdictional Co-ordinator* a revised schedule of capacity for each *trading interval* of that *trading day* which is approximately equal to the revised estimated reduction in *regional* demand due to the *mandatory restrictions* net of all s*cheduled loads* in that *region*.

(c) *NEMMCO* may only *publish* a *mandatory restriction schedule* and an amended *mandatory restriction schedule* upon receipt of a formal written notice approving the *mandatory restriction schedule* from the relevant *Jurisdictional Co-ordinator*.

3.12A.3 Acquisition of capacity

(a) *NEMMCO* must immediately upon *publication* of a *mandatory restriction schedule* or an amended *mandatory restriction schedule* use its reasonable endeavours to acquire, in accordance with the *restriction offer procedures*, capacity to meet the *mandatory restriction schedule* or amended *mandatory restriction schedule* as the case may be.

(b) *NEMMCO* must terminate in accordance with the *restriction offer procedures* such number of *accepted restriction offers*, in whole or in part, so that the total capacity of existing *accepted restriction offers* as far as practicable equals the amended *mandatory restriction schedule.*

3.12A.4 Rebid of capacity under restriction offers

In each *dispatch interval* when *mandatory restrictions* apply, each *scheduled generating unit* or *scheduled network service* the subject of an *accepted restriction offer* with respect to that *dispatch interval* must rebid the total capacity the subject of such *restriction offer* by varying the respective *dispatch offers* or *network dispatch offers* in accordance with the procedures developed pursuant to clause 3.12A.1(a)(4).

3.12A.5 Dispatch of restriction offers

(a) In a *dispatch interval NEMMCO* may only *dispatch* the capacity of a *scheduled generating unit* or *scheduled network service* in accordance with the procedures for the rebidding and *dispatch* of capacity the subject of an *accepted restriction offer* developed by *NEMMCO* in consultation with *Registered Participants*. Such procedures must as far as reasonably practical incorporate the following principles:

(i) *dispatch* of *accepted restriction offers* only after all the capacity of *scheduled loads, scheduled generating units* and *scheduled network services* contained in valid *dispatch offers* and *dispatch bids* have been *dispatched*;

(ii) recognise any requirement for advance notice or action for *Generators* to operate at minimum *generation*, provide advance notice to *loads* or obtain capacity of *market network services* that are under *direction* or *reserve contracts*;

(iii) be consistent with the price of *accepted restriction offers* in accordance with clause 3.12A.6; and

(iv) minimise the *restriction shortfall amount*.

(b) Notwithstanding the provisions of this clause 3.12A.5, at no time is *NEMMCO* required to *dispatch* the capacity of a *Scheduled Generator* or *Scheduled Network Service Provider* the subject of an *accepted restriction offer* if such *dispatch* would prevent *NEMMCO* from meeting its obligations for system security.

3.12A.6 Pricing during a restriction price trading interval

During a *mandatory restriction period*, *dispatch prices* must be determined by the *central dispatch* process based on *dispatch offe*rs, *dispatch bid*s and *network dispatch offers* in accordance with clause 3.9.2, provided that *NEMMCO* must calculate the *dispatch price* as if the *dispatch offer price* for all capacity the subject of an *accepted restriction offer* was the maximum price permitted by clause 3.8.6(h) and 3.8.6A(i) notwithstanding any other provision of the *Rules*.

3.12A.7 Determination of funding restriction shortfalls

(a) *NEMMCO* is entitled to the *trading amount* received by *Scheduled Generators* and *Scheduled Network Service Providers* from the *dispatch* of capacity the subject of an *accepted restriction offer* in accordance with 3.15.10B.

(b) *NEMMCO* must, as soon as reasonably practicable following the end of a *mandatory restriction period*, calculate:

(i) the aggregate amount payable to *NEMMCO* pursuant to clause 3.12A.7(a) from all *accepted restriction offers* in that *mandatory restriction period*;

(ii) the aggregate amount payable by *NEMMCO* pursuant to all *accepted restriction offers* in that *mandatory restriction period*; and

(iii) the sum of the amount determined under clause 3.12A.7(b)(i) less the amount determined under clause 3.12A.7(b)(ii) (the *'restriction shortfall amount'*).

(b1) The maximum amount payable to a *Scheduled Generator* or *Market Participant* for any *accepted restriction offer* of that *Scheduled Generator* or *Market Participant* during a *mandatory restriction period* is the aggregate of the maximum possible *spot price* for each *trading interval* within the *mandatory restriction period*, being *VoLL* or an *administered price cap* as the case may be, multiplied by the capacity of the *accepted restriction offer* in MWh for each corresponding *trading interval.*

(c) Notwithstanding any other provisions of the *Rules*, the absolute value of the *restriction shortfall amount* must not exceed the sum of the maximum possible *spot price* for a *trading interval*, being *VoLL* or an *administered price cap* as the case may be, multiplied by the aggregate of the capacity of all *accepted restriction offers* in MWh for that *trading interval* for all *trading intervals* in the *mandatory restriction period.*

(d) Notwithstanding any other provision of the *Rules*, if the *restriction shortfall amount* is capped pursuant to clause 3.12A.7(c) and the *restriction shortfall amount* calculated pursuant to clause 3.12A.7 is a negative number, then the

amount payable by *NEMMCO* pursuant to each *accepted restriction offer* is to be reduced pro-rata until clause 3.12A.7(c) is satisfied.

(e) If the *restriction shortfall amount* is a negative number, *Market Customers* in the relevant *region* must pay to *NEMMCO* an amount determined in accordance with clause 3.12A.7(f) or 3.12A.7(g).

(f) If the *restriction shortfall amount* is between minus $100,000 and $0, then each *Market Customer* in the relevant *region* must pay to *NEMMCO* an amount determined in accordance with the following formula:

$$MCP = RSA \quad x \quad \frac{(AGE)}{(AAGE)}$$

Where:

MCP is the amount payable by a *Market Customer* in accordance with this clause 3.12A.7(f).

RSA is the *restriction shortfall amount*.

AGE is the *adjusted gross energy* of a *Market Customer* in that *region* for the *mandatory restriction period* expressed in MWh.

AAGE is the aggregate of the *adjusted gross energy* of all *Market Customers* in that *region* for the *mandatory restriction period* expressed in MWh.

(g) If the *restriction shortfall amount* is less than minus $100,000:

(i) each *Market Customer* in the relevant *region* must pay to *NEMMCO* an amount determined in accordance with the following formula:

RCP = (RSA + IE) x (RD/TRD)

Where

RCP is the amount payable to *NEMMCO* by a *Market Customer* in that *region* following the cessation of the *mandatory restriction period*.

RSA is the *restriction shortfall amount* incurred by *NEMMCO* upon the cessation of the *mandatory electricity restriction period*.

RD is the *Market Customer's restriction demand reduction*.

TRD is the sum of RD for all *Market Customers* in the relevant *region*.

IE is the amount of the independent expert's final tax invoice delivered to *NEMMCO* in accordance with clause 3.12A.7(i)(11) plus any amounts payable by *NEMMCO* on behalf of the independent expert as determined by the *dispute resolution panel* established in accordance with clause 3.12A.7(m); and

(ii) *NEMMCO* must within 10 days of the end of a *mandatory restriction period* appoint an appropriately qualified independent expert as *NEMMCO's* agent to determine the *restriction demand reduction* claimed by each *Market Customer* in a *region* for the purposes of clause 3.12A.7(g).

(h) If the *restriction shortfall amount* is a positive number then *NEMMCO* must pay to *Market Customers* in the relevant *region* an amount equal to:

$$RCRP = RSA \times \frac{(AGE)}{(AAGE)}$$

Where:

RCRP is the payment to be made by *NEMMCO* to *Market Customers* pursuant to this clause 3.12A.7.

RSA is the *restriction shortfall amount*.

AGE is the *adjusted gross energy* of a *Market Customer* in that *region* for the *mandatory restriction period* expressed in MWh.

AAGE is the aggregate of the *adjusted gross energy* of all *Market Customers* in that *region* for the *mandatory restriction period* expressed in MWh.

(i) When appointing the independent expert under clause 3.12A.7(g), *NEMMCO* must include as part of the independent expert's terms of appointment the following requirements:

(1) The independent expert must prepare a statement of the principles which the independent expert believes should be followed in determining the *restriction demand reduction* of *Market Customer*s.

(2) Within 5 *business days* of his or her appointment, the independent expert must provide *NEMMCO* with details of his or her estimated fees and costs.

(3) Within 5 *business days* of his or her appointment, the independent expert must provide the statement prepared under clause 3.12A.7(i)(1) to all *Market Customers* in the relevant *region* and request that each *Market Customer* in the relevant *region* provide him or her with details of the *restriction demand reduction* claimed by that *Market Customer* and such additional information specified by the independent expert to fulfil its obligations.

(4) The independent expert must offer to meet with and consult each *Market Customer* who may be liable to make a payment to *NEMMCO* pursuant to clause 13.12A.7(g).

(5) The independent expert must within 30 *business days* of his or her appointment or such later date as approved by *NEMMCO* in its sole discretion:

(i) *publish* a draft report; and

(ii) provide each *Market Customer* in the relevant *region* with a draft statement.

(6) The draft report must contain:

(i) the *restriction shortfall amount* based upon the independent expert's estimated fees and costs; and

(ii) the methodology used by the independent expert in determining the *restriction demand reduction* of each *Market Customer* in a *region.*

The draft report must not contain details pertaining to individual *Market Customers.*

(7) A draft statement provided to a *Market Customer* must contain:

(i) the *Market Customer's restriction demand reduction* as determined by the independent expert;

(ii) the estimated amount payable by that *Market Customer* under clause 3.12A.7(g), based upon the independent experts estimated fees and costs; and

(iii) information showing how the estimated amount referred to in clause 3.12A.7(i)(7)(ii) was calculated.

(8) The independent expert must within 50 *business days* of his or her appointment or such later date as approved by *NEMMCO* in its sole discretion make any necessary amendments to his or her draft report and draft statements following consultation with *Market Customer*s, and:

(i) *publish* his or her final report; and

(ii) provide each *Market Customer* in the relevant *region* with a final statement.

(9) The independent expert's final report must contain the information set out in clause 3.12A.7(i)(6).

(10) A final statement provided to a *Market Customer* by the independent expert must contain the information set out in clause 3.12A.7(i)(7).

(11) The independent expert must provide *NEMMCO* with his or her final tax invoice for services rendered at the time of publication of the final report.

(i1) Each *Market Customer* must within 10 *business days* of the independent expert requesting information in accordance with clause 3.12A.7(i)(3) deliver to the independent expert all such information.

(i2) The independent expert may request a *Market Customer* to provide further information that he or she requires to prepare either the draft or final report or a draft or final statement within 5 *business days* of the request being made.

(j) A *Market Customer* must not unreasonably withhold information sought by the independent expert and must use its reasonable endeavours to provide the independent expert with the information required within the relevant timeframe specified in this clause 3.12A.7.

(k) If a *Market Customer* has not provided the independent expert with information required under this clause 3.12A.7 within the specified time period, then the independent expert is entitled to make such assumptions concerning that information as he or she thinks appropriate.

(l) Subject to the review process specified in clause 3.12A.7(m), a determination made by an independent expert appointed under clause 3.12A.7(g) binds all *Market Customer*s.

(m) Following the publication of the independent expert's final report, a *Market Customer* may request the *Adviser* to establish a *dispute resolution panel* to redetermine that *Market Customer's restriction demand reduction* only if

the *Market Customer* reasonably believes that the independent expert's determination:

(1) has incorrectly assessed the *restriction demand reduction* of that Market Customer by more than 10%; or

(2) was made negligently or in bad faith.

(n) The determination of a *dispute resolution panel* established under clause 3.12A.7(m):

(1) binds all *Market Customers* and each *Market Customer* must comply with a determination of the *dispute resolution panel*; and

(2) may only order reimbursement of the reasonable fees and expenses incurred by a *Market Customer* in disputing the independent expert's determination and no other amounts.

(o) Any amounts determined by the *dispute resolution panel* as payable by *NEMMCO* on behalf of the independent expert for the reasonable fees and expenses incurred by a *Market Customer* in disputing the independent expert's determination must be included on the next statement provided under clauses 3.15.14 and 3.15.15.

3.12A.8 Cancellation of a mandatory restriction period

(a) At the cessation time designated in the *mandatory restriction schedul*e, *NEMMCO* must:

(1) immediately terminate all current *restriction offers*; and

(2) *publish* a notice detailing the termination of all current *restriction offers* following the cancellation of the relevant *mandatory restriction perio*d.

3.12A.9 Review by AEMC

(a) The *AEMC* must, in accordance with clause 3.12A.9(b), conduct a review of the operation of the provisions applicable to *mandatory restrictions* including:

(1) the integration of *restriction offers* and *mandatory restrictions* into the *market*; and

(2) any other matters which the *AEMC* reasonably believes are relevant to the operation of clauses 3.12A.1 to 3.12A.8 and clause 3.15.10B.

(b) The review conducted by the *AEMC* in accordance with clause 3.12A.9(a) must:

(1) include an analysis of:

(i) the accuracy of the forecast demand reduction due to restrictions and the impact any error had on the resulting *spot price*;

(ii) whether the impact on the *spot price* resulting from an error in the forecast demand reduction due to restrictions adversely affects one group of *Scheduled Generators* or *Market Participants* over another group;

(iii) the *restriction offer* prices for contracts accepted by *NEMMCO* in meeting the *mandatory restriction schedule* including a comparison with the expected revenue the capacity subject to the *restriction offer* would have earned in the *spot market* taking into account the circumstances in which *restriction offers* were made;

(2) be conducted in accordance with the *Rules consultation procedures*; and

(3) commence following the first application of the *mandatory restrictions* where the estimated effect in MW of *mandatory restrictions* on a *region's* demand met or exceeded 10% of that *region's* estimated demand for the same period.

(c) **[Deleted]**

3.13 Market Information

3.13.1 Provision of information

(a) In addition to any specific obligation or power of *NEMMCO* under the *Rules* to provide information, *NEMMCO* must make available to *Scheduled Generators* and *Market Participants* on request any information concerning the operation of the *market* not defined by the *AEMC* or the *Rules* as confidential or commercially sensitive and may charge a fee reflecting the cost of providing any information under this clause 3.13.1(a).

(b) *NEMMCO* must make information available to the public on request in respect of the *regional reference price* at any *regional reference node* and, where requested and available, reasons for any significant movements in prices.

3.13.2 Systems and procedures

(a) Information must be provided to *NEMMCO* and by *NEMMCO* on the *electronic communication system* unless otherwise approved by *NEMMCO*. In circumstances where the *electronic communication system* is partially or wholly unavailable then information will, to the extent of that unavailability, be provided to *NEMMCO* and by *NEMMCO* by means of the backup procedures specified by *NEMMCO* from time to time.

(b) Information must be provided by using the templates supplied in the *electronic communication system* unless otherwise approved by *NEMMCO*.

(c) Where approved by *NEMMCO*, information may be transmitted to and from *NEMMCO* and the *Scheduled Generator* or *Market Participant* concerned in any agreed format.

(d) If possible, information provided to *NEMMCO* must be *time stamped* by *NEMMCO* on receipt by *NEMMCO* of the information by the *electronic communication system* and, if stamped, is deemed to be provided at the time indicated by the *time stamp*.

(e) Information that is *published* by *NEMMCO* is deemed to be *published* when the information is placed on the *market information bulletin board*.

(f) The *market information bulletin board* must be accessible by *Scheduled Generators* and *Market Participants* via the *electronic communication system* subject to applicable security requirements.

(g) Information *published* or notified to a *Scheduled Generator* or *Market Participant* must be capable of being reviewed by that *Scheduled Generator* or *Market Participant* and be capable of being downloaded from the *market information bulletin board* to the *Scheduled Generator* or *Market Participant* via the *electronic communication* system.

(h) All *Scheduled Generators* and *Market Participants* must notify *NEMMCO* of, and *NEMMCO* must *publish*, any *changes* to submitted information within the times prescribed in the *timetable*.

(i) *NEMMCO* must make a copy of all *changes* to the data available to each *Scheduled Generator* and *Market Participant* for verification and resubmission by the *Scheduled Generator* or *Market Participant* as necessary.

(j) All revisions must be provided on the *electronic communication system* and in the same format as the original information.

(k) A *Scheduled Generator* or *Market Participant* may withhold information from *NEMMCO* which must otherwise be provided under the *Rules* if:

(1) the information is of a confidential or commercially-sensitive nature and is not information of a kind that, in the reasonable opinion of the *AEMC*, is fundamental to the efficient operation of the *market*; or

(2) disclosure of the information would have the likely effect of causing detriment to the person required to provide it unless, in the reasonable opinion of the *AEMC*, the public benefit resulting from the provision of the information outweighs that detriment.

(l) **[Deleted]**

(m) Nothing in clause 3.13.2(k) allows a *Scheduled Generator* or *Market Participant* to avoid providing information to *NEMMCO* under the *Rules* where that information is generally available.

3.13.3 Standing data

(a) *NEMMCO* must establish, maintain, update and *publish*:

(1) a list of all of the *Scheduled Generators* and *Market Participants* and a list of all applications to become a *Scheduled Generator* or *Market Participant*, including the *Scheduled Generator* and *Market Participant* information as set out in schedule 3.1;

(2) a list of all of the *Scheduled Generators* and *Market Participants* who will cease to be *Scheduled Generators* or *Market Participants* and the time that each listed *Scheduled Generator* or *Market Participant* will cease to be a *Scheduled Generator* or *Market Participant*;

(3) a list of all of the *Scheduled Generators* and *Market Participants* who are or are going to be suspended and the time at which each listed *Scheduled Generator* or *Market Participant* was suspended or will be suspended.

(b) All *Scheduled Generators* and *Market Participants* must provide *NEMMCO* with the *registered bid and offer data* relevant to their *scheduled loads*, *scheduled network services* and *generating units* in accordance with schedule 3.1.

(c) All *Scheduled Generators* and *Market Participants* will be required to provide *NEMMCO* with information as set out below:

(1) forecasts for *connection points* as prescribed in clause 5.6.1; and

(2) *metering* information for *settlements* purposes as prescribed in Chapter 7.

(d) *Network Service Providers* are to maintain a register of data provided by *Scheduled Generators* and *Market Participants* for planning and design purposes in accordance with schedule 5.7 of Chapter 5 and are to provide a copy of this register of data to *NEMMCO* on request and in a form specified by *NEMMCO*.

(e) *Network Service Providers* must, without delay, notify and provide *NEMMCO* with details of any additions or *changes* to the register of data described in clause 3.13.3(d).

(f) Each year, by a date to be specified by *NEMMCO*, *Network Service Providers* must provide *NEMMCO* with the following information:

(1) expected *network capability* under normal, *outage* and emergency conditions;

(2) electrical data sufficient to allow *power system* modelling under steady state and dynamic conditions, this data to be made available in hard copy and an acceptable industry standard electronic format approved by *NEMMCO*; and

(3) operating procedures and practices for *network* operation and maintenance.

(g) *Network Service Providers* must notify *NEMMCO* of any *changes* to the information provided under clause 3.13.3(f) as soon as practicable.

(h) *Scheduled Generators* and *Market Participants* must notify *NEMMCO* of any *changes* to *registered bid and offer data* one month prior to the implementation of planned *changes* and without unreasonable delay in the event of unplanned *changes*.

(i) *Network Service Providers* must notify *NEMMCO* of any *changes* or additions to technical data one month prior to the implementation of planned *changes* and without unreasonable delay in the event of unplanned *changes*.

(j) *NEMMCO* must conduct an annual review of *Scheduled Generator* and *Market Participant registered bid and offer data* in consultation with *Scheduled Generators* and *Market Participants* and *Scheduled Generators* and *Market Participants* must advise *NEMMCO* of any required *changes* to the data.

(k) *NEMMCO* must make the following *registered bid and offer data* and *Network Service Provider* data and updates available to *Registered Participants* on request without unreasonable delay:

(1) details of the shared *transmission* and *distribution network* impedance data and other technical data as listed in:

(i) schedule 5.5.1;

(ii) schedule 5.5.2;

(iii) schedule 5.5.3; and

(iv) schedule 5.5.4,

sufficient to carry out *power system* studies as reasonably required by *Registered Participants* for planning and/or operational purposes; and

(2) operating procedures and practices for *transmission* or *distribution network* operation and maintenance that have been developed for the application of schedule 5.1 sufficient to enable *power system* modelling under normal, *outage* and emergency conditions.

(l) Where special approvals or exemptions have been granted by *NEMMCO*, including approval to aggregate *generating units*, *market network services* or *loads* for *central dispatch*, or exemptions from *central dispatch*, details of such special arrangements must be *published* by *NEMMCO*.

(m) *NEMMCO* must determine and *publish intra-regional loss factors* in accordance with clause 3.6.2 by 1 April each year and whenever changes occur.

(n) *Network Service Providers* must advise *NEMMCO* of their *distribution loss factors*, duly authorised by the appropriate *Jurisdictional Regulator*, and *NEMMCO* must *publish* such *distribution loss factors* in accordance with clause 3.6.3(i).

(o) By 31 October in each year, *NEMMCO* must prepare and *publish* at a reasonable charge to cover the cost of production, a *statement of opportunities*, including at least the following information for the subsequent 10 year period:

(1) projections of aggregate MW demand and *energy* requirements for each *region*;

(2) generating capabilities of existing *generating units* and *generating units* for which formal commitments have been made for construction or installation;

(3) planned *plant* retirements;

(4) a summary of *network capabilities* and *constraints* based upon *Annual Planning Reports*; and

(5) operational and economic information about the *market* to assist planning by *Scheduled Generators* and *Market Participants* and potential *Scheduled Generators* and *Market Participants*.

(o1) By 31 January in each year, *NEMMCO* must prepare and *publish* at a reasonable charge to cover the cost of production, an update of the *statement of opportunities* for the current *financial year*, taking into account significant new information which has become available since the preparation of the primary document. Particular attention is to be paid to any further information and experience arising as a result of the most recent winter.

(o2) In preparing a *statement of opportunities* or any update *NEMMCO* may seek the assistance of the *Inter-regional Planning Committee*.

(p) As soon as practicable after a *Scheduled Generator, Market Participant* or *Network Service Provider* becomes aware of any information required for *publication* by *NEMMCO* under clause 3.13.3(o), that information must be provided to *NEMMCO* by that *Scheduled Generator, Market Participant* or *Network Service Provider*.

(q) *NEMMCO* must *publish* on a quarterly basis details of:

(i) *interconnector* transfer capability; and

(ii) the discrepancy between *interconnector* transfer capability and the capacity of the relevant *interconnector* in the absence of *outages* on the relevant *interconnector* only,

for each day of the preceding quarter for all *interconnectors*.

3.13.4 Spot market

(a) Each week, in accordance with the *timetable, NEMMCO* must *publish* details of the outcome of the *medium term PASA*.

(b) The details to be *published* by *NEMMCO* under clause 3.13.4(a) must include the information specified in clause 3.7.2(f).

(c) Each *day*, in accordance with the *timetable, NEMMCO* must *publish* details of the outcome of the *short term PASA* for each *trading interval* covered.

(d) The details of the *short term PASA published* each *day* by *NEMMCO* under clause 3.13.4(c) must include the information specified in clause 3.7.3(h).

(e) Each *day*, in accordance with the *timetable*, *NEMMCO* must *publish* a half hourly *pre-dispatch schedule* for the period described in clause 3.8.20(a).

(f) Details of the *pre-dispatch schedule* to be *published* must include the following for each *trading interval* in the period covered:

(1) forecasts of the most probable peak *power system load* plus required *reserve* for each *region* and for the total *power system*;

(2) forecasts of the most probable *energy* consumption for each *region* and for the total *power system*;

(3) forecast *inter-regional loss factors*;

(4) aggregate *generating plant* availability for each *region* and aggregate availability of each type of *market ancillary service* for each *region*;

(5) projected *supply* surpluses and deficits for each *region*, including shortages of *reserve* and projected *market ancillary service* surpluses and deficits for each *region*; and

(6) identification and quantification of:

(i) when and where the projected conditions are found to be inadequate;

(ii) any *trading intervals* for which *low reserve* or *lack of reserve* conditions are forecast to apply;

(iii) where a projected *supply* deficit in one *region* can be supplemented by a surplus in a neighbouring *region* (dependent on forecast *interconnector* capacities) and the expected *interconnector flow*;

(iv) forecast *interconnector* transfer capabilities and the projected impact of any *inter-network tests* on those transfer capabilities; and

(v) when and where *network constraints* may become binding on the *dispatch* of *generation* or *load*.

(g) Each *day*, in accordance with the *timetable*, *NEMMCO* must *publish* forecasts of *spot prices* and *ancillary service prices* at each *regional reference node* for each *trading interval* or *dispatch interval* (as applicable) of the period described in clause 3.8.20(a), with such forecasts being based on the *pre-dispatch schedule* information.

(h) Together with its forecast *spot prices*, *NEMMCO* must *publish* details of the expected sensitivity of the forecast *spot prices* to changes in the forecast *load* or *generating unit* availability.

(i) In accordance with the *timetable* or more often if there is a *change* in circumstances which in the opinion of *NEMMCO* results in a significant *change* in forecast *spot price*, or in any event no more than 3 hours after the previous such publication, *NEMMCO* must prepare and *publish* updated *pre-dispatch schedules* and *spot price forecasts*, including the details specified in clause 3.13.4(f).

(j) If *NEMMCO* considers there to be a significant change in a forecast *spot price*, *NEMMCO* must identify and *publish* the cause of such a change in terms of the aggregate *supply* and demand situation and any *network constraints* in or between the affected *region(s)*.

(k) *NEMMCO* must specify and *publish* its criteria for a significant change in forecast *spot price* for the purposes of activating an update in the *published* forecasts.

(l) Within 5 minutes of each time *NEMMCO* runs the *dispatch algorithm*, *NEMMCO* must *publish* the *dispatch price* for each *regional reference node* calculated in accordance with clause 3.9.2 and the *ancillary service price* for each *market ancillary service* for each *regional reference node* calculated in accordance with clause 3.9.2A.

(m) Within 5 minutes of the conclusion of each *trading interval*, *NEMMCO* must *publish* the *regional reference prices* for each *region* for that *trading interval*.

(n) Each *day*, in accordance with the *timetable*, *NEMMCO* must *publish* the actual *regional reference prices*, *ancillary service prices*, *regional* and total *interconnected* system *loads* and *energies*, *inter-regional* flows, *inter-regional loss factors* and details of any *network constraints* for each *trading interval* in the previous *trading day*.

(o) Within 2 *business days* of an event whereby a *scheduled generating unit* has been *constrained off* or *constrained on* in the *central dispatch* by a *network constraint* within its own *region*, *NEMMCO* must advise the *Scheduled Generator* and *Network Service Provider*, with whom the relevant *Scheduled Generator* has a *connection agreement* in respect of that *scheduled generating unit*, of the following information:

(1) the *dispatch intervals* in which the *constraint* applied; and

(2) *NEMMCO's* reasonable estimate of the MW quantities at which the *scheduled generating unit* would otherwise have been *dispatched* in each relevant *trading interval* in accordance with its *dispatch offer* and in the absence of the *network constraint*.

(p) Each *day*, in accordance with the *timetable*, *NEMMCO* must *publish* details of final *dispatch offers*, *dispatch bids* and *market ancillary service offers*

received and actual availabilities of *generating units*, *scheduled network services*, *scheduled loads* and *market ancillary services* for the previous *trading day*, including:

(1) the number and times at which *rebids* were made, and the reason provided by the *Scheduled Generator* or *Market Participant* for each *rebid* under clause 3.8.22(c)(2).

(2) identification of the *Scheduled Generator* or *Market Participant* submitting the *dispatch bid*, *dispatch offer* or *market ancillary offer*;

(3) the *dispatch bid* or *dispatch offer prices*;

(4) quantities for each *trading interval*;

(5) the *ramp rate* of each *generating unit*, *scheduled load* and *scheduled network service* as measured by *NEMMCO's* telemetry system; and

(6) identification of *trading intervals* for which the *plant* was specified as being *inflexible* in accordance with clause 3.8.19 and the reasons provided by the *Scheduled Generator* or *Market Participant* in accordance with clause 3.8.19(b)(1).

(q) Each *day*, in accordance with the *timetable*, *NEMMCO* must *publish* details of the *dispatched generation*, *dispatched network service* or *dispatched load* for each *scheduled generating unit*, *scheduled network service* and *scheduled load*, respectively, in each *trading interval* for the previous *trading day*.

(r) Each *day*, in accordance with the *timetable*, *NEMMCO* must *publish* details of any operational irregularities arising on the previous *trading day* including, for example, any circumstances in which there was prima facie evidence of a failure to follow *dispatch instructions*.

3.13.4A Market ancillary services

(a) *NEMMCO* must each week, in accordance with the *timetable*, *publish* a forecast of the requirements for each type of *market ancillary service* for each *region* for the following week.

(b) *NEMMCO* must *publish* information describing the key factors which determine the requirement for each type of *market ancillary service* and how they impact on forecast requirements.

(c) *NEMMCO* must *publish* information detailing any significant changes to the forecast requirement for any *market ancillary service* previously *published* under clause 3.13.4A(a), as soon as reasonably practicable after becoming aware of that information.

3.13.5 Ancillary services contracting by NEMMCO

(a) *NEMMCO* must *publish* annually the costs of all of its operations associated with the acquisition of *market ancillary services* and *non-market ancillary services.*

(b) *NEMMCO* must *publish* annually the quantities and categories of *non-market ancillary services* covered under existing *ancillary services agreements* and the additional quantities of *non-market ancillary services* for which *NEMMCO* expects to enter into *ancillary services agreements* within the ensuing 12 months.

(c) Information published under clauses 3.13.5(a) or (b) must include:

(1) the costs and quantities associated with each category of *ancillary service* purchased or to be purchased; and

(2) where possible, the *regions* in respect of which costs were or are expected to be incurred and *ancillary services* were or are expected to be provided.

3.13.5A Settlement residue auctions

(a) If *NEMMCO* conducts an *auction* under clause 3.18, *NEMMCO* must, as soon as practicable thereafter, make available to all *Registered Participants* a report outlining:

(1) the *auction* clearing prices;

(2) all bids (but not the name of any bidder); and

(3) the proceeds of each such *auction*.

(b) *NEMMCO* must, as soon as practicable after the *final statements* for a *billing period* have been given to *Market Participants* under clause 3.15.15, make available to all *Registered Participants* a report setting out:

(1) the total *settlements residue*;

(2) the amount of *settlements residue* attributable to each *directional interconnector* (including the amount paid pursuant to the *jurisdictional derogations* in Chapter 9); and

(3) the amount of *settlement residue* attributable to *intra-regional loss factors* for each *region*, for that *billing period*.

(c) *NEMMCO* may provide copies of its reports under clauses 3.13.5A(a) and (b) to persons other than *Registered Participants*, and may charge a fee for doing so to cover an appropriate share of the costs of preparing the report.

3.13.6 Reserve trading by NEMMCO

(a) If any *plant* under a *reserve contract* with *NEMMCO* is *dispatched*, then *NEMMCO* must, as soon as practicable thereafter, *publish* a report outlining:

(1) the circumstances giving rise to the need for *dispatch* of *reserves*;

(2) the basis on which it determined the latest time for that *dispatch* of *reserves* and on what basis it determined that a *market* response would not have avoided the need for the *dispatch* of *reserves*;

(3) details of the changes in *dispatch* outcomes due to the *dispatch* of *reserves;*

(4) the processes implemented by *NEMMCO* to *dispatch* the *reserves*;

(5) if applicable, reasons why *NEMMCO* did not follow any or all of the processes set out in clause 4.8 either in whole or in part prior to the *dispatch* of *reserves*; and

(6) if applicable, the basis upon which *NEMMCO* considered it impractical to set *spot prices* and *ancillary service prices* in accordance with clause 3.9.3(a1).

(a1) As soon as reasonably practicable after *NEMMCO* has, in accordance with clause 3.15.9, included the amounts arising under a *reserve contract* in a *final statement* provided under clause 3.15.15, *NEMMCO* must *publish* details of:

(1) the payments under the *reserve contract* for the relevant *billing periods*; and

(2) a breakdown of the recovery of those costs by each category of *Registered Participant*, as determined by *NEMMCO*, in each *region*.

(b) Within 30 *days* of the end of each *financial year*, *NEMMCO* must *publish* a report detailing:

(1) each occasion on which it intervened to secure *reserve* availability;

(2) each occasion during the financial year when *plant* under a *reserve contract* was *dispatched*; and

(3) its costs and finances in connection with its *reserve* trading activities according to appropriate accounting standards including profit and loss, balance sheet, sources and applications of funds.

3.13.6A Report by NEMMCO

(a) *NEMMCO* must, as soon as reasonably practicable after issuing a *direction*, *publish* a report outlining:

(1) the circumstances giving rise to the need for the *direction*;

(2) the basis on which it determined the latest time for that *direction* and on what basis that it determined that a *market* response would not have avoided the need for the *direction*;

(3) details of the changes in *dispatch* outcomes due to the *direction*;

(4) the processes implemented by *NEMMCO* to issue the *direction*;

(5) if applicable, the basis upon which *NEMMCO* did not follow any or all of the processes set out in clause 4.8 either in whole or in part prior to the issuance of the *direction*;

(6) if applicable, the basis upon which *NEMMCO* considered it impractical to set *spot prices* and *ancillary service prices* in accordance with clause 3.9.3(a1);

(7) details of the adequacy and effectiveness of responses to inquiries made by *NEMMCO* under clause 4.8.5A(c); and

(8) information regarding any notification by a *Registered Participant* that it will not be able to comply with a *direction* under clause 4.8.9(d).

(b) As soon as reasonably practicable after *NEMMCO* has, in accordance with clause 3.15.10C, included the amounts arising from a *direction* in a settlement statement provided under clause 3.15.15, *NEMMCO* must *publish* details of:

(1) the *compensation recovery amount* arising from the *direction* as calculated under clause 3.15.8(a) for the period of the *direction*;

(2) details of the calculation of the regional benefit determined under clause 3.15.8(b1); and

(3) a breakdown of the *compensation recovery amount* by each category of *Registered Participant*, as determined by *NEMMCO*, in each *region*.

3.13.6B [Deleted]

3.13.7 Monitoring of significant variation between forecast and actual prices by AER

(a) The *AER* must, after consulting with the *AEMC*, specify and make available to *Registered Participants* and the public, criteria which the *AER* will use to determine whether there is a significant variation between the *spot price forecast* published by *NEMMCO* in accordance with clause 3.13.4 and the actual *spot price* in any *trading interval*. The *AER* must, in accordance with these criteria, monitor in each *trading interval* whether any such significant variation has occurred.

(b) The *AER* must prepare and publish a report in respect of each three month period commencing on 1 January, 1 April, 1 July and 1 October in each year. The report must:

(1) be published no later than 4 weeks after the end of each three month period;

(2) identify and review each occasion when, in accordance with the criteria specified under clause 3.13.7(a), the *AER* considers that a significant price variation has occurred;

(3) state why the *AER* considers that the significant price variation occurred;

(4) be available to members of the public on request; and

(5) be provided to the *AEMC*.

(c) The *ACCC* or the *AEMC* may request the *AER* to report to it on a particular *market* outcome. If the *ACCC* or the *AEMC* makes a request of this type, the *AER* may provide a report on that *market* outcome. The report must review the *market* outcome raised by the *ACCC* or the *AEMC* (as the case may be) and state why the *AER* considers that the *market* outcome occurred.

(d) The *AER* must, within 20 *business days* of the end of a week in which the *spot price* exceeded $5,000/MWh in a *trading interval* or *trading intervals*, prepare and *publish* a report which must for each *trading interval* in which the *spot price* exceeded $5,000/MWh in that week:

(1) describe the significant factors that contributed to the *spot price* exceeding $5,000/MWh, including the withdrawal of *generation* capacity and *network* availability;

(2) assess whether *rebidding* pursuant to clause 3.8.22 contributed to the *spot price* exceeding $5,000/MWh; and

(3) identify the marginal *scheduled generating units* for the *dispatch intervals* in the relevant *trading interval* and all *scheduled generating units* for which any *dispatch offer* for the *trading interval* was equal to or greater than $5,000/MWh and compare these *dispatch offers* to relevant *dispatch offers* in previous *trading intervals*.

(e) Where

(1) prices at a *regional reference node* for a *market ancillary service* over a period significantly exceed the relevant *spot price* for *energy;* and

(2) prices for that *market ancillary service* exceed $5,000 for a number of *trading intervals* within that period,

the *AER* must prepare and publish a report which:

(3) describes the significant factors that contributed to the *market ancillary service* prices exceeding $5,000/MWh;

(4) identifies any linkages between *spot prices* in the *energy market* and *market ancillary service* prices contributing to the occurrence; and

(5) assesses whether *rebidding* pursuant to clause 3.8.22 contributed to prices exceeding $5,000/Mwh.

3.13.8 Public information

(a) *NEMMCO* must *publish* on a daily basis the following information for the previous *trading day*:

(1) *regional reference price* by *trading interval*;

(2) *power system load* for each *region* referred to the *regional reference node* by *trading interval*;

(3) *regional* electricity consumption in MWh by *trading interval*;

(4) *inter-regional* power flows by *trading interval*; and

(5) *inter-regional* and *intra-regional network constraints* by *trading interval.*

(b) All *market information* that *NEMMCO* is required to *publish* in accordance with the *Rules* shall also be made available by *NEMMCO* to persons other than *Registered Participants* using the *electronic communications system* on the fee basis described in clause 8.7.6. *NEMMCO* may make the *market information* available to persons other than *Registered Participants* using a mechanism other than the *market information bulletin board* on the fee

basis described in clause 8.7.6, so long as that information is also available on the *market information bulletin board*.

(c) *NEMMCO* must make available for purchase by any party the *statement of opportunities* from the date of *publication* of such statement.

(d) *NEMMCO* must retain all information provided to it under the *Rules* for at least 6 years in whatever form it deems appropriate for reasonably easy access.

3.13.9 [Deleted]

3.13.10 Market auditor

(a) *NEMMCO* must appoint one or more *market auditors* to carry out *reviews* of such matters as *NEMMCO* considers appropriate which must include (but need not be limited to) a *review* of:

(1) the calculations and allocations performed by the *metering system* and *settlements* system;

(2) the billing and information systems;

(3) the scheduling and *dispatch* processes;

(4) the processes for software management;

(5) the *NEMMCO* procedures and their compliance with the *Rules*.

(b) *NEMMCO* must ensure that the *market auditor* carries out the *reviews* to be carried out under clause 3.13.10(a) no less than annually.

(c) A *market auditor* shall be an *independent person*.

(d) A *market auditor* must report in writing to *NEMMCO*. *NEMMCO* must, after receiving the report, either:

(1) approve the report, and any recommendations made in it, by noting such approval on the report or in a paper attached to the report; or

(2) prepare a separate report setting out the matters dealt with in the report which *NEMMCO* approves and those matters which *NEMMCO* does not approve and setting out *NEMMCO's* reasons for that view.

(e) *NEMMCO* must *publish* any report received from the *market auditor* together with the material mentioned in clause 3.13.10(d).

(f) **[Deleted]**

(g) **[Deleted]**

3.13.11 [Deleted]

3.13.12 NMI Standing Data

(a) The *Jurisdictional Regulator* for each *participating jurisdiction* may provide *NEMMCO* with a *Jurisdictional NMI Standing Data schedule* setting out the categories of *NMI Standing Data* which:

(1) *Registered Participants* are required by the *participating jurisdiction's* legislation or licensing requirements to provide to *NEMMCO* in relation to *connection points* in that *participating jurisdiction*; and

(2) *NEMMCO* must make available to *Market Customers*, or a class of *Market Customers*, on request pursuant to its disclosure obligations under clauses 3.13.12(d) and (e).

Any such schedule must contain the matters set out in clause 3.13.12(c).

(b) A *Jurisdictional Regulator* may from time to time amend the *Jurisdictional NMI Standing Data schedule* in respect of the relevant *participating jurisdiction*, which amendments must be consistent with the matters set out in clause 3.13.12(c), and must promptly provide the amended schedule to *NEMMCO*.

(c) A valid *Jurisdictional NMI Standing Data schedule* must contain the following items:

(1) a specification of the categories of *NMI Standing Data* which *NEMMCO* must provide to *Market Customers*, or a specified class of *Market Customers*, on request, pursuant to its disclosure obligations under clauses 3.13.12(d) and (e), in respect of *connection points* in the relevant *participating jurisdiction*;

(2) details of the *Jurisdictional NMI Standing Data suppliers*, including which *Registered Participants* are required to provide that data in respect of particular *connection points* within that *participating jurisdiction*;

(3) the timetable which the relevant *participating jurisdiction* will implement to ensure *Jurisdictional NMI Standing Data suppliers* supply *NMI Standing Data* in respect of *connection points* in that *participating jurisdiction* to *NEMMCO*;

(4) the criteria which *NEMMCO* must use to identify whether *NEMMCO* must disclose *NMI Standing Data* for *connection points* in that

participating jurisdiction to particular *Market Customers*, pursuant to its disclosure obligations under clauses 3.13.12(d) and (e);

(5) the purposes connected with the facilitation of the wholesale electricity *market* for which the *Market Customer* may use *NMI Standing Data*;

(6) any additional information or criteria as may be determined by the *Jurisdictional Regulator* as necessary or appropriate in relation to the obligations of *Jurisdictional NMI Standing Data suppliers* and the release by *NEMMCO* of *NMI Standing Data* for *connection points* in that *participating jurisdiction.*

(d) *NEMMCO* must:

(1) *publish* the *Jurisdictional NMI Standing Data schedules* and any amendments to those schedules provided to it by the *Jurisdictional Regulators* under clauses 3.13.12(a) and (b); and

(2) subject to clause 3.13.12(e), make available to *Market Customers* on request *NMI Standing Data* within the relevant categories in respect of *connection points* in a *participating jurisdiction* described in the *Jurisdictional NMI Standing Data schedule* for that *participating jurisdiction.*

(e) *NEMMCO* must only provide *NMI Standing Data* under this clause 3.13.12 to a *Market Customer*:

(1) that is a *Market Customer* or a member of a class of *Market Customers* fitting the criteria stated in the relevant *Jurisdictional NMI Standing Data schedule* as being entitled to receive that data;

(2) in accordance with the relevant valid *Jurisdictional NMI Standing Data schedule*; and

(3) for the purposes described in clause 3.13.12(g).

(f) Each *Registered Participant* which is a *Jurisdictional NMI Standing Data supplier* must provide the *NMI Standing Data* to *NEMMCO* which it is required to provide in accordance with the relevant *Jurisdictional NMI Standing Data schedule*, if any such *Jurisdictional NMI Standing Data schedule* has been provided to *NEMMCO* under clause 3.13.12(a):

(1) at no charge and in the format reasonably required by *NEMMCO*; and

(2) after having first done whatever may be required or otherwise necessary under any applicable privacy legislation (including if appropriate making relevant disclosures or obtaining relevant consents

from end-use customers) taking into account that *NEMMCO* will use and disclose the *NMI Standing Data* in accordance with the *Rules*.

(g) *Market Customers* must only use *NMI Standing Data* provided to it by *NEMMCO* under this clause 3.13.12 for the purposes permitted by the relevant *Jurisdictional NMI Standing Data schedule*.

(h) Where a *Jurisdictional Regulator* has provided *NEMMCO* with a *Jurisdictional NMI Standing Data schedule* for the relevant *participating jurisdiction* and a *Registered Participant* which is a *Jurisdictional NMI Standing Data supplier* fails to provide *NEMMCO* with *NMI Standing Data* in accordance with clause 3.13.12(f) and *NEMMCO* becomes aware of that failure, then:

(1) *NEMMCO* must advise the *Registered Participant* that, in its opinion, the *Registered Participant* is failing to comply with clause 3.13.12(f);

(2) if the *Registered Participant* fails to provide *NEMMCO* with the *NMI Standing Data* within 5 *business days* of the notice provided under clause 3.13.12(h)(1), *NEMMCO* must notify the relevant *Jurisdictional Regulator* of the failure and the failure by the *Registered Participant* to provide the *NMI Standing Data* is to be dealt with by the *Jurisdictional Regulator* under the relevant *participating jurisdiction's* legislation or licensing requirements unless the *Jurisdictional Regulator* notifies *NEMMCO* otherwise in accordance with clause 3.13.12(h)(3); and

(3) if, after receiving a notice from *NEMMCO* under clause 3.13.12(h)(2), the *Jurisdictional Regulator* notifies *NEMMCO* that the relevant *participating jurisdiction's* legislation or licensing requirements do not contain a regime which empowers the *Jurisdictional Regulator* to compel the *Registered Participant* to provide the *NMI Standing Data* to *NEMMCO*, *NEMMCO* must notify the *AER* of the failure by the *Registered Participant* to provide the *NMI Standing Data* under clause 3.13.12(f).

(i) Where a *Jurisdictional Regulator* has provided *NEMMCO* with a *Jurisdictional NMI Standing Data schedule* for the relevant *participating jurisdiction* and a *Market Customer*, that has been provided with *NMI Standing Data* by *NEMMCO* under clause 3.13.12(d) in accordance with that schedule, fails to use that *NMI Standing Data* in accordance with clause 3.13.12(g), and *NEMMCO* becomes aware of that failure, then:

(1) *NEMMCO* must advise the *Market Customer* that, in its opinion, the *Market Customer* is failing to comply with clause 3.13.12(g);

(2) if the *Market Customer* does not remedy the failure within 5 *business days* of the notice provided under clause 3.13.12(i)(1), *NEMMCO*

must notify the relevant *Jurisdictional Regulator* of the failure and the failure by the *Market Customer* to use the *NMI Standing Data* in accordance with this clause 3.13.12 is to be dealt with by the *Jurisdictional Regulator* under the relevant *participating jurisdiction's* legislation or licensing requirements unless the *Jurisdictional Regulator* notifies *NEMMCO* otherwise in accordance with clause 3.13.12(i)(3); and

(3) if, after receiving a notice from *NEMMCO* under clause 3.13.12(i)(2), the *Jurisdictional Regulator* notifies *NEMMCO* that the relevant *participating jurisdiction's* legislation or licensing requirements do not contain a regime which empowers the *Jurisdictional Regulator* to regulate the use of the *NMI Standing Data* by a *Market Customer*, *NEMMCO* must notify the *AER* of the failure by the *Market Customer* to use the *NMI Standing Data* in accordance with clause 3.13.12(g).

(j) *NEMMCO* must if requested by a *Jurisdictional Regulator*:

(1) develop a regime for monitoring and reporting to the *Jurisdictional Regulator* on requests received by *NEMMCO* to provide *NMI Standing Data* to *Market Customers* for *connections points* in the relevant *participating jurisdiction*, in consultation with the *Jurisdictional Regulator*; and

(2) provide information to the *Jurisdictional Regulator* in accordance with the monitoring and reporting regime developed under this clause 3.13.12(j).

(k) Nothing in this clause 3.13.12:

(1) requires *NEMMCO* to make available *NMI Standing Data* if that *NMI Standing Data* has not been provided to *NEMMCO*;

(2) requires *NEMMCO* to make available *NMI Standing Data* where the collection, use or disclosure of that information by *NEMMCO* would breach applicable privacy laws;

(3) precludes *NEMMCO* from providing *NMI Standing Data* to a *Registered Participant* where the provision of that information is required to give effect to other provisions of the *Rules*;

(4) precludes *NEMMCO* from disclosing the information in the circumstances described in clause 8.6.2; and

(5) requires *NEMMCO* to provide information which its software systems cannot provide without modification.

3.13.13 Inter-network tests

(a) *NEMMCO* must *publish* the *test program* for an *inter-network test* as soon as practicable after determining it under clause 5.7.7(r).

(b) If *NEMMCO* amends the *test program* for an *inter-network test* it must *publish* details of the amendment.

(c) If *NEMMCO* proposes to conduct an *inter-network test* it must *publish* the approximate time of the test, giving as much notice as is reasonably practicable.

(d) If the time of an *inter-network test* is changed, *NEMMCO* must *publish* details of the change.

3.14A [Deleted]

3.14 Administered Price Cap and Market Suspension

3.14.1 Cumulative Price Threshold and Administered Price Cap

(a) In conjunction with each *participating jurisdiction*, and after consulting *Market Participants* in accordance with the *Rules consultation procedures*, the *AEMC* must develop, authorise and *publish* and may vary from time to time a schedule to specify an *administered price cap* for each *region* to apply to *spot prices* and *market ancillary service prices* and to be used as described in this clause 3.14.

(b) The *administered price floor* for each *region* to apply to *spot prices* and to be used as described in clause 3.14.2 will be the negative of the value of the *administered price cap*.

(c) The cumulative price threshold is $150,000.

3.14.2 Application of Administered Price Cap

(a) **[Deleted]**

(b) *NEMMCO* must immediately notify all *Market Participants* of the commencement and closing of an *administered price period* under clause 3.14.

(c) A *trading interval* is to be an *administered price period* if in a *region*:

(1) the sum of the *spot price* in the previous 336 *trading intervals*, calculated as if this clause did not apply, exceeds the *cumulative price threshold;*

(1A) the sum of the *ancillary service price* for a *market ancillary service* in the previous 2016 *dispatch intervals*, calculated as if this clause did not apply, exceeds 6 times the *cumulative price threshold*;

(2) the *trading interval* occurs in a *trading day* in which a prior *trading interval* is an *administered price period* under this clause 3.14.2; or

(3) the previous *trading interval* was an *administered price period* and in *NEMMCO*'s opinion one or more *trading intervals* in the next *business day* will be an *administered price period* and *NEMMCO* deems, with the consent of the *AER*, the *trading interval* to be an *administered price period.*

(d) During an *administered price period* the procedures for *PASA*, *dispatch, spot price* and *ancillary service price* determination are to continue in accordance with the provisions of the *Rules*.

(d1) If, within an *administered price period* triggered because of clauses 3.14.2(c)(1), (2) or (3) in relation to *energy*, the *dispatch price* for the *region* identified in clause 3.14.2(c) calculated as if this clause 3.14.2(d1) did not apply:

(1) exceeds the *administered price cap*, then *NEMMCO* must set the *dispatch price* to the *administered price cap*; or

(2) is less than the *administered price floor*, *NEMMCO* must set the *dispatch price* to the *administered price floor*.

(d2) If within an *administered price period* an *ancillary service price* for a *market ancillary service* for the *region* identified in clause 3.14.2(c) calculated as if this clause 3.14.2(d2) did not apply exceeds the *administered price cap*, then *NEMMCO* must set that *ancillary service price* to the *administered price cap*.

(e) If during an *administered price period* the *dispatch price*:

(1) **[Deleted]**

(2) at any *regional reference node* is set to the *administered price cap* under clause 3.14.2, the *dispatch prices* at all other *regional reference nodes connected* by a *regulated interconnector* or *regulated interconnectors* that have an *energy* flow towards that *regional reference node* must not exceed the product of the *administered price cap* multiplied by the average *loss factor* for that *dispatch interval* between that *regional reference node* and the *regional reference node* at which *dispatch prices* have been set to the *administered price cap* determined in accordance with clause 3.14.2(e)(5).

(3) **[Deleted]**

(4) at any *regional reference node* is set to the *administered price floor* under clause 3.14.2, then *dispatch prices* at all other *regional reference nodes connected* by a *regulated interconnector* or *regulated interconnectors* that have an *energy* flow towards that *regional reference node* must be equal to or greater than the product of the *administered price floor* multiplied by the average *loss factor* for that *dispatch interval* between that *regional reference node* and the *regional reference node* at which *dispatch prices* have been set to the *administered price floor* determined in accordance with clause 3.14.2(e)(5).

(5) *NEMMCO* must determine the average *loss factors* applicable to clause 3.14.2(e)(2) and 3.14.2(e)(4) by reference to the *inter-regional loss factor* equations relating to the relevant *regulated interconnector*.

(f) **[Deleted]**

(g) **[Deleted]**

(h) **[Deleted]**

(i) **[Deleted]**

3.14.3 Conditions for suspension of the spot market

(a) Subject to clause 3.14.3(b), *NEMMCO* may declare the *spot market* to be suspended in a *region* when in respect of that *region*:

(1) the *power system* has collapsed to a *black system*;

(2) *NEMMCO* has been directed by a *participating jurisdiction* to suspend the *market* or operate all or part of the *power system* in a manner contrary to the provisions of the *Rules* following the formal declaration by that *participating jurisdiction* of a state of emergency under its emergency services or equivalent legislation; or

(3) *NEMMCO* determines that it is necessary to suspend the *spot market* in a *region* because it has become impossible to operate the *spot market* in accordance with the provisions of the *Rules*.

(a1) If *NEMMCO* declares the *spot market* to be suspended in a *region*, then all *spot prices* and *ancillary service prices* are set in accordance with clause 3.14.5 for that *region*.

(b) *NEMMCO* must not suspend the *spot market* solely because:

(1) *spot prices* have reached *VoLL*;

(1A) *spot prices* have reached the *market floor price*;

(2) *NEMMCO* has issued a *direction*; or

(3) *NEMMCO* has otherwise intervened in the market under clause 3.12.

(c) *NEMMCO* must conduct reviews of each occasion when it suspended the *spot market* in order to assess the adequacy of the provision and response of *facilities* or services, and the appropriateness of actions taken to restore or maintain *power system security*.

(d) The report of the review carried out in accordance with clause 3.14.3(c) must be made available to *Registered Participants* and the public.

(e) A *Registered Participant* must co-operate in any such review conducted by *NEMMCO* (including making available relevant records and information).

(f) A *Registered Participant* must provide to *NEMMCO* such information relating to the performance of its equipment during and after a suspension of the *spot market* as *NEMMCO* reasonably requires for the purposes of analysing or reporting on that suspension.

(g) *NEMMCO* must provide to a *Registered Participant* such information or reports relating to the performance of that *Registered Participant's* equipment during a suspension of the *spot market* as that *Registered Participant* reasonably requests and in relation to which *NEMMCO* is required to conduct a review under this clause 3.14.3.

3.14.4 Declaration of market suspension

(a) The *spot market* can only be suspended by a declaration by *NEMMCO* under clause 3.14.3(a) and if the *spot market* is suspended, *NEMMCO* must notify all *Registered Participants* without delay.

(b) *NEMMCO* must not declare the *spot market* to be suspended retrospectively.

(c) The *spot market* is to be deemed to be suspended at the start of the *trading interval* in which *NEMMCO* makes a declaration that the *spot market* is suspended.

(d) Following a declaration by *NEMMCO* under clause 3.14.3(a), the *spot market* is to remain suspended until *NEMMCO* declares and informs all *Registered Participants*:

(1) that *spot market* operation is to resume in accordance with this Chapter 3; and

(2) of the *time* at which the *spot market* is to resume.

(e) If *NEMMCO* declares that the *spot market* is suspended:

(1) *NEMMCO* may then issue *directions* to *Registered Participants* in accordance with clause 4.8.9; and

(2) *spot prices* and *ancillary service prices* are to be set by *NEMMCO* in accordance with clause 3.14.5.

(f) *NEMMCO* must within 10 *business days* following the day on which, in accordance with the notice given by *NEMMCO* under clause 3.14.4(d), the *spot market* resumed, commence an investigation of that *spot market* suspension.

(g) The investigation must examine and report on the reason for the suspension and the effect that the suspension had on the operation of the *spot market*. *NEMMCO* must make a copy of the report available to *Registered Participants* and the public as soon as it is practicable to do so.

3.14.5 Pricing during market suspension

(a) If *NEMMCO* declares that the *spot market* is suspended then, as far as *NEMMCO* considers it practically and reasonably possible, the procedures for *PASA*, *dispatch* and *spot price* and *ancillary service price* determination are to be followed in accordance with the provisions of the *Rules*, subject to the application of this clause 3.14.5.

(b) The *spot price* and the *ancillary service price* during a *trading interval* for which *NEMMCO* has declared the *spot market* to be suspended is to be determined by *NEMMCO* in accordance with this clause 3.14.5.

(c) In a *region* or *regions* where, in *NEMMCO's* reasonable opinion, it remains possible to do so, *dispatch* and the determination of *spot prices* and *ancillary service prices* are to continue in accordance with clauses 3.8 and 3.9.

(d) If, in *NEMMCO's* reasonable opinion, it is not possible in a *region* to continue to *dispatch* and determine *spot prices* in accordance with clauses 3.8 and 3.9, but that *region* is *connected* by an *unconstrained regulated interconnector* or *interconnectors* to another *region* where dispatch is continuing in accordance with clause 3.8, then the *regional reference price* in the first *region* is to be determined by application of an appropriate *inter-regional loss factor* to the *regional reference price* in the adjacent *region*, such *inter-regional loss factor* being determined by *NEMMCO* in

accordance with the principles in clause 3.6.2A and the actual flows on the *interconnector*.

(e) **[Deleted]**

(f) **[Deleted]**

(g) Where *NEMMCO* is of the reasonable opinion that it is not practical to set *spot prices* in a *region* in accordance with clauses 3.14.5(c) – (d), then *NEMMCO* must set the *regional reference price* at:

(1) *NEMMCO's* forecast *regional reference price* determined in accordance with the most recently published *pre-dispatch schedule* if it is still current; and otherwise at

(2) the price set out in relation to the relevant *trading interval* in the schedule developed and updated by *NEMMCO* for that purpose in accordance with the methodology developed under the *Rules consultation procedures* to reflect *NEMMCO's* reasonable estimate of typical *market* prices during the period to which the schedule relates.

(g1) *NEMMCO* must *publish* the schedule developed under clause 3.14.5(g)(2) and (g4)(2) at least 14 *days* prior to the first *day* to which the schedule relates.

(g2) If a *regional reference price* is set pursuant to clause 3.14.5(g)(2) then *spot prices* at all other *regional reference nodes* connected by a *regulated interconnector* or *regulated interconnectors* that have an *energy* flow towards that *regional reference node* must not exceed the product of that *regional reference price* multiplied by the average *loss factor* for that *trading interval* between that *regional reference node* and the *regional reference node* at which *regional reference prices* have been set in accordance with clause 3.14.5(g).

(g3) *NEMMCO* must calculate the average *loss factor* applicable to clause 3.14.5(g2) by reference to the *inter-regional loss factor* equations relating to the relevant *regulated interconnector.*

(g4) Where *NEMMCO* is of the reasonable opinion that it is not practical to set the *ancillary service price* for a *market ancillary service* in a *region* in accordance with clauses 3.14.5(c) - (d), then *NEMMCO* must set the *ancillary service price* for that *market ancillary service* at:

(1) *NEMMCO's* forecast *ancillary service price* for that *market ancillary service* determined in accordance with the most recently published *pre-dispatch schedule* if it is still current; and otherwise at

(2) the price set out in relation to the relevant *trading interval* in the schedule developed and updated by *NEMMCO* for that purpose in accordance with the methodology developed under the *Rules consultation procedures* to reflect *NEMMCO's* reasonable estimate of typical *market* prices during the period to which the schedule relates.

3.14.6 Compensation due to the application of an administered price, VoLL or market floor price

(a) *Scheduled Generators* may claim compensation from *NEMMCO* in respect of *generating units* if, due to the application of an *administered price cap* during either an *administered price period* or *market suspension*, the resultant *spot price* payable to *dispatched generating units* in any *trading interval* is less than the price specified in their *dispatch offer* for that *trading interval*.

(a1) A *Scheduled Network Service Provider* may claim compensation from *NEMMCO* in respect of a *scheduled network service* if, due to the application of an *administered price cap*, *VoLL*, the *market floor price* or an *administered price floor*, the resultant revenue receivable in respect of *dispatched network services* in any *trading interval* is less than the minimum requirement specified by its *network dispatch offer* for that *trading interval.*

(a2) A *Market Participant* which submitted a *dispatch bid* may claim compensation from *NEMMCO* in respect of a *scheduled load* if, due to the application of an *administered price floor* during either an *administered price period* or *market suspension*, the resultant *spot price* in any *trading interval* is greater than the price specified in the *dispatch bid* for that *trading interval*.

(a3) In respect of an *ancillary service generating unit* or an *ancillary service load*, a *Market Participant* may claim compensation from *NEMMCO* if, due to the application of an *administered price cap*, the resultant *ancillary service price* for that *ancillary service generating unit* or *ancillary service load* in any *dispatch interval* is less than the price specified in the relevant *market ancillary service offer*.

(b) Notification of an intent to make a claim under clause 3.14.6(a), 3.14.6(a1), 3.14.6(a2) or 3.14.6(a3) must be submitted to both *NEMMCO* and the *AEMC* within 2 *business days* of the *trading interval* in which *dispatch prices* were adjusted in accordance with clause 3.9.5 or notification by *NEMMCO* that an *administered price period* or period of *market suspension* has ended.

(c) The *AEMC* must determine whether it is appropriate in all the circumstances for compensation to be payable by *NEMMCO* and, if so, the *AEMC* must determine an appropriate amount of compensation.

(d) Before making a determination, the *AEMC* must request the *Adviser* to establish a three member panel from the group of persons referred to in clause 8.2.2(e) to make recommendations on the matters to be determined by the *AEMC*.

(e) The panel must conduct itself on the same basis as a *DRP* under clauses 8.2.6A to 8.2.6D and make its recommendations within the period specified for the making of a determination under clause 8.2.6D(b). The panel must base its recommendations on its assessment of a fair and reasonable amount of compensation taking into account:

(1) all the surrounding circumstances;

(2) the actions of any relevant *Registered Participants* and *NEMMCO*;

(3) in the case of a claim by a *Scheduled Generator*, the difference between the *spot price* applicable due to the application of the *administered price cap* and the price specified by the *Scheduled Generator* in its *dispatch offer*;

(4) in the case of a claim by a *Scheduled Network Service Provider*, the difference between the revenue receivable by the *Scheduled Network Service Provider* for the *dispatched network services* as the result of the application of the *administered price cap, VoLL* or an *administered price floor* and the minimum revenue requirement specified in its *network dispatch offer*;

(5) in the case of a *Market Participant* which submitted a *dispatch bid,* the difference between the *spot price* applicable due to the application of the *administered price floor* and the price specified by the *Market Participant* in its *dispatch bid*;

(6) in the case of a claim in respect of an *ancillary service generating unit*, the difference between the *ancillary service price* applicable due to the application of the *administered price cap* and the price specified by the *ancillary service generating unit* in its *market ancillary service offer*; and

(7) in the case of a claim in respect of an *ancillary service generating unit*, the difference between the *ancillary service price* applicable due to the application of the *administered price floor* and the price specified by the *ancillary service load* in its *market ancillary service offer*.

(f) **[Deleted]**

3.15 Settlements

3.15.1 Settlements management by NEMMCO

(a) *NEMMCO* must facilitate the billing and settlement of payments due in respect of *transactions* under this Chapter 3, including:

(1) *spot market transactions*;

(2) *reallocation transactions*; and

(3) ancillary services transactions under clause 3.15.6A.

(b) *NEMMCO* must determine the *Participant fees* and the *Market Participants* must pay them to *NEMMCO* in accordance with the provisions of clause 2.11.

3.15.2 Electronic funds transfer

(a) *NEMMCO* must ensure that an electronic funds transfer (EFT) facility is provided and made available for all *Market Participants* for the purposes of *settlements* and the collection and payment of all *market* fees.

(b) Unless otherwise authorised by *NEMMCO*, all *Market Participants* must use the EFT facility provided by *NEMMCO* under clause 3.15.2(a) for the payment and receipt of amounts due in respect of *transactions* and the payment of *market* fees.

(c) In establishing the EFT facility in accordance with clause 3.15.2(a) *NEMMCO* must use its reasonable endeavours to ensure that the use of that facility does not impose unnecessary restrictions on the normal banking arrangements of *Market Participants*.

3.15.3 Connection point and virtual transmission node responsibility

(a) For each *market connection point* there is one person that is *financially responsible* for that *connection point*. The person that is *financially responsible* for such a *connection point* is:

(1) the *Market Participant* which has classified the *connection point* as a *market load*;

(2) the *Market Participant* which has classified the *generating unit connected* at that *connection point* as a *market generating unit*; or

(3) the *Market Participant* which has classified the *network service connected* at that *connection point* as a *market network service*.

(b) For each *virtual transmission node* there is one person that is *financially responsible* for that *virtual transmission node*. The person that is *financially responsible* for such a *virtual transmission node* is the *Market Participant* which is the *Local Retailer* for all of the *market connection points* assigned to that *virtual transmission node.*

3.15.4 Adjusted energy amounts - connection points

Where a *connection point* is not a *transmission network connection point*, the *adjusted gross energy* amount for that *connection point* for a *trading interval* is calculated by the following formula:

AGE = ME x DLF

where:

AGE is the *adjusted gross energy* amount to be determined;

ME is the amount of electrical *energy*, expressed in MWh, flowing at the *connection point* in the *trading interval*, as recorded in the *metering data* in respect of that *connection point* and that *trading interval* (expressed as a positive value where the flow is towards the *transmission network connection point* to which the *connection point* is assigned and negative value where the flow is in the other direction); and

DLF is the *distribution loss factor* applicable at that *connection point*.

3.15.5 Adjusted energy - transmission network connection points

Where a *connection point* is a *transmission network connection point*, the *adjusted gross energy* amount for that *connection point* for a *trading interval* is calculated by the following formula:

AGE = ME - AAGE

where:

AGE is the *adjusted gross energy* amount to be determined;

ME is the amount of electrical *energy*, expressed in MWh, flowing at the *connection point* in the *trading interval*, as recorded in the *metering data* in respect of that *connection point* and that *trading interval* (expressed as a positive value where the flow is towards the *transmission network*, and negative value where the flow is in the other direction); and

AAGE is the aggregate of the *adjusted gross energy* amounts for that *trading interval* for each *connection point* assigned to that *transmission network connection point*, for which a *Market Participant* (other than a suspended *Market Participant*) is *financially responsible* (and in that aggregation positive and negative *adjusted gross energy* amounts are netted out to give a positive or negative aggregate amount).

3.15.5A Adjusted energy – virtual transmission nodes

For each *virtual transmission node*, the *adjusted gross energy* amount for that *virtual transmission node* for a *trading interval* is calculated by the following formula:

AGE = - AAGE

where:

AGE is the *adjusted gross energy* amount to be determined; and

AAGE is the aggregate of the *adjusted gross energy* amounts for that *trading interval* for each *connection point* assigned to that *virtual transmission node* for which a *Market Participant* (other than a suspended *Market Participant*) is *financially responsible* (and in that aggregation positive and negative *adjusted gross energy* amounts are netted out to give a positive or negative aggregate amount).

3.15.6 Spot market transactions

(a) In each *trading interval*, in relation to each *connection point* and to each *virtual transmission node* for which a *Market Participant* is *financially responsible*, a *spot market transaction* occurs, which results in a *trading amount* for that *Market Participant* determined in accordance with the formula:

TA = AGE x TLF x RRP

where

TA is the *trading amount* to be determined (which will be a positive or negative dollar amount for each *trading interval*);

AGE is the *adjusted gross energy* for that *connection point* or *virtual transmission node* for that *trading interval*, expressed in MWh;

TLF for a *transmission network connection point* or *virtual transmission node*, is the *intra-regional loss factor* at that *connection point* or *virtual transmission node* respectively, and for any other *connection point*, is the *intra-regional loss factor* at the *transmission network*

connection point or *virtual transmission node* to which it is assigned in accordance with clause 3.6.3(a); and

RRP is the *regional reference price* for the *regional reference node* to which the *connection point* or *virtual transmission node* is assigned, expressed in dollars per MWh.

(b) *NEMMCO* is entitled to the *trading amount* resulting from the *dispatch* of *plant* under a *reserve contract* pursuant to clause 4.8.6 or a *direction* pursuant to clause 4.8.9(a) and for the purposes of determining *settlement amounts*, any such *trading amount* is not a *trading amount* for the relevant *Market Participant*.

(c) A *Directed Participant* is entitled to the *trading amount* resulting from any service, other than the service the subject of the *direction* or the *dispatch of plant* under a *reserve contract*, rendered as a consequence of that *direction.*

3.15.6A Ancillary service transactions

(a) In each *trading interval*, in relation to each *enabled ancillary service generating unit* or *enabled ancillary service load*, an ancillary services transaction occurs, which results in a *trading amount* for the relevant *Market Participant* determined in accordance with the following formula:

$$TA = \text{the aggregate of } \frac{EA \times ASP}{(12)} \text{ for each } \textit{dispatch interval} \text{ in a } \textit{trading interval}$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a positive number);
EA (in MW)	=	the amount of the relevant *market ancillary service* which the *ancillary service generating unit* or *ancillary service load* has been *enabled* to provide in the *dispatch interval*; and
ASP (in $ per MW per hour)	=	the *ancillary service price* for the *market ancillary service* for the *dispatch interval* for the *region* in which the *ancillary service generating unit* or *ancillary service load* has been *enabled*.

(b) In each *trading interval*, in relation to each *Market Participant* which provides *non-market ancillary services* under an *ancillary services agreement*, an ancillary services transaction occurs, which results in a

trading amount for the relevant *Market Participant* determined in accordance with that agreement.

(c) In each *trading interval*, in relation to each *Market Customer*, an ancillary services transaction occurs, which results in a *trading amount* for the *Market Customer* determined in accordance with the following formula:

$$TA = TNCASP \times \frac{TCE}{ATCE} \times -1$$

where:

TA (in $) = the *trading amount* to be determined (which is a negative number);

TNCASP (in $) = all amounts payable by *NEMMCO* in respect of the *trading interval* under *ancillary services agreements* in respect of the provision of *NCAS*;

TCE (in MWh) = the *customer energy* for the *Market Customer* for the *trading interval*; and

ATCE (in MWh) = the aggregate *customer energy* figures for all *Market Customers* for the *trading interval*.

(d) In each *trading interval*, in relation to each *Market Generator*, an ancillary services transaction occurs, which results in a *trading amount* for the *Market Generator* determined in accordance with the following formula:

$$TA = \frac{TSRP}{2} \times \frac{TGE}{ATGE} \times -1$$

where:

TA (in $) = the *trading amount* to be determined (which is a negative number);

TSRP (in $) = the total of all amounts payable by *NEMMCO* in respect of the *trading interval* under *ancillary services agreements* in respect of the provision of *system restart*;

TGE (in MWh) = the *generator energy* for the *Market Generator* for the *trading interval*; and

ATGE (in MWh) = the aggregate of the *generator energy* figures for all *Market Generators* for the *trading interval*.

(e) In each *trading interval*, in relation to each *Market Customer*, an ancillary services transaction occurs, which results in a *trading amount* determined in accordance with the following formula:

$$TA = \frac{TSRP}{2} \times \frac{TCE}{ATCE} \times -1$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
TSRP (in $)	=	has the meaning given in clause 3.15.6A(d);
TCE (in MWh)	=	the *customer energy* for the *Market Customer* for the *trading interval*; and
ATCE (in MWh)	=	the aggregate of the *customer energy* figures for all *Market Customers* for the *trading interval*.

(f) The total amount calculated by *NEMMCO* under clause 3.15.6A(a) for each of the *fast raise service, slow raise service* or *delayed raise service* in respect of each *dispatch interval* which falls within the *trading interval* must be allocated to each *region* in accordance with the following procedure and the information provided under clause 3.9.2A(b). *NEMMCO* must:

(1) allocate for each *region* and for each *dispatch interval* within the relevant *trading interval* the proportion of the total amount calculated by *NEMMCO* under clause 3.15.6A(a) for each of the *fast raise service, slow raise service* or *delayed raise service* between *global market ancillary services requirements* and *local requirements* pro-rata to the respective marginal prices for each such service;

(2) calculate for each relevant *dispatch interval* the sum of the costs of acquiring the *global market ancillary service requirements* for all *regions* and the sum of the costs of acquiring each *local ancillary service requirement* for all *regions*, as determined pursuant to clause 3.15.6A(f)(1); and

(3) allocate for each relevant *dispatch interval* the sum of the costs of the *global market ancillary service requirement* and each *local ancillary service requirement* calculated in clause 3.15.6A(f)(2) to each *region* as relevant to that requirement pro-rata to the aggregate of the *generator energy* for the *Market Generators* in each *region* during the *trading interval*.

For the purpose of this clause 3.15.6A(f) *RTCRSP* is the sum of:

(i) the *global market ancillary service requirement* cost for that *region*, for all *dispatch intervals* in the relevant *trading interval*, as determined pursuant to clause 3.15.6A(f)(3)*;* and

(ii) all *local market ancillary service requirement* costs for that *region*, for all *dispatch intervals* in the relevant *trading interval*, as determined pursuant to clause 3.15.6A(f)(3).

In each *trading interval*, in relation to each *Market Generator* in a given *region*, an ancillary services transaction occurs, which results in a *trading amount* for that *Market Generator* determined in accordance with the following formula:

$$TA = RTCRSP \times \frac{TGE}{RATGE} \times -1$$

where:

TA (in $) = the *trading amount* to be determined (which is a negative number);

RTCRSP (in $) = the total of all amounts calculated by *NEMMCO* as appropriate to recover from the given *region* as calculated in this clause 3.15.6A(f) for the *fast raise service*, *slow raise service* or *delayed raise service* in respect of *dispatch intervals* which fall in the *trading interval*;

TGE (in MWh) = the *generator energy* figures for the *Market Generator* in that *region* for the *trading interval*; and

RATGE (in MWh) = the aggregate of the *generator energy* figures for all *Market Generators* in that *region* for the *trading interval*.

(g) The total amount calculated by *NEMMCO* under clause 3.15.6A(a) for each of the *fast lower service*, *slow lower service* or *delayed lower service* in respect of each *dispatch interval* which falls within the *trading interval* must be allocated to each *region* in accordance with the following procedure and the information provided under clause 3.9.2A(b). *NEMMCO* must:

(1) allocate for each *region* and for each *dispatch interval* within the relevant *trading interval* the proportion of the total amount calculated by *NEMMCO* under clause 3.15.6A(a) for each of the *fast lower service*, *slow lower service* or *delayed lower service* between *global*

market ancillary service requirements and *local requirements* pro rata to the respective marginal prices of each such service;

(2) calculate for each relevant *dispatch interval* the sum of the costs of acquiring the *global market ancillary service requirements* for all *regions* and the sum of the costs of acquiring each *local ancillary service requirement* for all *regions*, as determined pursuant to clause 3.15.6A(g)(1); and

(3) allocate for each relevant *dispatch interval* the sum of the costs of the *global market ancillary service requirement* and each *local ancillary service requirement* calculated in clause 3.15.6A(g)(2) to each *region* as relevant to that requirement pro-rata to the aggregate of the *customer energy* figures for all *Market Customers* in each *region* during the *trading interval*.

For the purpose of this clause 3.15.6A(g) *RTCLSP* is the sum of:

(i) the *global market ancillary service requirement* cost for that *region*, for all *dispatch intervals* in the relevant *trading interval*, as determined pursuant to clause 3.15.6A(g)(3); and

(ii) all *local market ancillary service requirement* costs for that *region*, for all *dispatch intervals* in the relevant *trading interval*, as determined pursuant to clause 3.15.6A(g)(3).

In each *trading interval*, in relation to each *Market Customer* in a given *region*, an ancillary services transaction occurs, which results in a *trading amount* for that *Market Customer* determined in accordance with the following formula:

$$TA = RTCLSP \times \frac{TCE}{RATCE} \times -1$$

where:

TA (in $) = the *trading amount* to be determined (which is a negative number);

RTCLSP (in $) = the total of all amounts calculated by *NEMMCO* as appropriate to recover from the given *region* as calculated in this clause 3.15.6A(g) for the *fast lower service, slow lower service* or *delayed lower service* in respect of *dispatch intervals* which fall in the *trading interval*;

TCE (in MWh) = the *customer energy* for the *Market Customer* in that *region* for the *trading interval*; and

RATCE (in MWh) = the aggregate of the *customer energy* figures for all *Market Customers* in that *region* for the *trading interval*.

(h) In each *trading interval*, in relation to each *Market Generator* or *Market Customer* which has *metering* to allow their individual contribution to the aggregate deviation in *frequency* of the *power system* to be assessed, an ancillary services transaction occurs, which results in a *trading amount* for that *Market Generator* or *Market Customer* determined in accordance with the following formula:

$$TA = PTA \times -1$$

and

$$PTA = \text{the aggregate of} \quad \left(TSFCAS \times \frac{MPF}{AMPF} \right) \text{ for each}$$

dispatch interval in the *trading interval*

where:

TA (in $) = the *trading amount* to be determined (which is a negative number);

TSFCAS (in $) = the total of all amounts calculated by *NEMMCO* under clause 3.15.6A(a) for the *regulating raise service* or the *regulating lower service* in respect of a *dispatch interval*;

MPF (a number) = the factor last set by *NEMMCO* for the *Market Generator* or *Market Customer*, as the case may be, under clause 3.15.6A(j); and

AMPF (a number) = the aggregate of the MPF figures for all *Market Participants* for the *dispatch interval*.

(i) In each *trading interval*, in relation to each *Market Customer* for whom the *trading amount* is not calculated in accordance with the formula in clause 3.15.6A(h), an ancillary services transaction occurs, which results in a *trading amount* for that *Market Customer* determined in accordance with the following formula:

$$TA = PTA \times \frac{TCE}{ATCE} \times -1$$

and

$$PTA = \text{the aggregate of} \quad \left(TSFCAS \times \frac{MPF}{\quad} \right) \text{ for each}$$

AMPF

dispatch interval in the *trading interval*

where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
TSFCAS (in $)	=	has the meaning given in clause 3.15.6A(h);
MPF (a number)	=	the aggregate of the factor set by *NEMMCO* under clause 3.15.6A(j) for *Market Customers*, for whom the *trading amount* is not calculated in accordance with the formula in clause 3.15.6A(h);
AMPF (a number)	=	the aggregate of the MPF figures for all *Market Participants* for the *dispatch interval*;
TCE (in MWh)	=	the *customer energy* for the *Market Customer* for the *trading interval*; and
ATCE (in MWh)	=	the aggregate of the *customer energy* figures for all *Market Customers*, for whom the *trading amount* is not calculated in accordance with the formula in clause 3.15.6A(h), for the *trading interval*.

(j) *NEMMCO* must determine a factor for each *Market Participant* for the purposes of clauses 3.15.6A(h) and (i) in accordance with the procedure contemplated by clause 3.15.6A(k).

(k) *NEMMCO* must prepare a procedure for determining contribution factors for use in clause 3.15.6A(j) taking into account the following principles:

(1) the contribution factor for a *Market Participant* should reflect the extent to which the *Market Participant* contributed to the need for *regulation services*;

(2) the contribution factor for all *Market Customers* that do not have *metering* to allow their individual contribution to the aggregate need for *regulation services* to be assessed must be equal;

(3) the individual *Market Participant's* contribution to the aggregate need for *regulation services* will be determined over a period of time to be determined by *NEMMCO*; and

(4) a *Registered Participant* which has classified a *scheduled generating unit*, *scheduled load*, *ancillary service generating unit* or *ancillary service load* (called a 'Scheduled Participant') will not be assessed as

contributing to the deviation in the *frequency* of the *power system* if within a *dispatch interval:*

(a) the Scheduled Participant achieves its *dispatch* target at a uniform rate;

(b) the Scheduled Participant is *enabled* to provide a *market ancillary service* and responds to a control signal from *NEMMCO* to *NEMMCO's* satisfaction; or

(c) the Scheduled Participant is not enabled to provide a *market ancillary service*, but responds to a need for *regulation services* in a way which tends to reduce the aggregate deviation.

(l) *NEMMCO* may amend the procedure referred to in clause 3.15.6A(j) from time to time.

(m) *NEMMCO* must comply with the *Rules consultation procedures* when making or amending the procedure referred to in clause 3.15.6A(j).

(n) *NEMMCO* must *publish*, in accordance with the *timetable*, the historical data used in determining a factor for each *Market Participant* for the purposes of clauses 3.15.6A(h) and (i) in accordance with the procedure contemplated by clause 3.15.6A(k).

(na) Notwithstanding any other provisions of the *Rules*, *NEMMCO* must *publish* the factors determined in accordance with clause 3.15.6A(j) at least 10 *business days* prior to the application of those factors in accordance with clauses 3.15.6A(h) and 3.15.6A(i).

(o) In this clause 3.15.6A:

(1) '*generator energy*' in respect of a *Market Generator* for a *trading interval* means the sum of the *adjusted gross energy* figures calculated for that *trading interval* in respect of that *Market Generator's applicable connection points*, provided that, if the sum of those figures is negative, then the *Market Generator's generator energy* for that *trading interval* is zero;

(2) a *connection point* is an *applicable connection point* of a *Market Generator* if:

(A) the *Market Generator* is *financially responsible* for the *connection point*; and

(B) the *connection point connects* a market *generating unit* to the *national grid*;

(3) '*customer energy*' in respect of a *Market Customer* for a *trading interval* means the sum of the *adjusted gross energy* figures calculated for that *trading interval* in respect of that *Market Customer's relevant connection points*; and

(4) a *connection point* is a *relevant connection point* of a *Market Customer* if:

(A) the *Market Customer* is *financially responsible* for the *connection point*; and

(B) the *load* at that *connection point* has been classified (or is deemed to be classified) as a *market load*.

3.15.7 Payment to Directed Participants

(a) Subject to clause 3.15.7(b), *NEMMCO* must pay compensation to *Directed Participants* calculated in accordance with clauses 3.15.7, 3.15.7A and 3.15.7B, as the case may be, for any service which the *Directed Participant* was required to provide in order to comply with the *direction*.

(b) For the purpose of clause 3.15.8 and 3.15.10C the amount of compensation due to a *Directed Participant* pursuant to clause 3.15.7(a) must include interest on the sum of that amount less any payment made in accordance with clause 3.15.10C(a), computed at the average *bank bill rate* for the period beginning on the day on which payment was required to be made under clauses 3.15.16 and 3.15.17 in respect of the *final statement* for the *billing period* in which the *direction* was issued and ending on the day on which payment is required to be made pursuant to clause 3.15.10C.

(c) Subject to clause 3.15.17(d) and clause 3.15.7B, the compensation payable to each *Directed Participant* for the provision of *energy* or *market ancillary services* pursuant to a *direction* is to be determined in accordance with the formula set out below:

DCP = AMP x DQ

where:

DCP = the amount of compensation the *Directed Participant* is entitled to receive;

AMP = the price below which are 90% of the *spot prices* or *market ancillary service prices* (as the case may be) for the relevant service provided by *Scheduled Generators*, *Scheduled Network Service Providers* or *Market Customers* in the *region* to which the *direction* relates, for the 12 months immediately preceding the *trading day* in which the *direction* was issued; and

DQ = is either:

(A) the difference between the total *adjusted gross energy* delivered or consumed by the *Directed Participant* and the total *adjusted gross energy* that would have been delivered or consumed by the *Directed Participant* had the *direction* not been issued; or

(B) the amount of the relevant *market ancillary service* which the *Directed Participant* has been *enabled* to provide in response to the *direction.*

(d) If at the time *NEMMCO* issues a *direction*, the *Directed Participant* had submitted a valid *dispatch bid*, *dispatch offer* or *rebid* for *dispatch* of the service that is to be *dispatched* in accordance with the *direction*, the *Directed Participant* is entitled to receive compensation for the provision of that service at a price equal to the *price* in that *dispatch bid*, *dispatch offer* or *rebid* as appropriate.

(e) *NEMMCO* must, in accordance with the *intervention settlement timetable*, advise each *Directed Participant* in writing of the amount the *Directed Participant* is entitled to receive pursuant to clause 3.15.7(c) or clause 3.15.7(d).

3.15.7A Payment to Directed Participants for services other than energy and market ancillary services

(a) Subject to clause 3.15.7(d) and clause 3.15.7B, *NEMMCO* must compensate each *Directed Participant* for the provision of services pursuant to a *direction* other than *energy* and *market ancillary services*, at the fair payment price of the services determined in accordance with this clause 3.15.7A.

(b) Subject to clause 3.15.7A(e) and clause 3.15.7A(e1), *NEMMCO* must, in accordance with the *intervention settlement timetable* and any guidelines developed by *NEMMCO* in accordance with the *Rules consultation procedures*, determine if in *NEMMCO*'s reasonable opinion, an independent expert could reasonably be expected to determine a fair payment price for the services provided pursuant to the *direction* within a reasonable time period.

(b1) If *NEMMCO* determines pursuant to clause 3.15.7A(b) that an independent expert could reasonably be expected to determine a fair payment price for the services provided pursuant to the *direction* within a reasonable time period it must as soon as reasonably practicable after making such determination *publish* its determination and, subject to clause 3.15.7A(e1), appoint an independent expert, in accordance with the *intervention*

settlement timetable, to determine the fair payment price for the services provided pursuant to the *direction*.

(c) *NEMMCO* must include as part of the terms of appointment of an independent expert the following requirements:

(1) that the independent expert must, in determining the fair payment price of the relevant service for the purposes of clause 3.15.7A, take into account:

(i) other relevant pricing methodologies in Australia and overseas, including but not limited to:

(A) other electricity markets;

(B) other markets in which the relevant service may be utilised; and

(C) relevant contractual arrangements which specify a price for the relevant service;

(ii) the following principles:

(A) the disinclination of *Scheduled Generators*, *Market Generators*, *Scheduled Network Service Providers* or *Market Customers* to provide the service the subject of the *direction* must be disregarded;

(B) the urgency of the need for the service the subject of the *direction* must be disregarded;

(C) the *Directed Participant* is to be treated as willing to supply at the market price that would otherwise prevail for the directed services the subject of the *direction* in similar demand and supply conditions; and

(D) the fair payment price is the market price for the directed services the subject of the *direction* that would otherwise prevail in similar demand and supply conditions;

(2) that the independent expert must determine and *publish* a draft report, in accordance with the *intervention settlement timetable*, setting out:

(i) a description of the services provided in response to the *direction*;

(ii) the independent expert's draft determination of each fair payment price for the services provided;

(iii) the methodology and assumptions used by the independent expert in making the draft determination of the fair payment price; and

(iv) a request for submissions from interested parties on the matters set out in the draft report;

(3) that the independent expert must, in accordance with the *intervention settlement timetable*, determine the fair payment price for the services provided, taking into account the submissions received, and must prepare and *publish* a final report setting out:

(i) the description of the services provided in response to the *direction*;

(ii) the independent expert's determination of the fair payment price for the services provided;

(iii) the methodology and assumptions used by the independent expert in making the determination of each fair payment price; and

(iv) summaries of the submissions made by interested parties;

(4) that the independent expert must deliver to *NEMMCO* a final tax invoice for the services rendered at the time he or she *publishes* the final report; and

(5) that a report *published* by the independent expert pursuant to clause 3.15.7A(c) must not disclose *confidential information* or the identity of a *Directed Participant*.

(d) In accordance with the *intervention settlement timetable*, *NEMMCO* must calculate the compensation payable to the *Directed Participant* using the fair payment price *published* by the independent expert under clause 3.15.7A(c)(3).

(e) The fair payment price determined in accordance with clause 3.15.7A(c)(3) is to be the fair payment price for that service to be applied in all future occurrences where there is a *direction* for that service at any time within a period of 12 calendar months from the date on which the determination of that price was published.

(e1) *NEMMCO* must not appoint an independent expert under clause 3.15.7A(b1) in respect of a *direction* for a service in respect of which:

(1) there is a determination of an independent expert in place in accordance with clause 3.15.7A(e) in relation to that service; or

(2) *NEMMCO* has appointed an independent expert to determine the fair payment price for that service under clause 3.15.7A and the independent expert has not yet made a determination of the fair payment price.

In these circumstances, *NEMMCO* must apply to the subsequent *direction* the fair payment price for that service determined, or to be determined, by the independent expert.

(f) Within 1 *business day* of calculating the compensation payable pursuant to clause 3.15.7A(a) by application of clause 3.15.7A(e) or pursuant to clause 3.15.7A(d), *NEMMCO* must advise the relevant *Directed Participant* in writing of the amount of compensation.

(g) The determination of a fair payment price pursuant to clause 3.15.7A(c)(1) and the calculation of compensation payable to *Directed Participants* pursuant to clause 3.15.7A(d) is final and binding.

3.15.7B Claim for additional compensation by Directed Participants

(a) Subject to clauses 3.15.7B(a1) and 3.15.7B(a4), a *Directed Participant* entitled to compensation pursuant to clause 3.15.7 or clause 3.15.7A may, in accordance with the *intervention settlement timetable*, make a written submission to *NEMMCO* claiming an amount equal to the sum of:

(1) the aggregate of the loss of revenue and additional net direct costs incurred by the *Directed Participant* in respect of a *scheduled generating unit* or *scheduled network services*, as the case may be, as a result of the provision of the service under *direction*; less

(2) the amount notified to that *Directed Participant* pursuant to clause 3.15.7(c) or clause 3.15.7A(f); less

(3) the aggregate amount the *Directed Participant* is entitled to receive in accordance with clause 3.15.6(c) for the provision of a service rendered as a result of the *direction.*

(a1) Subject to clause 3.15.7B(a4), if *NEMMCO* determines pursuant to clause 3.15.7A(a) that an independent expert could not reasonably be expected to determine within a reasonable period of time the relevant fair payment price, a *Directed Participant* may, in accordance with the *intervention settlement timetable*, make a written submission to *NEMMCO* claiming compensation from *NEMMCO* for the provision of services under the *direction* equal to:

(1) loss of revenue and additional net direct costs which the *Directed Participant* incurred as a result of the provision of services under the *direction*; and

(2) a reasonable rate of return on the capital employed in the provision of the service determined by reference as far as reasonably practicable to rates of return for the provision of similar services by similar providers of such services.

(a2) Subject to clause 3.15.7B(a4), if a *Directed Participant* entitled to compensation pursuant to clause 3.15.7(d) considers that the amount notified pursuant to clauses 3.15.7(e) is less than the amount it is entitled to receive pursuant to that clause, the *Directed Participant* may, in accordance with the *intervention settlement timetable*, make a written submission to *NEMMCO* requesting compensation from *NEMMCO* for that difference.

(a3) For the purposes of the calculation of additional net direct costs pursuant to clause 3.15.7B(a)(1) and clause 3.15.7B(a1)(1), the additional net direct costs incurred by the *Directed Participant* in respect of that *scheduled generating unit* or *scheduled network services*, as the case may be, includes without limitation:

(1) fuel costs in connection with the *scheduled generating unit* or *scheduled network services*;

(2) incremental maintenance costs in connection with the *scheduled generating unit* or *scheduled network services*;

(3) incremental manning costs in connection with the *scheduled generating unit* or *scheduled network services*;

(4) acceleration costs of maintenance work in connection with the *scheduled generating unit*, where such acceleration costs are incurred to enable the *scheduled generating unit* or *scheduled network services* to comply with the *direction*;

(5) delay costs for maintenance work in connection with the *scheduled generating unit* or *scheduled network service*, where such delay costs are incurred to enable the *scheduled generating unit* or *scheduled network service* to comply with the *direction*;

(6) other costs incurred in connection with the *scheduled generating unit* or *scheduled network services*, where such costs are incurred to enable the *scheduled generating unit* or *scheduled network service* to comply with the *direction*; and

(7) any compensation which the *Directed Participant* receives or could have obtained by taking reasonable steps in connection with the *scheduled generating unit* or *scheduled network services* being available.

(a4) In respect of a single *intervention price trading interval*, a *Directed Participant* may only make a claim pursuant to clauses 3.15.7B(a), 3.15.7B(a1) or 3.15.7B(a2) if the amount of the claim in respect of that *intervention price trading interval* is greater than $5,000.

(b) The submissions pursuant to clauses 3.15.7B(a), 3.15.7B(a1) and 3.15.7B(a2) must:

(1) itemise each component of a claim;

(2) contain sufficient data and information to substantiate each component of a claim for loss of revenue and additional direct costs incurred and the reasonable rate of return, as the case may be; and

(3) be signed by an authorised officer of the applicant certifying that the written submission is true and correct.

(c) *NEMMCO* must, in accordance with the *intervention settlement timetable*:

(1) refer an *affected participant's adjustment claim or market customer's additional claim* to an independent expert to determine such claim in accordance with clause 3.12.11A if the claim is equal to or greater than $20,000 and the *additional intervention claim* that includes that claim is equal to or greater than $100,000; and

(2) determine in its sole discretion if all other claims by a *Directed Participant* in respect of that *direction* pursuant to clauses 3.15.7B(a), 3.15.7B(a1) and 3.15.7B(a2) are reasonable and if so pay the amount claimed in accordance with clause 3.15.10C.

(d) If *NEMMCO* considers that a claim by a *Directed Participant* under clause 3.15.7B(a) or 3.15.7B(a1) or 3.15.7B(a2) is unreasonable, it must, in accordance with the *intervention settlement timetable*:

(1) advise the *Directed Participant* of its determination in writing, setting out its reasons; and

(2) refer the matter to an independent expert to determine the claim for compensation in accordance with clause 3.12.11A.

3.15.8 Funding of Compensation for directions

(a) *NEMMCO* must, in accordance with the *intervention settlement timetable*, calculate the "*compensation recovery amount*" being:

(1) the sum of:

(i) the total of the compensation payable to *NEMMCO* by *Affected Participants* and *Market Customers* under clause 3.12.11 in respect of a *direction* for the provision of *energy*; plus

(ii) the total of the amounts retained by *NEMMCO* pursuant to clause 3.15.6(b) in respect of a *direction* for the provision of *energy*;

(2) less the sum of:

(i) the total of the compensation payable by *NEMMCO* to *Affected Participants* and *Market Customers* pursuant to clause 3.12.11 in respect of a *direction* for the provision of *energy*; plus

(ii) the total of the compensation payable by *NEMMCO* to *Directed Participants* pursuant to clause 3.15.7(a) in respect of a *direction* for the provision of *energy*; plus

(iii) the total amount payable by *NEMMCO* to the independent expert pursuant to clause 3.12.11A(c).

(b) *NEMMCO* must, in accordance with the *intervention settlement timetable*, calculate a figure for each *Market Customer* in each *region* applying the following formula:

$$MCP = \frac{E}{\Sigma E} \times \frac{RB}{\Sigma RB} \times CRA$$

where

MCP is the amount payable or receivable by a *Market Customer* pursuant to this clause 3.15.8(b);

E is the sum of the *Market Customer's adjusted gross energy* amounts at each *connection point* for which the *Market Customer* is *financially responsible* in a *region*, determined in accordance with clauses 3.15.4 and 3.15.5 in respect of the relevant *intervention price trading intervals* excluding any *loads* in respect of which the *Market Customer* submitted a *dispatch bid* for the relevant *intervention price trading interval* in that *region;* and

RB is the regional benefit determined by *NEMMCO* pursuant to clause 3.15.8(b1) at the time of issuing the *direction*.

CRA is the *compensation recovery amount*.

(b1) *NEMMCO* must, as soon as practicable following the issuance of a *direction*, determine the relative benefit each *region* received from the

issuance of a *direction* in accordance with the *regional benefit directions procedures*.

(b2) *NEMMCO* must develop in accordance with the *Rules consultation procedures* a procedure to determine the relative benefit each *region* receives from the issuance of a *direction* (the "*regional benefit directions procedures*"). Such procedures must take into account, where applicable to the reason the *direction* was given, the *load* at risk of not being supplied if the *direction* were not issued or the extent of improvement in available *energy* reserve in the *region*, capability to control *voltage* in the *region*, and capability to control *power system frequency* within the *region* and any other relevant matters.

(b3) **[Deleted]**

(c) If the figure calculated for a *Market Customer* under clause 3.15.8(b) is negative, the absolute value of that amount is the amount payable by the *Market Customer* to *NEMMCO* pursuant to clause 3.15.8(b).

(d) Subject to clause 3.15.22, if the figure calculated for a *Market Customer* under clause 3.15.8(b) is positive, such amount is the amount receivable by the *Market Customer* from *NEMMCO* pursuant to clause 3.15.8(b), subject to the provisions of clause 3.15.22.

(e) *NEMMCO* must, in accordance with the *intervention settlement timetable*, calculate for each *ancillary service* the subject of a *direction*, the "*ancillary service compensation recovery amount*" being:

(1) the sum of:

(i) the total of the compensation payable to *NEMMCO* by *Affected Participants* and *Market Customers* under clause 3.12.11 in respect of a *direction* for the provision of that *ancillary service*; plus

(ii) the total of the amounts retained by *NEMMCO* pursuant to clause 3.15.6(b) in respect of a *direction* for the provision of that *ancillary service*;

(2) less the sum of:

(i) the total of the compensation payable by *NEMMCO* to *Affected Participants* and *Market Customers* pursuant to clause 3.12.11 in respect of a *direction* for the provision of that *ancillary service*; plus

(ii) the total of the compensation payable by *NEMMCO* to *Directed Participants* pursuant to clause 3.15.7(a) in respect of a *direction* for the provision of that *ancillary service*; plus

(iii) the total amount payable by *NEMMCO* to the independent expert pursuant to clause 3.12.11A(c), if the *direction* the subject of the independent expert's determination was with respect to that *ancillary service*.

(f) The *trading amount* must be calculated as follows:

(1) subject to clause 3.15.8(f)(2) and (3) *NEMMCO* must use the appropriate formula set out in clause 3.15.6A(c), (d), (e), (f), (g), (h) or (i) depending on which *ancillary service* was the subject of the *direction*;

(2) TNCASP, TSRP, TCRSP, TCLSP or TSFCAS (as applicable) in the relevant formula is equal to the *ancillary service compensation recovery amount* for the relevant *ancillary service* in respect of the *direction*; and

(3) if TCE, TGE, ATCE or ATGE is used in the relevant formula, then the words 'the *trading interval'* in the definitions of those terms in the formula are to be read as 'all of the *trading intervals* during which the *direction* applied'.

(g) Any compensation payable by *NEMMCO* pursuant to clauses 3.12.11 and 3.15.7 not recovered pursuant to clauses 3.15.8(b) and 3.15.8(e) must be recovered from *Registered Participants* in the same proportion as the largest single fixed component of *Participants fees*.

(h) **[Deleted]**

3.15.9 Reserve settlements

(a) *NEMMCO's* costs incurred in contracting for the provision of *reserves* are to be met by fees imposed on *Market Customers* in accordance with this clause 3.15.9.

(b) Included in the statements to be provided under clauses 3.15.14 and 3.15.15, *NEMMCO* must give each *Market Participant* a statement setting out:

(1) the aggregate of the amounts payable by *NEMMCO* under *reserve contracts* and any amounts determined as payable by *NEMMCO* by the independent expert under clause 3.12.11 as a result of *plant* under a *reserve contract* being *dispatched* in respect of the relevant *billing period*; and

(2) the aggregate of the amounts receivable by *NEMMCO* under the *Rules* in respect of *plant* under *reserve contracts* during the relevant *billing period*.

(c) Separate statements must be provided under clause 3.15.9(b):

(1) for *reserve contracts* entered into by *NEMMCO* specifically in respect of the *Market Participant's region* in accordance with clause 3.15.9(d); and

(2) for *reserve contracts* other than those entered into for and allocated to a specific *region* or *regions*.

(d) Where either:

(1) without the intervention in the *market* of *NEMMCO* a *region* would otherwise, in *NEMMCO's* reasonable opinion, fail to meet the minimum *power system security and reliability standards*; or

(2) a *region* requires a level of *power system reliability* or *reserves* which, in *NEMMCO's* reasonable opinion, exceeds the level required to meet the minimum *power system security and reliability standards*,

then *NEMMCO* must recover its net liabilities, or distribute its net profits, under the terms of *reserve contracts* entered into to meet these requirements, from or to the *Market Customers* in that *region* in accordance with 3.15.9(e).

(e) In respect of *reserve contracts* entered into by *NEMMCO, NEMMCO* must calculate in relation to each *Market Customer* for each *region* in respect of each *billing period* a sum determined by applying the following formula:

$$MCP = \frac{E \times RRC}{\Sigma E}$$

Where:

MCP is the amount payable by a *Market Customer* for a *region* in respect of a *billing period;*

E is the sum of all that *Market Customer's adjusted gross energy* amounts in a *region* (the "relevant region") in each *trading interval* which commences between 0800 hours and 1930 hours on a *business day* in the *billing period* excluding any loads in that *region* in respect of which the *Market Customer* submitted a *dispatch bid* for any such *trading interval;*

RRC is the total amount payable by *NEMMCO* under *reserve contracts* which relate to the relevant *region* in the *billing period* as agreed under clause 3.12.1(d); and

ΣE is the sum of all amounts determined as "E" in accordance with this clause 3.15.9(e) in respect of that *region.*

(f) A *Market Customer* is liable to pay *NEMMCO* an amount equal to the sum calculated under clause 3.15.9(e) in respect of that *Market Customer*.

(g) **[Deleted]**

(h) **[Deleted]**

(i) **[Deleted]**

(j) **[Deleted]**

(k) Operational and administrative costs incurred by *NEMMCO* in arranging for the provision of *reserves*, other than its liabilities under the terms of the *reserve contracts* into which it has entered, are to be recovered by *NEMMCO* from all *Market Participants* as part of the fees imposed in accordance with clause 2.11.

(l) **[Deleted]**

(m) For the purposes of clause 3.15.19, a re-determination by a panel established under clause 3.12.11 is to be taken to be an agreement between *NEMMCO* and each of the *Market Participants* and *Scheduled Generators*.

3.15.10 Administered price, VoLL or market floor price compensation payments

(a) In the event that the *AEMC* awards compensation to a *Scheduled Generator, Market Participant* which submitted a *dispatch bid* or *Scheduled Network Service Provider* in accordance with clause 3.14.6, then *NEMMCO* must determine an amount which shall be payable by all *Market Customers* who purchased electricity from the *spot market* in a region in which the *regional reference price* was affected by the imposition of an *administered price* or *VoLL*, or *market floor price* in the *trading interval* or *trading intervals* in respect of which such compensation has been awarded.

(b) *NEMMCO* shall determine the amounts payable for each relevant *trading interval* by each of the affected *Market Customers* under clause 3.15.10(a) as follows:

$$\frac{APC \times E_i}{\Sigma E_i}$$

where

APC is the total amount of any compensation payments awarded by the *AEMC* to *Scheduled Generators, Market Participants* which submitted *dispatch bids* or *Scheduled Network Service Providers* in respect of that *trading interval* in accordance with clause 3.14.6.

E_i is the sum of all of the *Market Customer's adjusted gross energy* amounts, determined in accordance with clauses 3.15.4 and 3.15.5, in respect of each *trading interval* in the *billing period* and each *connection point* for which the *Market Customer* is *financially responsible* in any *region* or *regions* affected by the imposition of an *administered price* or *VoLL* or *market floor price*.

ΣE_i is the sum of all amounts determined as "E_i" in accordance with this clause 3.15.10 for all *Market Customers* in all *regions* affected by the imposition of an *administered price* or *VoLL* or *market floor price* in that *trading interval.*

(c) Within 15 *business days* of being notified by the AEMC that compensation is to be paid to a *Scheduled Generator, Market Participant* which submitted a *dispatch bid* or *Scheduled Network Service Providers* in accordance with clause 3.14.6, *NEMMCO* shall include in statements provided under clauses 3.15.14 and 3.15.15 separate details of any amounts payable by or to *Market Participants* as determined in accordance with this clause 3.15.10.

3.15.10A [Deleted]

3.15.10B Restriction contract amounts

(a) If clause 3.12A.7(g) applies then *NEMMCO* must include in the next statement provided under clauses 3.15.14 and 3.15.15 immediately after the end of the relevant *mandatory restriction period* separate details of amounts payable:

(1) by *Market Customers* in the relevant *region* in which the *mandatory restrictions* apply an amount equal to:

$$EMCP = RSA \quad \text{x} \quad \frac{(AGE)}{(AAGE)}$$

Where:

EMCP is the payment to be made by *Market Customers* to *NEMMCO*.

RSA is the *restriction shortfall amount*.

AGE is the *adjusted gross energy* of a *Market Customer* in that *region* for the *mandatory restriction period* expressed in MWh.

AAGE is the aggregate of the *adjusted gross energy* of all *Market Customers* in that *region* for the *mandatory restriction period* expressed in MWh;

(2) by *Scheduled Generators* and *Scheduled Network Service Providers* to *NEMMCO* in accordance with clause 3.12A.7(a); and

(3) the amounts payable by *NEMMCO* to the *Scheduled Generators* or *Scheduled Network Service Provide*rs pursuant to *accepted restriction offer*s.

(b) Immediately upon the later of the publication of the independent expert's final report in accordance with clause 3.12A.7(i)(8) and the determination of a *dispute resolution panel* pursuant to clause 3.12A.7(m), if any, *NEMMCO* must include in the next statements provided under clauses 3.15.14 and 3.15.15 separate details of any amounts payable:

(i) by a *Market Customer* equal to the amount as determined in accordance with clause 3.12A.7(g)(i) less the amount determined in accordance with clause 3.15.10B(a)(1), if such number is positive together with interest on such amount calculated by applying the *bank bill rate* on the date of this statement for the period from the date of the statement referred to in clause 3.15.10B(a) to the date of this statement under clause 3.15.10B(b); and

(ii) to a *Market Customer* equal to the amount determined in accordance with clause 3.15.10B(a)(1) less the amount determined in accordance with clause 3.12A.7(g)(i), if such number is positive together with interest on such amount calculated by applying the *bank bill rate* on the date of this statement for the period from the date of the statement referred to in clause 3.15.10B(a) to the date of this statement under clause 3.15.10B(b).

(c) If clauses 3.12A.7(f) or 3.12A.7(h) apply then *NEMMCO* must include in the next statement provided under clauses 3.15.14 and 3.15.15 immediately after the end of the relevant *mandatory restriction period* separate details of any amounts payable:

(i) by or to *Market Customers* as determined in accordance with clauses 3.12A.7(e) or 3.12A.7(h) respectively;

(ii) by *Scheduled Generators* and *Scheduled Network Service Providers* to *NEMMCO* in accordance with clause 3.12A.7(a); and

(iii) the amounts payable by *NEMMCO* to the *Scheduled Generators* or *Scheduled Network Service Provide*rs pursuant to all *accepted restriction offer*s.

3.15.10C Intervention Settlements

(a) *NEMMCO* must include in the final statement provided under clause 3.15.14 and 3.15.15 for a *billing period* in which a *direction* was issued:

(1) for each *Affected Participant* and *Market Customer* in relation to that *direction* the amount calculated pursuant to clause 3.12.11(b);

(2) for each *Directed Participant* in relation to that *direction* the amount calculated pursuant to clause 3.15.7(c) or clause 3.15.7A(a) by application of clause 3.15.7A(e), as the case may be;

(3) for each *Market Customer* in relation to that *direction* the amount calculated pursuant to clause 3.15.8(b) by application of clause 3.15.8 mutatis mutandis provided that the amount for the purposes of:

(i) clause 3.15.8(a)(1)(i) shall be the total amount payable to *NEMMCO* by *Affected Participants* and *Market Customers* calculated pursuant to clause 3.12.11(b);

(ii) clause 3.15.8(a)(1)(ii) shall be the amount calculated in accordance with that clause;

(iii) clause 3.15.8(a)(2)(i) shall be the total amount payable by *NEMMCO* to *Affected Participants* and *Market Customers* calculated pursuant to clause 3.12.11(b);

(iv) clause 3.15.8(a)(2)(ii) shall be the sum of the total amount payable by *NEMMCO* to *Directed Participants* calculated pursuant to clause 3.15.7(c) and 3.15.7A(a) by application of 3.15.7A(e); and

(v) clause 3.15.8(a)(2)(iii) shall be zero; and

(4) for each *Market Customer* and *Market Generator* in relation to that *direction* an amount calculated pursuant to clause 3.15.8(e) by application of clause 3.15.8 mutatis mutandis provided that for the purposes of clause 3.15.8(f)(2) TNCASP, TSRP, TCRSP, TCLSP and TSFCAS shall be the total compensation payable by *NEMMCO* for the relevant *ancillary service* calculated in accordance with clause 3.15.7(c) or clause 3.15.7A(a) by application of clause 3.15.7A(e), as the case may be.

(b) *NEMMCO* must include in the first statement it provides under clauses 3.15.14 and 3.15.15 following a final determination of all total amounts payable or receivable by it pursuant to clause 3.12.11, clause 3.15.7(a) and clause 3.15.8, separate details of the amount:

(1) receivable by each *Directed Participant* pursuant to clause 3.15.7(a) less the amount, if any, paid to that *Directed Participant* pursuant to clause 3.15.10C(a)(2);

(2) receivable by each *Affected Participant* or *Market Customer* pursuant to clause 3.12.11:

(i) less the amount paid to that *Affected Participant* or *Market Customer*, in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any; or

(ii) plus the amount paid by that *Affected Participant* or *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any;

(3) payable by each *Affected Participant* or *Market Customer* pursuant to 3.12.11:

(i) less the amount paid by that *Affected Participant* or *Market Customer*, in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any; or

(ii) plus the amount paid to that *Affected Participant* or *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any;

(4) receivable by each *Market Customer* pursuant to clause 3.15.8(b):

(i) less the amount paid to that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any; or

(ii) plus the amount paid by that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any;

(5) payable by each *Market Customer* pursuant to clause 3.15.8(b):

(i) less the amount paid by that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any; or

(ii) plus the amount paid to that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any;

(6) if an *Affected Participant* or *Market Customer* is not entitled to any compensation pursuant to clause 3.12.11, the amount:

(i) receivable by that person equal to the amount paid by that person pursuant to clause 3.15.10C(a); or

(ii) payable by that person equal to the amount paid to that person pursuant to clause 3.15.10C(a);

(7) payable by each *Market Customer* and *Market Generator* equal to:

(i) the amount payable by the *Market Customer* or *Market Generator*, as the case may be, pursuant to clause 3.15.8(e) by application of clause 3.15.8 mutatis mutandis provided that for the purposes of clause 3.15.8(f)(2) TNCASP, TSRP, TCRSP, TCLSP and TSFCAS shall be the total compensation payable by *NEMMCO* for the relevant *ancillary service* calculated in accordance with clause 3.15.7A(a); less

(ii) the amount paid by the *Market Customer* or *Market Generator*, as the case may be, in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(4); and

(8) payable by *Registered Participants* pursuant to clause 3.15.8(g).

(c) If on application by the *AER* a court determines, in relation to a *direction*, that a *Directed Participant* has breached clause 4.8.9(c2) then:

(1) the *Directed Participant* shall not be entitled to, and must repay, any compensation plus interest pursuant to clauses 3.15.7, 3.15.7A and 3.15.7B, in relation to that *direction*; and

(2) the *AER* must forward to *NEMMCO* a written notice of the court's determination.

(3) *NEMMCO* must include in the first relevant statement it provides under clauses 3.15.14 and 3.15.15 following receipt of the notice from the *AER* issued pursuant to clause 3.15.10C(c)(2) separate details of:

(i) an amount payable to *NEMMCO* by the *Directed Participant* equal to the total compensation received by that *Directed Participant* in accordance with clauses 3.15.7, 3.15.7A and 3.15.7B plus interest on that total compensation computed at the average *bank bill* rate for the period from the date of payment of

such amount to the *Directed Participant* until the date of that first statement;

(ii) an amount payable by *NEMMCO* to each relevant *Market Customer* calculated by applying clause 3.15.8(b) mutatis mutandis except that:

(A) MCP shall equal the amount receivable by the *Market Customer*; and

(B) CRA shall equal that part of the amount, including interest, calculated pursuant to clause 3.15.10C(c)(3)(i) attributable to the provision of *energy* by the *Directed Participant*; and

(iii) an amount payable by *NEMMCO* to each relevant *Market Customer* and *Market Generator* calculated by applying clause 3.15.8(f)(2) mutatis mutandis except that:

(A) all *trading amounts* determined by this clause 3.15.10C(c)(3)(iii) shall be positive; and

(B) TNCASP, TSRP, TCRSP, TCLSP, and TSFCAS shall all be an amount equal to that part of the amount, including interest, calculated pursuant to clause 3.15.10C(c)(3)(i) attributable to the provision of the relevant *ancillary service.*

3.15.11A Goods and services tax

(a) In this clause 3.15.11A:

"GST" has the meaning given in the GST Act; and

"GST Act" means the *A New Tax System (Goods and Services Tax) Act 1999 (C'th)*;

"supply" and **"taxable supply"** each have the meaning given in the GST Act,

and the definition of *"supply"* in Chapter 10 does not apply.

(b) Despite anything else in the *Rules*, *Participant fees*, *spot prices*, adjustments for *directions*, *reserve settlements*, *administered price cap* compensation payments, system security *direction settlements*, *re-allocation transactions*, compensation, interest, *settlements residues*, *ancillary services settlements*, *settlements residue* distributions (including *auction* proceeds), *auction*

expense fees and other prices, fees, charges and amounts payable to or by *NEMMCO*, the *AER* or the *AEMC* in respect of supplies under the *Rules* exclude GST. Accordingly:

(1) where a *Registered Participant* makes a taxable supply to *NEMMCO*, the *AER* or the *AEMC* under or in connection with the *Rules* on or after 1 July 2000, *NEMMCO*, the *AER* or the *AEMC* (as applicable) must also pay the *Registered Participant* making the supply an additional amount equal to the consideration payable for the supply multiplied by the applicable GST rate;

(2) where *NEMMCO*, the *AER* or the *AEMC* makes a taxable supply to a *Registered Participant* under the *Rules* on or after 1 July 2000, the *Registered Participant* must also pay *NEMMCO*, the *AER* or the *AEMC* (as applicable) an additional amount equal to the consideration payable for the supply multiplied by the applicable GST rate; and

(3) *NEMMCO* must include in *preliminary statements*, *final statements*, *routine revised statements*, *special revised statements*, statements and invoices issued under the *Rules* the additional amounts contemplated by clauses 3.15.11A(b)(1) and (2).

(c) However, if the additional amount paid or payable to a *Registered participant*, *NEMMCO*, the *AER* or the *AEMC* under clause 3.15.11A(b) in respect of a taxable supply differs from the actual amount of GST payable by or to the *Registered Participant*, *NEMMCO*, the *AER* or the *AEMC* (as applicable) under the GST Act in respect of the relevant supply, then adjustments must be made in accordance with clause 3.15.19 so as to ensure the additional amount paid under this clause in respect of the supply is equal to the actual amount of GST payable under the GST Act in respect of the supply.

3.15.11 Reallocation transactions

(a) A *reallocation transaction* is a *transaction* undertaken with the consent of two *Market Participants* and *NEMMCO*, under which *NEMMCO* credits one *Market Participant* with a positive *trading amount* in respect of a *trading interval*, in consideration of a matching negative *trading amount* debited to the other *Market Participant* in respect of the same *trading interval*.

(b) *NEMMCO* must establish, maintain and *publish* procedures to record *reallocation requests* and *reallocation transactions*.

(c) *Reallocation transactions* may be either *quantity reallocation transactions* or *dollar reallocation transactions*.

(d) A *reallocation transaction* is initiated by a *reallocation request* lodged with *NEMMCO* by or on behalf of two *Market Participants*. In order to be valid, a *reallocation request* must:

(1) be executed by each of the two *Market Participants* making the *reallocation request*;

(2) specify the *trading interval(s) ('specified trading intervals')* to which the *reallocation request* applies;

(3) specify the starting day, being the first day on which a *reallocation transaction* is to occur;

(4) specify the termination day, being the last day on which a *reallocation transaction* is to occur;

(5) specify whether it is a request for a *quantity reallocation transaction* or a *dollar reallocation transaction*;

(6) if it is a *quantity reallocation transaction*, specify the *reallocated quantity* (in MWh) for each *specified trading interval*;

(7) if it is a *quantity reallocation transaction*, specify the applicable *regional reference node*, of which the *regional reference price* will be used for the calculation of the result of the *reallocation transaction*;

(8) if it is a *dollar reallocation transaction*, specify the amount in dollars as the *reallocated dollar amount* for each *specified trading interval*;

(9) specify which of the *Market Participants* is the credited party, the other *Market Participant* being the debited party;

(10) be lodged with *NEMMCO* in accordance with the procedures and timetable for submission of *reallocation requests* as published by *NEMMCO* from time to time; and

(11) otherwise be in the form determined from time to time by *NEMMCO*.

(d1) A *reallocation transaction* is terminated on a date earlier than that on the registered *reallocation request* by a *reallocation termination request* lodged with *NEMMCO* by or on behalf of the two *Market Participants*. In order to be valid, a *reallocation termination request* must:

(1) be executed by each of the two *Market Participants* which made the registered *reallocation request*;

(2) specify the new termination day, being the last day on which the *reallocation transaction* is to occur and not being earlier than the date

on which the *reallocation termination request* was lodged with *NEMMCO*;

(3) be lodged with *NEMMCO* in accordance with the procedures and timetable for submission of *reallocation requests* as published by *NEMMCO* from time to time; and

(4) otherwise be in the form determined from time to time by *NEMMCO*.

(e) Upon receipt of a *reallocation request* or a *reallocation termination request* *NEMMCO* must verify the acceptability of the proposal (in accordance with rules and protocols to be established by *NEMMCO*) and must notify the relevant *Market Participants* of the verification or rejection of the *reallocation request* or *reallocation termination request* within the time specified in the procedures and timetable for the recording of *reallocation requests* as published by *NEMMCO* from time to time.

(f) **[Deleted]**

(g) *NEMMCO* may notify the relevant *Market Participants* that acceptance under clause 3.15.11(e) or termination under clause 3.15.11(d1) is conditional upon satisfaction of *prudential requirements* or other conditions specified by *NEMMCO*, in which case if the conditions are not met in accordance with the procedures and timetable for the recording of *reallocation requests* as published by *NEMMCO* from time to time then the *reallocation request* or the *reallocation termination request* may be declined by *NEMMCO*.

(h) After the relevant *Market Participants* have satisfied any *prudential requirements* or other conditions imposed by *NEMMCO* in respect of the *reallocation*, *NEMMCO* must register the *reallocation request* within the time required in the procedures and timetable for recording *reallocation requests* as published by *NEMMCO* from time to time, or on the starting date specified in the *reallocation request*, whichever is the later, and must notify both *Market Participants* of the date and time of commencement of *reallocation transactions* in accordance with the *reallocation request*.

(i) *NEMMCO* must include details of *reallocation transactions* in the *settlement statements* issued to all *Market Participants* who lodged the *reallocation requests* in respect of those *reallocation transactions*.

(j) Where there is a registration of a *reallocation request* in respect of a *trading interval* and that *trading interval* has occurred, a *reallocation transaction* occurs in accordance with that *reallocation request*.

(k) Where a *quantity reallocation transaction* occurs, the *reallocation transaction* results in a positive *trading amount* for the credited *Market Participant*, the *trading amount* being the *reallocated quantity* multiplied by

the *regional reference price* for the specified *region* for the *trading interval* specified in the *reallocation request*.

(l) Where a *dollar reallocation transaction* occurs, the *reallocation transaction* results in a positive *trading amount* for the credited *Market Participant*, the *trading amount* being the *reallocated dollar amount*.

(m) A *quantity reallocation transaction* and a *dollar reallocation transaction* each result in a *trading amount* for the debited *Market Participant* which is the negative of that for the credited *Market Participant*.

(n) If a *default event* occurs in relation to either *Market Participant* which lodged a *reallocation request* when one or more of the *trading interval*s specified in the *reallocation request* has not occurred, then *NEMMCO* may deregister the *reallocation request* by notice given at any time whilst the *default event* is subsisting. The deregistration is effective forthwith upon *NEMMCO* notifying both of the *Market Participants* which lodged the *reallocation request* of the fact of deregistration. Upon such notice the deregistration of that *reallocation request* is effective for all *trading interval*s commencing after the time of notice, and notwithstanding that the *default event* may be subsequently cured. Deregistration of the *reallocation request* prevents *reallocation transactions* occurring pursuant to the *reallocation request* in the *trading interval*s which commence after notice of the deregistration is given.

(o) In addition to any other right which *NEMMCO* may exercise in relation to a *default event*, upon deregistration of a *reallocation request NEMMCO* may redetermine the *maximum credit limit* and *trading limit* for either or both of the *Market Participants* which lodged the *reallocation request*, having regard to the deregistration which has occurred.

3.15.12 Settlement amount

(a) Subject to clause 3.15.12(b), for each *billing period NEMMCO* must calculate a net "*settlement amount*" for each *Market Participant* by aggregating the *trading amounts* resulting for each *Market Participant* from each *transaction* in respect of each *trading interval* occurring in that *billing period* together with *Participant fees* determined in accordance with clause 2.11 and any other amounts payable or receivable by the *Market Participants* in that *billing period* under this Chapter 3. The *settlement amount* will be a positive or negative dollar amount for each *Market Participant*.

(b) *NEMMCO* may calculate an estimate of the net *settlement amount* for each *Market Participant* (the "*estimated settlement amount"*) if, within the time provided for the giving of *preliminary statements* in accordance with clause 3.15.14, *NEMMCO* is prevented from calculating the net *settlement amount*

in accordance with clause 3.15.12(a) by factors which are beyond the control of *NEMMCO* and which deprive *NEMMCO* of the relevant data required to calculate the net *settlement amount* (the "*relevant data')*, including:

(1) a failure of:

(i) metering data processing;

(ii) communications; or

(iii) the settlements processing system; and

(2) any other events or circumstances which prevent the calculation of the actual net *settlement amount* by *NEMMCO*.

(c) *NEMMCO* must develop the principles and the process to be applied in calculating the *estimated settlement amount*, and make any necessary modifications to those principles and that process, in accordance with the *Rules consultation process*.

3.15.13 Payment of settlement amount

Where the *settlement amount* for a *Market Participant* is negative the absolute value of the *settlement amount* is an amount payable by the *Market Participant* to *NEMMCO* pursuant to clause 3.15.15. Where the *settlement amount* for a *Market Participant* is positive the *settlement amount* is an amount receivable by the *Market Participant* from *NEMMCO* pursuant to clause 3.15.15, subject to the provisions of clause 3.15.22.

3.15.14 Preliminary statements

(a) Subject to clause 3.15.14(b), within 5 *business days* after the end of each *billing period*, *NEMMCO* must give each *Market Participant* a draft of the statement to be given to the *Market Participant* under clause 3.15.15 together with supporting data relating to the *transactions* in that *billing period* and the prices at which electricity was bought and sold by the *Market Participant*.

(b) If *NEMMCO* calculates an *estimated settlement amount* in accordance with clause 3.15.12(b), *NEMMCO* must:

(1) when giving a *preliminary statement* in accordance with this clause 3.15.14, provide a detailed report to affected *Market Participants* setting out the basis and calculations used for its estimation; and

(2) if requested to do so by affected *Market Participants*, consult with those *Market Participants* to ascertain whether or not any adjustments

are required to the *estimated settlement amount* prior to the giving of a *final statement*.

3.15.15 Final statements

(a) No later than 18 *business days* after the end of each *billing period*, *NEMMCO* must give to each *Market Participant* a *final statement* stating the amounts payable by the *Market Participant* to *NEMMCO* or receivable by the *Market Participant* from *NEMMCO* (subject to clause 3.15.22) in respect of the relevant *billing period.*

(b) Unless *NEMMCO* has used an *estimated settlement amount* in accordance with clause 3.15.12, the statements issued under this clause 3.15.15 must include supporting data for all amounts payable or receivable.

3.15.15A Use of estimated settlement amounts by NEMMCO

(a) Subject to clause 3.15.15A(b), if *NEMMCO* calculates an *estimated settlement amount* in accordance with clause 3.15.12(b), then clauses 3.15.13, 3.15.14 and 3.15.15 will have effect mutatis mutandis by applying the *estimated settlement amount* in place of a *settlement amount* for a *Market Participant* for the purposes of those clauses.

(b) If *NEMMCO* receives *relevant data*:

(1) after it has given the *preliminary statement* in accordance with clause 3.15.14 but before giving a *final statement*, then it must adjust the *estimated settlement amount* accordingly for the purposes of preparing the *final statement*; or

(2) within 60 days after it has given a *final statement* to which the *relevant data* relates, then *NEMMCO* must adjust the relevant *estimated settlement amount* accordingly and issue a *revised statement* in accordance with clause 3.15.19(a).

3.15.16 Payment by market participants

On the 20th *business day* after the end of a *billing period*, or 2 *business days* after receiving a statement under clause 3.15.15, whichever is the later, and in accordance with the *timetable* each *Market Participant* must pay to *NEMMCO* in cleared funds the net amount stated to be payable by that *Market Participant* in that statement whether or not the *Market Participant* continues to dispute the net amount payable.

3.15.17 Payment to market participants

Subject to clause 3.15.22 on the *day* on which *NEMMCO* is to be paid under clause 3.15.16, *NEMMCO* must pay to each *Market Participant* in cleared funds the net amount stated to be payable to that *Market Participant* in the relevant statement given to it under clause 3.15.15.

3.15.18 Disputes

(a) In the event of a dispute between a *Market Participant* and *NEMMCO* concerning either the net amount (including any *estimated settlement amount*) stated in a *preliminary statement* provided under clause 3.15.14 to be payable by or to it or the supporting data, they must each use reasonable endeavours to resolve the dispute within 15 *business days* of the end of the relevant *billing period.*

(b) Disputes in respect of *final statements* or the supporting data provided with them in accordance with clause 3.15.15 must be raised within 6 months of the relevant *billing period*.

(c) Disputes raised under this clause 3.15.18:

(1) can only be raised by a *Market Participant* or *NEMMCO* issuing a written notice of dispute in the form prescribed by *NEMMCO*'s *DMS* and otherwise in accordance with clause 8.2;

(2) must be resolved by agreement or pursuant to clause 8.2; and

(3) are, for the purpose of this clause, deemed to have been raised on the day *NEMMCO* receives the written notice of dispute.

(d) A *Market Participant* that may be materially affected by the outcome of a dispute under clause 3.15.18 may be joined to that dispute by the *Adviser* on request by that *Market Participant* or by *NEMMCO*.

3.15.19 Revised Statements and Adjustments

(a) Where a dispute about a *final statement* has been either resolved by agreement between *NEMMCO* and the relevant *Market Participant* ("the Disputant") or determined under clause 8.2 and an adjustment to the *settlement amount* stated in the disputed *final statement* is required, or an adjustment is required under clause 3.15.11A, *NEMMCO* must:

(1) recalculate the *settlement amount* for that *Market Participant* and each other *Market Participant* who received a *final statement* for the relevant *billing period*:

(i) in accordance with the applicable procedures set out in the *Rules* and,

(ii) taking into account the adjustment;

(2) if the adjustment is required as a result of a dispute and the recalculated *settlement amount* for the Disputant is between 95% and 105% of the relevant *settlement amount*:

(i) calculate for each *Market Participant* the amount by which the relevant *settlement amount* must be adjusted to be equal to the recalculated *settlement amount* after taking into account any *routine* or *special revised statement*; and

(ii) for each *Market Participant* include that amount in the next *routine revised statement* given to those *Market Participants* for the relevant *billing period* practicable and if there is no *routine revised statement*, in accordance with clauses 3.15.19(a)(3)(ii) and (iii).

(3) if the adjustment is required under clause 3.15.11A, or the adjustment is required as a result of a dispute and the recalculated *settlement amount* for the Disputant is less than 95% or more than 105% of the relevant *settlement amount*:

(i) calculate for each *Market Participant* the amount by which the relevant *settlement amount* must be adjusted to be equal to the recalculated *settlement amount* after taking into account any *routine* or *special revised statement*;

(ii) give each *Market Participant* a *special revised statement* for the relevant *billing period* in addition to any *routine revised statement* given under clause 3.15.19(b); and

(iii) give each *Market Participant* a notice advising of the reason why a *settlement statement* was given by *NEMMCO* under clause 3.15.19(a)(3).

(b) For each *billing period NEMMCO* must give each *Market Participant* a *routine revised statement* approximately 20 weeks after the relevant *billing period* and approximately 30 weeks after the relevant *billing period*. Each *routine revised statement* must recalculate the *Market Participant's settlement amount* for that *billing period*:

(1) taking into account all amended *metering data*, amended *trading amounts*, amended *Participant fees* and any other amounts payable or receivable by *Market Participants* under this Chapter 3; and

(2) using the most recent version of *NEMMCO's* settlement calculation software applicable to that *billing period*.

(c) Each *special* and *routine revised statement* issued under this clause must:

(1) state the revised *settlement amount* for the relevant *billing period*;

(2) be issued in accordance with the revised statement policy;

(3) be issued with revised supporting data for the *transactions* for the relevant *billing period* (except in the case of a *special revised statement* dealing with an adjustment required under clause 3.15.11A) and must include supporting data for all amounts payable or receivable.

(d) If *NEMMCO* has issued a *routine revised statement* or *special revised statement* (the "revised statement") to a *Market Participant* in respect of a *billing period* (the "original *billing period*"), *NEMMCO* must include in the next *final statement* to the *Market Participant* issued not less than 8 *business days* after the *revised statement* (the "next statement"):

(1) the amount necessary to put the *Market Participant* in the position it would have been in at the time payment was made under clause 3.15.16 or 3.15.17 (as applicable) in respect of the *final statement* for the original *billing period*, if the original *revised statement* had been given as the *final statement* for the *billing period*, but taking into account any adjustments previously made under this clause 3.15.19 as a result of any other *routine revised statement* or *special revised statement* in relation to the original *billing period*; and

(2) interest on the amount referred to in clause 3.15.19(d)(1) computed at the average *bank bill rate* for the period from the date on which payment was required to be made under clauses 3.15.16 and 3.15.17 in respect of the *final statement* for the original *billing period* to the date on which payment is required to be made under those clauses in respect of the next statement.

(e) *NEMMCO* must develop and publish a policy for *routine* and *special revised statements*. *NEMMCO* may amend the policy at any time. *NEMMCO* must develop and amend the policy in accordance with the *Rules consultation procedures*. The policy must include:

(1) a calendar setting out when *routine revised statements* will be issued by *NEMMCO*;

(2) the process by which the calendar can be amended or varied by *NEMMCO* and the process by which *Market Participants* are notified of any amendment and variation; and

(3) a transitional process by which *NEMMCO* will issue any outstanding *routine revised statement*.

3.15.20 Payment of adjustments

(a) Adjustments made and interest calculated and included in a *final statement* under clause 3.15.19 must be paid as part of the *settlement amount* shown on that *final statement* in accordance with either clause 3.15.16 or 3.15.17.

(b) Clause 3.15.22 does not apply to a *final statement* to the extent that the *final statement* incorporates an adjustment amount and interest pursuant to clause 3.15.19.

(c) Disputes in respect of adjustment amounts and interest incorporated into a *final statement* pursuant to clause 3.15.19 must be:

(1) raised within 20 *business days* of the date of the *final statement* that they are incorporated into; and

(2) resolved by agreement or pursuant to the dispute resolution procedures set out in clause 8.2.

3.15.21 Default procedure

(a) Each of the following is a *default event* in relation to a *Market Participant:*

(1) the *Market Participant* does not pay any money due for payment by it under the *Rules* by the appointed time on the due date;

(2) *NEMMCO* does not receive payment in full of any amount claimed by *NEMMCO* under any *credit support* in respect of a *Market Participant*, within 90 minutes after the due time for payment of that claim;

(3) the *Market Participant* fails to provide *credit support* required to be supplied under the *Rules* by the appointed time on the due date;

(4) it is unlawful for the *Market Participant* to comply with any of its obligations under the *Rules* or any other obligation owed to *NEMMCO* or it is claimed to be so by the *Market Participant*;

(5) it is unlawful for any *credit support provider* in relation to the *Market Participant* to comply with any of its obligations under the *Rules* or any other obligation owed to *NEMMCO* or it is claimed to be so by that *credit support provider*;

(6) an authorisation from a government body necessary to enable the *Market Participant* or a *credit support provider* which has provided

credit support for that *Market Participant* to carry on their respective principal business or activities ceases to be in full force and effect;

(7) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* ceases or threatens to cease to carry on its business or a substantial part of its business;

(8) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* enters into or takes any action to enter into an arrangement (including a scheme of arrangement), composition or compromise with, or assignment for the benefit of, all or any class of their respective creditors or members or a moratorium involving any of them;

(9) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* states that it is unable to pay from its own money its debts when they fall due for payment;

(10) a receiver or receiver and manager is appointed in respect of any property of the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant*;

(11) an administrator, provisional liquidator, liquidator, trustee in bankruptcy or person having a similar or analogous function under the laws of any relevant jurisdiction is appointed in respect of the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant*, or any action is taken to appoint any such person;

(12) an application or order is made for the winding up or dissolution or a resolution is passed or any steps are taken to pass a resolution for the winding up or dissolution of the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant*;

(13) A notice under section 601AB(3) of the Corporations Act is given to the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* unless the registration of that *Market Participant* or *credit support provider* is reinstated under section 601AH of the Corporations Act;

(14) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* dies or is dissolved unless such notice of dissolution is discharged;

(15) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* is taken to be insolvent or unable to pay its debts under any applicable legislation.

(b) Where a *default event* has occurred in relation to a *Market Participant*, *NEMMCO* may:

(1) issue a "*default notice*" specifying the alleged default and requiring the *Market Participant* to remedy the default by 1.00 pm (*Sydney time*) the next day following the date of issue of the *default notice*; and/or

(2) if it has not already done so, make claim upon any *credit support* held in respect of the obligations of the *Market Participant* for such amount as *NEMMCO* determines represents the amount of any money actually or contingently owing by the *Market Participant* to *NEMMCO* pursuant to the *Rules*.

(c) If the *default event* is not remedied by 1.00 pm (*Sydney time*) the next *day* following the date of issue of the *default notice* or any later deadline agreed to in writing by *NEMMCO*, or if *NEMMCO* receives notice from the *defaulting Market Participant* that it is not likely to remedy the default, then *NEMMCO* may issue a "*suspension notice*" under which *NEMMCO* notifies the *defaulting Market Participant* of the date and time from which it is suspended from trading, and the extent of that suspension.

(d) At the time of issue of a *suspension notice*, or as immediately thereafter as is practicable, *NEMMCO* must forward a copy of the *suspension notice* to the *AER* and to each *Market Participant* which is *financially responsible* for a *transmission network connection point* to which is allocated a *connection point* for which the defaulting *Market Participant* is *financially responsible*.

(e) *NEMMCO* must lift a *suspension notice* if the *default event* is remedied and there are no other circumstances in existence which would entitle *NEMMCO* to issue a *suspension notice*.

(f) *NEMMCO* must issue a public announcement that the *Market Participant* has been suspended from the *market* including details of the extent of the suspension, simultaneously with, or at any time after, a *suspension notice* is issued. *NEMMCO* must issue a public notice promptly after a *suspension notice* is lifted.

(g) From the time of suspension that *NEMMCO* stipulates in a *suspension notice* to a *Market Participant* the *Market Participant* is ineligible to trade or enter into any *transaction* in the *market* to the extent specified in the notice, until such time that *NEMMCO* notifies the *Market Participant* and all other *Market Participant*s of the date and time that the suspension has been lifted.

(h) The *defaulting Market Participant* must comply with a *suspension notice*.

(i) Following the issue of a *suspension notice*, *NEMMCO* may do all or any of the following to give effect to the *suspension notice*:

(1) reject any *dispatch bid* or *dispatch offer* submitted by the *defaulting Market Participant*;

(2) withhold the payment of any amounts otherwise due to the *defaulting Market Participant* under the *Rules*; or

(3) deregister or reject any *reallocation request* to which the *defaulting Market Participant* is a party.

The issue of a *suspension notice* which has not been lifted is a "relevant disconnection event" (ie. an event for which a *Registered Participant's market loads* may be *disconnected*) within the meaning of section 63(2) of the *National Electricity Law*.

(j) Unless provided with instructions from the relevant *participating jurisdiction* or *participating jurisdictions* that a nominated third party is to assume financial responsibility for a suspended *Market Participant*'s obligations under the *Rules* and that person does so, then, following the issue of a *suspension notice*, *NEMMCO* must request the *AER* to seek, and the *AER* must then seek, an order from a court to physically *disconnect market loads* for which the *defaulting Market Participant* is *financially responsible*.

3.15.22 Maximum total payment in respect of a billing period

(a) For the purposes of this clause 3.15.22, the *maximum total payment* in respect of a *billing period* is equal to:

(1) the aggregate of the *energy trading amounts* as determined in accordance with clause 3.15.6 and *reallocation* amounts as determined in accordance with clause 3.15.11 received by *NEMMCO* from *Market Participants* in accordance with clause 3.15.16 in respect of that *billing period* in accordance with the *timetable* on the latest date for payment by *Market Participants* as described in clause 3.15.16 (called the *payment date*),

plus

(2) if there is one or more *Market Participants* in default, the aggregate amount which *NEMMCO* is able to obtain from the *credit support* and apply from security deposits provided by the *Market Participants* in default under clause 3.3 on the *payment date* in accordance with the *timetable*,

minus

(3) if there is one or more *Market Participants* in default, the aggregate of amounts payable to *NEMMCO* by those *Market Participants* in respect of that *billing period* in accordance with clause 3.15.16 but not received in accordance with the *timetable* on the latest date for payment as described in clause 3.15.16 (called the *payment date*),

plus

(4) if there is one or more *Market Participants* in default, the aggregate of *energy trading amounts* and *reallocation* amounts payable to *NEMMCO* under clauses 3.15.6 and 3.15.11 by those *Market Participants* in respect of that *billing period* in accordance with clause 3.15.16 but not received in accordance with the *timetable* on the latest date for payment as described in clause 3.15.16 (called the *payment date*),

minus

(5) *inter-regional* and *intra-regional settlements* surpluses as determined or allocated by *NEMMCO* in accordance with the procedure established under clause 3.6.5.

(b) The maximum amount which *NEMMCO* is required to pay to *Market Participants* in respect of *spot market transactions* or *reallocation transactions* in respect of a *billing period* is equal to the *maximum total payment* in respect of that *billing period*.

(c) If the *maximum total payment* in respect of a *billing period* is not sufficient to meet the aggregate of the net amounts payable by *NEMMCO* to each of the *Market Participants* to whom payments are to be made in relation to *spot market transactions* or *reallocation transactions* in respect of the *billing period* ("the *aggregate payment due*"), then the aggregate amount payable by *NEMMCO* to each relevant *Market Participant* for any of these *transactions* in respect of that *billing period* shall be reduced by applying the following formula:

$$AAP = SAP \times \frac{A}{B}$$

where:

AAP is the reduced amount actually payable by *NEMMCO* to the relevant *Market Participant* in respect of the relevant *billing period*;

SAP is the net amount that would have been payable to the relevant *Market Participant* in respect of *spot market transactions* or *reallocation*

transactions in respect of the relevant *billing period* but for the application of this clause 3.15.22;

A is the *maximum total payment* in respect of the *billing period*; and

B is the *aggregate payment due* in respect of the *billing period*.

(d) This clause 3.15.22 applies notwithstanding any other provision of this Chapter.

3.15.23 Maximum total payment in respect of a financial year

(a) If in a *financial year* a *Market Participant* suffers a reduction in payment under clause 3.15.22 the provisions of this clause shall apply to adjust the payments made to each *Market Participant* in the *financial year*.

(b) The ratio of the overall shortfall to the sum of the *aggregate payments due* for a financial year shall be determined by the following formula:

$$SS = \frac{A_1 + C}{B_1}$$

where:

SS is the ratio of the overall shortfall to the sum of the *aggregate payments due* for the *financial year*;

A_1 is the aggregate of the As referred to in clause 3.15.22, being the *maximum total payment* in respect of each *billing period* forming the *financial year;*

B_1 is the aggregate of the Bs referred to in clause 3.15.22, being the *aggregate payment due* in respect of each *billing period* forming the *financial year*; and

C is the aggregated late payments and *credit support* receipts in respect of *defaulting Market Participants* in the *financial year* plus interest received on such amounts under clause 3.15.25.

(c) The shortfall for a *financial year* shall be applied pro rata to each *Market Participant* in the *financial year* by applying the following formula:

$SS_1 = (SAP_1 \quad SS) - AAP_1$

where:

SS_1 is the shortfall or surplus payable by or due to the *Market Participant* in respect of the *financial year;*

SAP_1 is the aggregate of the SAPs referred to in clause 3.15.22 being the net amounts due to the *Market Participant* in respect of each *billing period* forming the *financial year;*

SS is determined in accordance with clause 3.15.23(b); and

AAP_1 is the aggregate of the AAPs referred to in clause 3.15.22, being the reduced amounts payable to the *Market Participant* in respect of each *billing period* forming the *financial year.*

(d) *NEMMCO* must issue a statement stating the SS_1 amount payable to or receivable by the *Market Participant* in respect of this clause 3.15.23. If SS_1 is positive, such that an amount is payable by *NEMMCO* it will credit the sum to the *Market Participant's* account in the next *billing period*. If SS_1 is negative, such that an amount is payable by a *Market Participant*, *NEMMCO* will at its discretion either debit the sum to the *Market Participant* in the next *billing period* or issue an invoice for immediate payment of the amount.

3.15.24 Compensation for reductions under clause 3.15.23

(a) If:

(1) a *Market Participant* suffers a reduction in payment under clause 3.15.23; and

(2) an amount is recovered by *NEMMCO* after the end of a *financial year* from the person whose default gave rise (in whole or in part) to the reduction, in respect of the default,

then, subject to clause 3.15.24(c), the *Market Participant* is entitled to be paid by *NEMMCO* out of the amount recovered the amount of the reduction suffered and interest for receiving the amount of the reduction later than it would otherwise have done.

(b) The amount of the interest payable under clause 3.15.24(a) is to be determined in each case by *NEMMCO*.

(c) If the amount recovered from the person whose default gave rise to the reduction is not sufficient to pay all *Market Participant*s the amounts to which they are entitled under clause 3.15.23 then the amount recovered is to be distributed amongst them pro rata according to the reductions suffered. Such distribution to be made at any time following the end of a *financial year*.

3.15.25 Interest on overdue amounts

(a) A *Market Participant* or *NEMMCO* must pay interest on any unpaid moneys due and payable by it under this Chapter.

(b) The rate of interest payable under this clause 3.15.25 is the *bank bill rate* calculated as simple interest on a daily basis from the date payment was due, up to and including the date of payment, with interest compounding monthly on the last *day* of each month whilst the unpaid moneys remain outstanding.

3.16 Participant compensation fund

3.16.1 Establishment of Participant compensation fund

(a) *NEMMCO* must continue to maintain, in the books of the corporation, a fund called the *Participant compensation fund* for the purpose of paying compensation to *Scheduled Generators* and *Scheduled Network Service Providers* as determined by the *dispute resolution panel* for *scheduling errors* under this Chapter 3.

(b) *NEMMCO* must pay to the *Participant compensation fund* that component of *Participant fees* under clause 2.11 attributable to the *Participant compensation fund*.

(c) The funding requirement for the *Participant compensation fund* for each *financial year* is the lesser of:

(1) $1,000,000; and

(2) $5,000,000 minus the amount which *NEMMCO* reasonably estimates will be the balance of the *Participant compensation fund* at the end of the relevant *financial year*.

(d) The *Participant compensation fund* is to be maintained by *NEMMCO* and is the property of *NEMMCO*.

(e) Any interest paid on money held in the *Participant compensation fund* will accrue to and form part of the *Participant compensation fund*.

(f) *NEMMCO* must pay from the *Participant compensation fund* all income tax on interest earned by the *Participant compensation fund* and must pay from the *Participant compensation fund* all bank account debit tax, financial institutions duty and bank fees in relation to the *Participant compensation fund*.

(g) Upon ceasing to be a *Scheduled Generator*, a *Scheduled Generator* is not entitled to a refund of any contributions made to the *Participant compensation fund*.

(h) Upon ceasing to be a *Scheduled Network Service Provider*, a *Scheduled Network Service Provider* is not entitled to a refund of any contributions made to the *Participant compensation fund*.

3.16.2 Dispute resolution panel to determine compensation

(a) Where the *dispute resolution panel* has made a determination that *NEMMCO* has made a *scheduling error*, the *dispute resolution panel* may determine which *Market Participant*s may receive compensation and the amount of any such compensation payable from the *Participant compensation fund*.

(b) The *dispute resolution panel's* determination as to compensation must be consistent with this clause 3.16.2.

(c) A S*cheduled Generator* who receives an instruction in respect of a *scheduled generating unit* to operate at a lower level than that at which it would have been instructed to operate had the *scheduling error* not occurred will be entitled to receive in compensation an amount determined by the *dispute resolution panel*.

(c1) A *Scheduled Network Service Provider* who receives an instruction in respect of its *scheduled network services* to transfer less *power* on the *scheduled network service* than it would have been instructed to transfer had the *scheduling error* not occurred, will be entitled to receive in compensation an amount determined by the *dispute resolution panel*.

(d) In determining the level of compensation to which *Market Participant*s are entitled, the *spot price* to be used will be the *spot price* as determined under clause 3.9.

(e) In making a determination on the level of compensation to be paid in relation to a *scheduling error*, the *dispute resolution panel* must take into account the current balance of the *Participant compensation fund* and the potential for further liabilities to arise during the year.

(f) The aggregate liability in any year in respect of *scheduling errors* cannot exceed the balance of the *Participant compensation fund* that would have been available at the end of that year if no compensation payments for *scheduling errors* had been made during that year, and determinations by the *dispute resolution panel* during the year must recognise this.

(g) The manner and timing of payments from the *Participant compensation fund* are to be determined by the *dispute resolution panel*.

(h) To the maximum extent permitted by law, *NEMMCO* is not liable in respect of a *scheduling error* except out of the *Participant compensation fund* as contemplated in this clause 3.16.2.

3.17 NEMMCO Software

3.17.1 Acceptance of software

NEMMCO must not alter, reconfigure, reprogram or otherwise modify or enhance any computer software required under this Chapter 3 for the operation of the *market* unless such changes have been duly authorised by the *AER.*

3.17.2 No liability

To the maximum extent permitted by law, no Contractor, and no employee, officer or agent of *NEMMCO* or a Contractor, is liable (in contract, tort including negligence or otherwise) for any loss or damage suffered or incurred by a *Market Participant* or any other person as a consequence of the use of any computer software to operate the *market*. For the purpose of this clause, "Contractor" means any person or organisation engaged by *NEMMCO* to assist in the development, design, installation, maintenance or upgrading of the computer software used to operate the *market.*

3.18 Settlement Residue Auctions

3.18.1 Settlement residue concepts

(a) An *"auction participation agreement"* is an agreement between *NEMMCO* and an *eligible person* concerning the participation by the *eligible person* in *auctions*.

(b) A *"settlement residue distribution agreement"* or "*SRD agreement*" is an agreement between *NEMMCO* and an *eligible person* entered into following an *auction* under which:

(1) *NEMMCO* agrees to distribute to the *eligible person* a portion of the *settlements residues* allocated to a *directional interconnector* for a period specified in the *SRD agreement;* and

(2) the *eligible person* agrees to pay *NEMMCO* a certain amount for the right referred to in clause 3.18.1(b)(1).

(c) For the purposes of this clause 3.18:

(1) all the *regulated interconnectors* between any 2 adjacent *regions* are deemed to constitute a single *interconnector*; and

(2) the deemed *interconnector* referred to in clause 3.18.1(c)(1) between any 2 adjacent *regions* consists of 2 *directional interconnectors*, one involving a transfer from *region* A to *region* B, and one involving a transfer from *region* B to *region* A.

(d) Subject to clause 3.18.4, *NEMMCO* must use the portion of the *settlements residue* allocated to a *directional interconnector* remaining after applying the relevant *jurisdictional derogations* under Chapter 9 (as determined by applying the principles referred to in clause 3.6.5) to make payments under *SRD agreements* in relation to that *directional interconnector* and to recover the *auction expense fees.*

3.18.2 Auctions and eligible persons

(a) *NEMMCO* may conduct *auctions* to determine which *eligible persons* will enter into *SRD agreements* with *NEMMCO*.

(b) *NEMMCO* may only enter into *SRD agreements* with persons (called "*eligible persons*") which satisfy the following criteria:

(1) the person is a *Market Customer*, a *Generator* or a *Trader*; and

(2) the person satisfies any criteria specified in the *auction rules*, which criteria must comply with clause 3.18.2(g).

(c) *Auctions* must be conducted in accordance with the *auction rules*.

(d) *NEMMCO* may, with the approval of the *settlement residue committee,* suspend, or remove a suspension, on conducting *auctions* for one or more *directional interconnectors* for a specified period if *NEMMCO* believes it is not practicable to conduct those *auctions* or those *auctions* are unlikely to lead to the entry into of *SRD agreements* in relation to all of the *settlements residues* being auctioned.

(e) *NEMMCO* may, after complying with the *Rules consultation procedures*, cease conducting *auctions*.

(f) If *NEMMCO* takes any action under clause 3.18.2(d) or (e), then it must post a notice on its website specifying the action taken as soon as practicable after taking it.

(g) Any criteria specified in the *auction rules* concerning persons with whom *NEMMCO* may enter into *SRD agreements* must not exclude any persons other than those specified in paragraphs (1) – (6) below and must exclude the persons specified in paragraphs (1), (2), (5) and (6) below:

(1) persons who have not entered into an *auction participation agreement*;

(2) *Transmission Network Service Providers*;

(3) **[Deleted]**

(4) persons:

(i) who have defaulted on payment obligations under an *auction participation agreement* or a *SRD agreement;* or

(ii) in relation to whom a *default event* has occurred;

(5) any person who *NEMMCO* considers is acting on behalf of or in concert with a person described in clauses 3.18.2(g)(1)-(2);

(5a) any person who *NEMMCO* considers is acting on behalf of or in concert with a person described in clause 3.18.2(g)(4); or

(6) any person who would be a "retail client" as defined in section 761G (7) of the Corporations Act 2001 (Cth), if they entered into an *SRD agreement* with *NEMMCO*.

(h) Notwithstanding any other provision of the *Rules*, an entity registered under the *Rules* as a *Generator* with respect to any of the generators known as Snowy 1 to 6 as at 3 February 2000 and their related companies (each a "*Snowy Restricted Bidder*") is restricted to acquiring a number of units of *settlements residue* arising from the New South Wales to Snowy *directional interconnector* and Victorian to Snowy *directional interconnector* ("*Snowy inbound flows*") determined in accordance with the procedures set out in this clause 3.18.2(h).

(1) If a *Snowy Restricted Bidder* wishes to bid for *Snowy inbound flows* at any *auction* it must no later than 15 *business days* before an *auction* deliver to *NEMMCO* a report prepared by an independent auditor containing a certified statement of the approximate total MW of *settlements residue* required by that *Snowy Restricted Bidder* for its demonstrated pumping needs and demonstrated contractual exposures for the period for which the *settlements residue* apply ("*Snowy inbound permitted amount"*).

(2) At any *auction* a *Snowy Restricted Bidder* must not acquire an amount of units for *Snowy inbound flows* greater than 105% of the *Snowy inbound permitted amount*.

(3) *NEMMCO* must not accept a bid from a *Snowy Restricted Bidder* for *Snowy inbound flows* unless the bid complies with this clause 3.18.2(h).

(4) *NEMMCO* must not disclose the report delivered to it pursuant to clause 3.18.2(h)(1) to any person except the *AER* upon written request to do so.

(5) A *Snowy Restricted Bidder* may at any time request *NEMMCO* to prepare a report to be delivered to the *AER* which, amongst other things:

(i) must set out *NEMMCO's* opinion on the effectiveness of the provisions of this clause 3.18.2(h); and

(ii) may recommend re-drafting of this clause 3.18.2(h), including removal, if appropriate.

3.18.3 Auction rules

(a) *NEMMCO* must develop rules (called "*auction rules*") which set out:

(1) additional criteria which a person must satisfy to be an *eligible person* (which must include, without limitation, criteria requiring the person to enter into an *auction participation agreement* with *NEMMCO* in a form satisfactory to *NEMMCO*);

(2) the procedures for conducting *auctions* and the timing of *auctions*;

(3) the mechanism for calculating the *auction* clearing price in respect of each *directional interconnector* for each *auction*;

(4) the mechanism for calculating *auction expense fees;*

(5) the procedures and timetable for billing and settling *auction amounts*; and

(6) the standard form of any *auction participation agreement* referred to in clause 3.18.3(a)(1).

(b) In developing and amending the *auction rules*, *NEMMCO* must give effect to the following principles:

(1) **[Deleted]**

(2) to the extent reasonably practicable, an *auction* must be structured in a way that maximises the value of the relevant *settlements residue;*

(3) the price for each unit of the *settlements residue* in respect of a *directional interconnector* will be the same for all *SRD agreements* resulting from the same *auction* and will be equal to the *auction* clearing price in respect of the *directional interconnector* for the *auction*; and

(4) enhancing competition and efficiency by promoting interstate trade in electricity.

(c) *NEMMCO* must make the *auction rules* available to *Registered Participants* and to any other person who requests a copy.

(d) *NEMMCO* may amend the *auction rules* at any time with the approval of the *settlement residue committee*.

(e) Subject to clause 3.18.3(f), in developing and amending the *auction rules*, *NEMMCO* must comply with the *Rules consultation procedures*.

(f) *NEMMCO* need not, provided it has consulted to the extent practicable in the circumstances, comply with the *Rules consultation procedures* in relation to a proposed amendment to the *auction rules* if:

(1) the amendment has the support of at least three-quarters of the members of the *settlement residue committee*; and

(2) *NEMMCO* considers the amendment is urgent.

(g) **[Deleted]**

3.18.4 Proceeds and fees

(a) *NEMMCO* must distribute:

(1) the proceeds from each *auction* in respect of a *directional interconnector*; and

(2) subject to clauses 3.18.4(b) and (c), any portion of the *settlements residue* allocated to the *directional interconnector* which is not the subject of a *SRD agreement*,

to the appropriate *Network Service Providers* in accordance with the principles referred to in clause 3.6.5 in relation to the allocation and distribution of *settlements residue* attributable to *regulated interconnectors*.

(b) The costs and expenses incurred by *NEMMCO* in establishing and administering the arrangements contemplated by this clause 3.18, in conducting *auctions* under this clause 3.18 and in entering into and administering *auction participation agreements* and *SRD agreements* under

this clause 3.18 will be recovered from *settlements residue* by way of *auction expense fees*.

(c) The *auction expense fees* are to be developed by *NEMMCO* in accordance with the *auction rules* and approved by the *settlement residue committee*, and recovered as follows:

(1) to the extent the *settlements residue* is distributed to *eligible persons* under clause 3.18.1(d), in accordance with the *auction rules*; and

(2) to the extent the *settlements residue* is distributed to *Network Service Providers* under clause 3.18.4(a)(2), as if the *settlements residue* was being distributed to *eligible persons* in accordance with the *auction rules*.

(d) The *auction expense fees* for an *auction* are to be *published* before the *auction*.

(e) *Eligible persons* and *NEMMCO* must pay *auction amounts* in accordance with the *auction rules*, and, for the avoidance of doubt, amounts payable by *eligible persons* to *NEMMCO* under *SRD agreements* will not be regarded as amounts payable under the *Rules* for the purposes of clause 3.15.

(f) *NEMMCO* may nominate an electronic funds transfer facility for the purposes of paying *auction amounts* and, if it does so, *eligible persons*, *Network Service Providers* and *NEMMCO* must use that facility for paying and receiving a*uction amounts*.

3.18.5 Settlement residue committee

(a) *NEMMCO* must establish a settlement residue committee.

(b) The functions of the *settlement residue committee* are to:

(1) approve any suspension, or removal of a suspension, imposed by *NEMMCO* on the conducting of *auctions*;

(2) approve proposed amendments to the *auction rules* developed by *NEMMCO*;

(3) monitor, review and report on the *auctions* conducted by *NEMMCO* under this clause 3.18; and

(4) approve the costs and expenses incurred by *NEMMCO* in conducting *auctions* under this clause 3.18 and in entering into and administrating *auction participation agreements* and *SRD agreements* under this clause 3.18.

(c) The *settlement residue committee* is to consist of:

(1) an employee of *NEMMCO* appointed by *NEMMCO*, who will act as chairman of the committee;

(2) a person representing *Generators*;

(3) a person representing *Market Customers*;

(4) a person representing *Transmission Network Service Providers*;

(5) a person representing *Traders*;

(6) a person appointed jointly by the relevant *Ministers* of the *participating jurisdictions*; and

(7) a person appointed by the *AEMC* to represent end use customers of electricity.

(d) *NEMMCO* may remove the person referred to in clause 3.18.5(c)(1) at any time for any reason.

(e) The persons referred to in clauses 3.18.5(c)(2), (3), (4) and (5) must be appointed and removed by *NEMMCO* after consultation with the class of *Registered Participants* the person is to represent, and *NEMMCO* must:

(1) appoint a person agreed to by at least one third in number of the relevant class of *Registered Participants*; and

(2) commence consultation on the removal of such a person if requested to do so by a member of the relevant class of *Registered participants*, and must remove that person if so agreed by at least one third in number of the relevant class of *Registered Participants*.

(f) The *Ministers* of the *participating jurisdictions* acting jointly may remove the person referred to in clause 3.18.5(c)(6) at any time for any reason.

(g) The *AEMC* may remove the person referred to in clause 3.18.5(c)(7) at any time for any reason.

(h) A person holds office as a member of the *settlement residue committee* until that person:

(1) resigns from office;

(2) if the person is the person referred to in clause 3.18.5(c)(1), is removed from office by *NEMMCO* in accordance with clause 3.18.5(d);

(3) if the person is a person referred to in clauses 3.18.5(c)(2), (3), (4) or (5), is removed from office by *NEMMCO* in accordance with clause 3.18.5(e)(2);

(4) if the person is the person referred to in clause 3.18.5(c)(6), is removed from office by the *Ministers* of the *participating jurisdictions* in accordance with clause 3.18.5(f); or

(5) if the person is the person referred to in clause 3.18.5(c)(7), is removed from office by the *AEMC* in accordance with clause 3.18.5(g),

and such a person is eligible for re-appointment.

(i) A person may resign as a member of the *settlement residue committee* by giving notice in writing to that effect to *NEMMCO*.

3.19 Market Management Systems Access Procedures

(a) *NEMMCO* may develop and *publish Market Management Systems Access Procedures* in consultation with *Registered Participants* in accordance with the *Rules consultation procedures*, which procedures will govern how *Registered Participants* and *Metering Providers* can use the *market management systems*.

(b) *NEMMCO* may amend the *Market Management Systems Access Procedures* from time to time in consultation with *Registered Participants* in accordance with the *Rules consultation procedures*, and any such amendments must be *published* by *NEMMCO*.

(c) *NEMMCO* and all *Registered Participants* and *Metering Providers* must comply with the *Market Management Systems Access Procedures*.

(d) A *Registered Participant* which complies with the *Market Management Systems Access Procedures* and promptly pays all relevant *Participant fees* as and when they fall due has a right to be connected to the *market management systems*.

(e) If a *Registered Participant* fails to comply with the *Market Management Systems Access Procedures*, *NEMMCO* must:

(1) notify that *Registered Participant* describing the nature of the breach; and

(2) at a time following notification of the breach by *NEMMCO* under clause 3.19(e)(1) determined by *NEMMCO* having regard to a balancing of the need to provide a *Registered Participant* with the opportunity to remedy the breach and the nature of the breach, notify

the AER that the *Registered Participant* has breached the *Market Management Systems Access Procedures*.

Schedule 3.1 - Registered Bid and Offer Data

The *registered bid and offer data* are the standard data requirements for verification and compilation of *dispatch bids* and *dispatch offers* on the *trading day* schedule. All *Scheduled Generators* and *Market Participants* must notify *NEMMCO* of their *registered bid and offer data* in accordance with this schedule 3.1 in respect of each of their *scheduled loads* and *scheduled generating units* at least six weeks prior to commencing participation in the *market*.

Scheduled Generators and *Market Participants* must review their *registered bid and offer data* annually in accordance with the *timetable* advised by *NEMMCO* and provide details of any *changes* to *NEMMCO*.

Registered bid and offer data may be updated by a *Scheduled Generator* or *Market Participant* at any time but may be subject to audit at *NEMMCO's* request.

A copy of all *changes* to the data must be returned to each *Scheduled Generator* and *Market Participant* for verification and resubmission by the *Scheduled Generator* or *Market Participant* as necessary.

Registered bid and offer data may include tolerance levels.

Scheduled Generating Unit Data:

Data	Units of Measurement
Power station **information:**	
node number/identifier	
total station registered capacity	MW
total station *sent out* capacity at registered capacity	MW
daily *energy constraint*, if applicable	MWh per day
Generating unit **information:**	
full *load*	MW (*generated and sent out)*
normal or technical minimum *load*	MW (*generated and sent out)*
additional emergency *generation* above registered capacity	MW
normal and maximum *ramp rates*	MW/minute
response time to full *load* from cold standby	minutes
aggregation data	
capability chart	
notice to *synchronise*	minutes
minimum shutdown time	minutes
maximum shutdowns per day	

Scheduled Load Data:

Data	Units of Measurement
node number/identifier	
normally on or *normally off*	
maximum load	MW
daily *energy constrain*t if applicable	MWh per day
normal and maximum *ramp rates*	MW/min
aggregation data	

Scheduled Network Service Data:

Data	Units of Measurement
node number/identifier for *connection points A* and *B*	
Registered *power transfer capability* to node 1 (may be seasonal etc)	MW
Registered *power transfer capability* to node 2 (may be seasonal etc).	MW
Additional transient *power transfer capability* in each direction	MW
Normal and maximum transfer *ramp rates* (if applicable)	MW/min
Loss vs flow as piecewise linear relationships for each direction which, taken together, are convex over the entire range of *power transfer capabilities* in both directions	
Aggregation data	

Dispatch Inflexibility Profile

Data	Units of Measurement
Time for response from receipt of *dispatch* instruction from zero *load*, T1 (see clause 3.8.19(e)(1))	minutes
Time after T1 required to reach minimum loading level (see clause 3.8.19(e)(2))	minutes
Time after T2 for which *plant* must operate at or above the minimum *loading level* (see clause 3.8.19(e)(3))	minutes
Time required by *plant* to reduce from its minimum *loading level* to zero (see clause 3.8.19(e)(4))	minutes
minimum *loading level* (see clauses 3.8.19(e)(2),(3),(4))	MW

Aggregation Data

Where *dispatch bids* or *dispatch offers* are submitted for aggregated *generating units*, *market network services* or *loads* then, unless otherwise exempted by *NEMMCO*, each *Scheduled Generator* and *Market Participant* must provide the information required in accordance with this schedule 3.1 for each *generating unit*, *market network service* or *load* included in those *dispatch bids* or *dispatch offers* both separately and in aggregated form.

Schedule 3.2 [Deleted]

Schedule 3.3 - Principles for Determination of Maximum Credit Limit

The MCL should be set on the principle of imposing a guarantee of payment being made to *NEMMCO* to a level of a "reasonable worst case" - a position which, while not being impossible, is likely to happen only once in a few years.

When calculating the MCL *NEMMCO* should have regard to:

I. impartial objectivity rather than subjectivity, though it is recognised that some key parameters will need to be subjectively estimated from a limited amount of data - the estimation should be as impartial as possible;

II. the average level and volatility of the *regional reference price* for the *region* for which the MCL is being calculated, measured over a period of time comparable to the frequency of breaches of the MCL (about four years);

III. the pattern of the quantity of electricity recorded in the *metering data* for the participant;

IV. the quantity and pattern of the *reallocation transactions* in the immediate future;

V. the correlation between the metered amounts of electricity and the *regional reference price*;

VI. the length of the *credit period*, which is the number of days from initial consumption to the end of the *reaction period* taking into account:

   A. the length of the *billing period*;

   B. the typical time from the end of the *billing period* to the day on which settlement for that *billing period* is due to be paid (the *payment period*);

   C. any *reduced payment period request* from the *Market Participant* for the *maximum credit limit* to be determined on a *payment period* of 14 days;

   D. the time from a *default event* to the suspension or other removal of the defaulting party from the market (the *reaction period*).

VII. the statistical distribution of accrued amounts which may be owed to *NEMMCO*;

VIII. the degree of confidence that the MCL will be large enough to meet large defaults i.e. the degree of reasonableness in "reasonable worst case".

As far as practicable, this schedule 3 must be read and construed as taking into account *market ancillary service* transactions for the calculation of MCL.

Schedule 3.4 [Deleted]

Schedule 3.5 [Deleted]

CHAPTER 4

4. Power System Security

4.1 Introduction

4.1.1 Purpose

(a) This Chapter:

(1) provides the framework for achieving and maintaining a secure *power system*;

(2) provides the conditions under which *NEMMCO* can intervene in the processes of the *spot market* and issue *directions* to *Registered Participants* so as to maintain or re-establish a secure and reliable *power system*;

(3) has the following aims:

(i) to detail the principles and guidelines for achieving and maintaining *power system security*;

(ii) to establish the processes for the assessment of the adequacy of *power system* reserves;

(iii) to establish processes to enable *NEMMCO* to plan and conduct operations within the *power system* to achieve and maintain *power system security*; and

(iv) to establish processes for the actual *dispatch* of *scheduled generating units*, *scheduled loads*, *scheduled network services* and *ancillary services* by *NEMMCO*.

(b) By virtue of this Chapter and the *National Electricity Law*, *NEMMCO* has responsibility to maintain and improve *power system security*. This Chapter also requires the *Jurisdictional System Security Coordinator* for each *participating jurisdiction* to advise *NEMMCO* of the requirements of the *participating jurisdiction* regarding *sensitive loads* and priority of *load shedding* and requires *NEMMCO* to provide copies of the relevant *load shedding procedures* to the *Jurisdictional System Security Coordinator*.

4.1.2 [Deleted]

4.2 Definitions and Principles

This clause sets out certain definitions and concepts that are relevant to this Chapter.

4.2.1 [Deleted]

4.2.2 Satisfactory Operating State

The *power system* is defined as being in a *satisfactory operating state* when:

(a) the *frequency* at all energised *busbars* of the *power system* is within the *normal operating frequency band*, except for brief excursions outside the *normal operating frequency band* but within the *normal operating frequency excursion band*;

(b) the *voltage* magnitudes at all energised *busbars* at any *switchyard* or *substation* of the *power system* are within the relevant limits set by the relevant *Network Service Providers* in accordance with clause S5.1.4 of schedule 5.1;

(c) the current flows on all *transmission lines* of the *power system* are within the ratings (accounting for time dependency in the case of emergency ratings) as defined by the relevant *Network Service Providers* in accordance with schedule 5.1;

(d) all other *plant* forming part of or impacting on the *power system* is being operated within the relevant operating ratings (accounting for time dependency in the case of emergency ratings) as defined by the relevant *Network Service Providers* in accordance with schedule 5.1;

(e) the configuration of the *power system* is such that the severity of any potential fault is within the capability of circuit breakers to *disconnect* the faulted circuit or equipment; and

(f) the conditions of the *power system* are stable in accordance with requirements designated in or under clause S5.1.8 of schedule 5.1.

4.2.3 Credible and non-credible contingency events

(a) A "*contingency event*" means an event affecting the *power system* which *NEMMCO* expects would be likely to involve the failure or removal from operational service of a *generating unit* or *transmission element*.

(b) A "*credible contingency event*" means a *contingency event* the occurrence of which *NEMMCO* considers to be reasonably possible in the surrounding circumstances including the *technical envelope*. Without limitation, examples of *credible contingency events* are likely to include:

(1) the unexpected automatic or manual *disconnection* of, or the unplanned reduction in capacity of, one operating *generating unit*; or

(2) the unexpected *disconnection* of one major item of *transmission plant* (e.g. *transmission line*, *transformer* or *reactive plant*) other than as a result of a three phase electrical fault anywhere on the *power system*.

(c) A "*single credible contingency event*" means an individual *credible contingency event* for which a *Registered Participant* adversely affected by the event would reasonably expect, under normal conditions, the design or operation of the relevant part of the *power system* would adequately cater, so as to avoid significant disruption to *power system security*.

(d) The "*critical single credible contingency event*" at any particular time is the *single credible contingency event* considered by *NEMMCO*, in the particular circumstances, to have the potential for the most significant impact on the *power system* at that time. This would generally be the instantaneous loss of the largest *generating unit* on the *power system*. Alternatively, it might be the loss of any *interconnection* under *abnormal conditions*.

(e) A "*non-credible contingency event*" is a *contingency event* other than a *credible contingency event*. Without limitation, examples of *non-credible contingency events* are likely to include:

(1) three phase electrical faults on the *power system*; or

(2) simultaneous disruptive events such as:

(i) multiple *generating unit* failures; or

(ii) double circuit *transmission line* failure (such as may be caused by tower collapse).

(f) *Abnormal conditions* are conditions posing added risks to the *power system* including, without limitation, severe weather conditions, lightning, storms, and bush fires. During such conditions, *NEMMCO* may, in its reasonable opinion, determine a *non-credible contingency event* (in particular, but without limitation, the tripping of some *substation* or *switchyard busbars* or both circuits of a double circuit *transmission line*) to be a *credible contingency event*. *NEMMCO* must notify all *Market Participants* of such a re-classification as soon as practicable.

4.2.4 Secure operating state and power system security

(a) The *power system* is defined to be in a *secure operating state* if, in *NEMMCO*'s reasonable opinion, taking into consideration the appropriate *power system security* principles described in clause 4.2.6:

(1) the *power system* is in a *satisfactory operating state*; and

(2) the *power system* will return to a *satisfactory operating state* following the occurrence of a *single credible contingency event* in accordance with the *power system security and reliability standards*.

(b) Without limitation, in forming the opinions described in clause 4.2.4(a), *NEMMCO* must:

(1) consider the impact of each of the potentially *constrained interconnectors*; and

(2) use the *technical envelope* as the basis of determining events considered to be *credible contingency events* at that time.

4.2.5 Technical envelope

(a) The *technical envelope* means the technical boundary limits of the *power system* for achieving and maintaining the *secure operating state* of the *power system* for a given demand and *power system* scenario.

(b) *NEMMCO* must determine and revise the *technical envelope* (as may be necessary from time to time) by taking into account the prevailing *power system* and *plant* conditions as described in clause 4.2.5(c).

(c) In determining and revising the *technical envelope NEMMCO* must take into account matters such as:

(1) *NEMMCO's* forecast of total *power system load*;

(2) the provision of the applicable *contingency capacity reserves*;

(3) operation within all *plant* capabilities of *plant* on the *power system*;

(4) *contingency capacity reserves* available to handle a *single credible contingency event*;

(5) advised *generation* minimum *load constraints*;

(6) *constraints* on *transmission networks*, including short term limitations;

(7) *ancillary service* requirements;

(8) **[Deleted]**

(9) the existence of proposals for any major equipment or *plant* testing, including the checking of, or possible changes in, *transmission plant* availability; and

(10) applicable *performance standards*.

(d) *NEMMCO* must, when determining the secure operating limits of the *power system*, assume that the applicable *performance standards* are being met, subject to:

(1) a *Registered Participant* notifying *NEMMCO*, in accordance with clause 4.15(f), that a *performance standard* is not being met; or

(2) *NEMMCO* otherwise becoming aware that a *performance standard* is not being met.

4.2.6 General principles for maintaining power system security

The *power system security* principles are as follows:

(a) To the extent practicable, the *power system* should be operated such that it is and will remain in a *secure operating state*.

(b) Following a *contingency event* (whether or not a *credible contingency event*) or a significant change in *power system* conditions, *NEMMCO* should take all reasonable actions:

(1) to adjust, wherever possible, the operating conditions with a view to returning the *power system* to a *secure operating state* as soon as it is practical to do so, and, in any event, within thirty minutes; or

(2) if any principles and guidelines have been *published* under clause 8.8.1(a)(2a), to adjust, wherever possible, the operating conditions, in accordance with such principles and guidelines, with a view to returning the *power system* to a *secure operating state* within at most thirty minutes.

(c) Adequate *load shedding* facilities initiated automatically by *frequency* conditions outside the *normal operating frequency excursion band* should be available and in service to restore the *power system* to a *satisfactory operating state* following significant multiple *contingency events*.

(d) **[Deleted]**

(e) Sufficient *black start-up facilities* should be available so as to allow the restoration of *power system security* and any necessary restarting of *generating units* following a *black system* condition.

4.2.7 Reliable Operating State

The *power system* is assessed to be in a *reliable operating state* when:

(a) *NEMMCO* has not *disconnected*, and does not expect to *disconnect*, any points of *load connection* under clause 4.8.9;

(b) no *load shedding* is occurring or expected to occur anywhere on the *power system* under clause 4.8.9; and

(c) in *NEMMCO's* reasonable opinion the levels of *short term* and *medium term capacity reserves* available to the *power system* are at least equal to the required levels determined in accordance with the *power system security and reliability standards*.

4.2.8 Time for undertaking action

The provisions of clause 1.7.1(l) do not apply to this Chapter and an event which is required under this Chapter to occur on or by a stipulated *day* must occur on or by that *day* whether or not a *business day*.

4.3 Power System Security Responsibilities and Obligations

4.3.1 Responsibility of NEMMCO for power system security

The *NEMMCO power system security responsibilities* are:

(a) to maintain *power system security*;

(b) to monitor the operating status of the *power system*;

(c) to co-ordinate the *System Operators* in undertaking certain of its activities and operations and monitoring activities of the *power system*;

(d) to ensure that *high voltage* switching procedures and arrangements are utilised by *Network Service Providers* to provide adequate protection of the *power system*;

(e) to assess potential infringement of the *technical envelope* or *power system operating procedures* which could affect the security of the *power system*;

(f) to ensure that the *power system* is operated within the limits of the *technical envelope*;

(g) to ensure that all *plant* and equipment under its control or co-ordination is operated within the appropriate operational or emergency limits which are advised to *NEMMCO* by the respective *Network Service Providers* or *Registered Participants*;

(h) to assess the impacts of technical and any operational *plant* on the operation of the *power system*;

(i) to arrange the *dispatch* of *scheduled generating units*, *scheduled loads*, *scheduled network services* and *ancillary services* (including *dispatch* by remote control actions or specific directions) in accordance with the *Rules*, allowing for the dynamic nature of the *technical envelope*;

(j) to determine any potential *constraint* on the *dispatch* of *generating units*, *loads*, *market network services* and *ancillary services* and to assess the effect of this *constraint* on the maintenance of *power system security*;

(k) to assess the availability and adequacy, including the dynamic response, of *contingency capacity reserves* and *reactive power reserves* in accordance with the *power system security and reliability standards* and to ensure that appropriate levels of *contingency capacity reserves* and *reactive power reserves* are available:

(1) to ensure the *power system* is, and is maintained, in a *satisfactory operating state*; and

(2) to arrest the impacts of a range of significant multiple *contingency events* (affecting up to 60% of the total *power system load*) to allow a prompt restoration or recovery of *power system security*, taking into account under-*frequency* initiated *load shedding* capability provided under *connection agreements* or otherwise;

(l) to determine the required levels of *short term capacity reserves* and *medium term capacity reserves* in accordance with the *power system security and reliability standards*, and to assess the availability of the actual *short term capacity reserve* and actual *medium term capacity reserve* in accordance with the *projected assessment of system adequacy* (PASA), described in Chapter 3, which would be available to supplement utilised *contingency capacity reserves* and, if necessary, initiate action in relation to the trading in *reserves* in accordance with Chapter 3;

(m) to make available to *Registered Participants* as appropriate, information about the potential for, or the occurrence of, a situation which could significantly impact, or is significantly impacting, on *power system security*, and advise of any *low reserve* condition for the relevant periods where the *short term capacity reserve* and/or *medium term capacity reserve* is assessed as being less than that determined in accordance with the *short term capacity reserve standard* or *medium term capacity reserve standard* respectively;

(n) to refer to *Registered Participants*, as *NEMMCO* deems appropriate, information of which *NEMMCO* becomes aware in relation to significant risks to the *power system* where actions to achieve a resolution of those risks are outside the responsibility or control of *NEMMCO*;

(o) to utilise resources and services provided or procured as *ancillary services* or otherwise to maintain or restore the *satisfactory operating state* of the *power system*;

(p) to procure adequate *system restart ancillary services* in accordance with clause 3.11 to enable *NEMMCO* to co-ordinate the response to a partial or total *black system* condition;

(q) to interrupt, subject to clause 4.3.2(l), *Registered Participant connections* as necessary during emergency situations to facilitate the re-establishment of the *satisfactory operating state* of the *power system*;

(r) to issue a *direction* or *clause 4.8.9 instruction* (as necessary) to any *Registered Participant*;

(s) to co-ordinate and direct any rotation of widespread interruption of demand in the event of a major *supply* shortfall or disruption;

(t) to liaise with *participating jurisdictions* should there be a need to manage an extensive disruption, including the use of emergency services powers in a *participating jurisdiction*;

(u) to determine the extent to which the levels of *contingency capacity reserves* and *reactive power reserves* are or were appropriate through appropriate testing, auditing and simulation studies;

(v) to investigate and review all major *power system* operational incidents and to initiate action plans to manage any abnormal situations or significant deficiencies which could reasonably threaten *power system security*. Such situations or deficiencies include without limitation:

(1) *power system frequencies* outside those specified in the definition of *satisfactory operating state*;

(2) *power system voltages* outside those specified in the definition of *satisfactory operating state*;

(3) actual or potential *power system* instability; and

(4) unplanned/unexpected operation of major *power system* equipment; and

(w) to ensure that each *System Operator* satisfactorily interacts with *NEMMCO*, other *System Operators* and *Distribution System Operators* for both *transmission* and *distribution network* activities and operations, so that *power system security* is not jeopardised by operations on the *connected transmission networks* and *distribution networks*.

4.3.2 System security

(a) *NEMMCO* must use its reasonable endeavours, as permitted under the *Rules*, including through the provision of appropriate information to *Registered Participants* to the extent permitted by law and under the *Rules*, to achieve the *NEMMCO power system security responsibilities* in accordance with the *power system security* principles described in clause 4.2.6.

(b) Where an obligation is imposed on *NEMMCO* under this Chapter to arrange or control any act, matter or thing or to ensure that any other person undertakes or refrains from any act, that obligation is limited to a requirement for *NEMMCO* to use reasonable endeavours as permitted under the *Rules*, including to give such directions as are within its powers, to comply with that obligation.

(c) If *NEMMCO* fails to arrange or control any act, matter or thing or the acts of any other person notwithstanding the use of *NEMMCO's* reasonable endeavours, *NEMMCO* will not be taken to have breached such obligation.

(d) *NEMMCO* must make accessible to *Registered Participants* such information as:

(1) *NEMMCO* considers appropriate;

(2) *NEMMCO* is permitted to disclose in order to assist *Registered Participants* to make appropriate *market* decisions; and

(3) *NEMMCO* is able to disclose to enable *Registered Participants* to consider initiating procedures to manage the potential risk of any necessary action by *NEMMCO* to restore or maintain *power system security*,

provided that, in doing so, *NEMMCO* must use reasonable endeavours to ensure that such information is available to those *Registered Participants* who request the information on equivalent bases.

(e) The *Jurisdictional System Security Coordinator* for a *participating jurisdiction* may nominate an individual to be the principal point of contact with *NEMMCO* for the *Jurisdictional System Security Coordinator*.

(f) The *Jurisdictional System Security Coordinator* for each *participating jurisdiction* must provide NEMMCO with:

(1) a schedule of *sensitive loads* in that jurisdiction, specifying:

(i) the priority, in terms of security of *supply*, that each *load* specified in the schedule has over the other *loads* specified in the schedule; and

(ii) the *loads* (if any) for which the approval of the *Jurisdictional System Security Coordinator* must be obtained by *NEMMCO* under clause 4.3.2(l) before *NEMMCO* can interrupt *supply* to, or prevent reconnection of, that *load*: and

(2) a schedule setting out the order in which *loads* in the *participating jurisdiction*, other than *sensitive loads*, may be shed by *NEMMCO* for the purposes of undertaking any *load shedding* under clause 4.8.

(g) A *Jurisdictional System Security Coordinator* may from time to time amend the schedules provided to *NEMMCO* under clause 4.3.2(f) and must provide to *NEMMCO* a copy of the amended schedules.

(h) *NEMMCO* must develop, update and maintain a set of procedures for each *participating jurisdiction* under which *loads* will be shed and restored in accordance with the priorities set out in the schedules for that *participating jurisdiction* (which procedures for a *participating jurisdiction* shall be known as the "*load shedding procedures*" for that jurisdiction).

(i) *NEMMCO* must provide the *Jurisdictional System Security Coordinator* for a *participating jurisdiction* with a copy of the *load shedding procedures* for that *participating jurisdiction*, as amended from time to time.

(j) The *load shedding procedures* for a *participating jurisdiction* must be consistent with the schedules of the *participating jurisdiction* provided under clause 4.3.2(f) and must, without limitation, include a requirement that:

(1) automatic *disconnection* of a *sensitive load* under clause 4.3.5(a) is not to occur until the occurrence of a specified *power system frequency* referred to in the *load shedding procedures*;

(2) any such *sensitive load* (or part thereof) which would otherwise have been part of a block of *interruptible load* in an under-*frequency* band specified in clause 4.3.5(b), must be replaced in that band in relation to the *participating jurisdiction* with an equivalent amount of *interruptible load* nominated by other *Market Customers* in the relevant *participating jurisdiction*;

(3) after *supply* is interrupted to a *load*, *supply* to that *load* must be restored as soon as this can be achieved and in accordance with the schedules of *loads* referred to in clause 4.3.2(f); and

(4) in the event of a major *supply* shortfall, the rotation of any *load shedding* requirements within *regions* (or parts of *regions*) in the *participating jurisdiction* must be in accordance with the *load shedding procedures*.

(k) Notwithstanding any other provision of the *Rules*, *NEMMCO* must use its reasonable endeavours to ensure that the *power system* is operated in a manner that maintains security of *supply* to any *sensitive loads* prescribed by the *Jurisdictional System Security Coordinator* for each *participating jurisdiction* under clause 4.3.2(f).

(l) (1) Notwithstanding any other provision of the *Rules*, in the event that *NEMMCO*, in its reasonable opinion for reasons of public safety or for *power system security*, needs to interrupt *supply* to any *sensitive loads*, *NEMMCO* may only give a direction requiring that interruption:

(i) in accordance with the *load shedding procedures*; and

(ii) if it is a *sensitive load* of a type described in clause 4.3.2(f)(1)(ii), once the *Jurisdictional System Security Coordinator* for the relevant *participating jurisdiction* has given *NEMMCO* its approval (which approval must not be unreasonably withheld).

(2) Other than to ensure the maintenance of *power system security* or public safety, after *disconnection*, notwithstanding any other provision of the *Rules*, *NEMMCO* must not take any steps to prevent the reconnection of a *sensitive load* of the type described in clause 4.3.2(f)(1)(ii) without the approval of the *Jurisdictional System Security Coordinator* for the relevant *participating jurisdiction* (which approval must not be unreasonably withheld).

(m) **[Deleted]**

(n) **[Deleted]**

4.3.3 The role of System Operators

(a) For the purpose of complying with its obligations under clause 4.3.2, *NEMMCO* may, from time to time, in addition to any other power or right under the *Rules*:

(1) engage such agents or appoint such delegates as it considers appropriate to carry out on its behalf some or all of its rights, functions and obligations under this Chapter (such persons being known as "*System Operators*" upon registration with *NEMMCO*); and

(2) organise, enter into and manage any contractual arrangements with appropriately competent service providers.

(b) *NEMMCO* must make accessible to *Registered Participants* information as to:

(1) the engagement or appointment of any agent, delegate or service provider under clause 4.3.3;

(2) the identity of that agent, delegate or service provider; and

(3) the scope of the engagement or appointment, including without limitation, the activities in relation to which the engagement or appointment applies.

(c) A *Registered Participant* must ensure that, where *NEMMCO* has engaged or appointed an agent, delegate or service provider under clause 4.3.3 in relation to certain of its rights, functions or obligations, any communications from the *Registered Participant* to *NEMMCO* under this Chapter concerning the rights, functions or obligations within the scope of the agent's, delegate's or service provider's engagement or appointment are made through that agent, delegate or service provider to the extent notified to the *Registered Participant* by *NEMMCO*.

(d) A *System Operator* must carry out the rights, functions and obligations in respect of which it has been engaged or appointed by *NEMMCO* in accordance with the provisions of the *Rules*.

(e) A *System Operator* must, to the extent that the *System Operator* is aware or ought reasonably to have been aware, keep *NEMMCO* fully and timely informed as to:

(1) the state of the security of the *power system*;

(2) any present or anticipated risks to *power system security*; and

(3) any action contemplated or initiated to address a risk to *power system security* or to restore or maintain the *power system* in a *satisfactory operating state*.

(f) *NEMMCO* must ensure that any agent engaged, or delegate appointed, under clause 4.3.3(a)(1) is registered by it as a *System Operator*.

(g) Notwithstanding that *NEMMCO* may have engaged or appointed an agent, delegate or service provider under clause 4.3.3 to carry out a right, function or obligation of *NEMMCO*, *NEMMCO* remains liable under the *Rules* for performance of that right, function or obligation.

4.3.4 Network Service Providers

(a) Each *Network Service Provider* must use reasonable endeavours to exercise its rights and obligations in relation to its *networks* so as to co-operate with and assist *NEMMCO* in the proper discharge of the *NEMMCO power system security responsibilities*.

(b) Each *Network Service Provider* must use reasonable endeavours to ensure that *interruptible loads* are provided as specified in clause 4.3.5 and clause S5.1.10 of schedule 5.1 (including without limitation, through the inclusion of appropriate provisions in *connection agreements*).

(c) Each *Network Service Provider* must arrange and maintain, in accordance with the standards described in clause 4.3.4(e), controls, monitoring and secure communication systems to facilitate a manually initiated, rotational *load shedding* and restoration process which may be necessary if there is, in *NEMMCO's* opinion, a prolonged major *supply* shortage or extreme *power system* disruption.

(d) Each *Network Service Provider* must advise *NEMMCO* of any *ancillary services* or similar services provided under any *connection agreement* to which it is a party.

(e) *NEMMCO* must develop, and may amend, standards in consultation with *Network Service Providers* in accordance with the *Rules consultation procedures* which must be met by *Network Service Providers* in arranging and maintaining the controls, monitoring and secure communication systems referred to in clause 4.3.4(c).

(f) Until the standards contemplated by clause 4.3.4(e) are issued by *NEMMCO*, each *Network Service Provider* must maintain the control, monitoring and secure communication systems referred to in clause 4.3.4(c) that were in place at 13 December 1998 so as to achieve substantially the same performance and functionality as they did over the 12 months prior to 13 December 1998.

(g) Each *Network Service Provider* must plan or operate its *transmission system* or *distribution system* in accordance with the *power system* stability guidelines described in clause 4.3.4(h).

(h) *NEMMCO* must develop, and may amend, guidelines for *power system* stability but only in consultation with *Registered Participants* in accordance with the *Rules consultation procedures*, and must *publish* the guidelines for *power system* stability.

(i) The *power system* stability guidelines developed in accordance with clause 4.3.4(h) must detail the policies governing *power system* stability so as to facilitate the operation of the *power system* within stable limits.

4.3.5 Market Customer obligations

(a) All *Market Customers* having expected peak demands at *connection points* in excess of 10 MW, must provide automatic *interruptible load* of the type described in clause S5.1.10 of schedule 5.1. The level of this automatic *interruptible load* must be a minimum of 60% of their expected demand, or such other minimum *interruptible load* level as may be periodically determined by the *Reliability Panel*, to be progressively automatically *disconnected* following the occurrence of a *power system* under-*frequency* condition described in the *power system security and reliability standards*.

(b) *Market Customers* must provide their *interruptible load* in manageable blocks spread over a number of steps within under-*frequency* bands from 49.0 Hz down to 47.0 Hz as nominated by *NEMMCO*.

(c) Any *load shedding* capability the subject of an *ancillary services agreement* or *enabled* as a *market ancillary service* can be counted as automatic *interruptible load* provided for the purposes of clause 4.3.5.

4.4 Power System Frequency Control

4.4.1 Power system frequency control responsibilities

NEMMCO must use its reasonable endeavours to:

(a) control the *power system frequency*; and

(b) ensure that the *frequency operating standards* set out in the *power system security and reliability standards* are achieved.

4.4.2 Operational frequency control requirements

To assist in the effective control of *power system frequency* by *NEMMCO* the following provisions apply:

(a) *NEMMCO* may give *dispatch instructions* in respect of *scheduled generating units, scheduled loads, scheduled network services* and *market ancillary services* pursuant to clause 4.9.

(b) Each *Generator* must ensure that all of its *generating units* have responsive speed *governor systems* in accordance with the requirements of schedule 5.2, so as to automatically share in changes in *power system demand* or loss of *generation* as it occurs through response to the resulting excursion in *power system frequency*.

(c) *NEMMCO* must use its reasonable endeavours to arrange to be available and specifically allocated to *regulating duty* such *generating plant* as

NEMMCO considers appropriate which can be automatically controlled or directed by *NEMMCO* to ensure that all normal *load* variations do not result in *frequency* deviations outside the limitations specified in clause 4.2.2(a).

(d) **[Deleted]**

(e) *NEMMCO* must use its reasonable endeavours to ensure that adequate *facilities* are available and are under the direction of *NEMMCO* to allow the managed recovery of the *satisfactory operating state* of the *power system*.

4.4.3 Generator protection requirements

Generators must, in accordance with schedule 5.2 and Chapter 5, provide any necessary automatically initiated protective device or systems to protect their *plant* and associated *facilities* against abnormal *voltage* and extreme *frequency* excursions of the *power system*.

4.5 Control of Power System Voltage

4.5.1 Power system voltage control

(a) *NEMMCO* must determine the adequacy of the capacity of the *power system* to produce or absorb *reactive power* in the control of the *power system voltages*.

(b) *NEMMCO*, in consultation with *Network Service Providers*, must assess and determine the limits of the operation of the *power system* associated with the avoidance of *voltage* failure or collapse under *single credible contingency event* scenarios.

(c) The limits of operation of the *power system* must be translated by *NEMMCO*, in consultation with *Network Service Providers*, into key location operational *voltage* settings or limits, *transmission line* capacity limits, *reactive power* production (or absorption) capacity or other appropriate limits to enable their use by *NEMMCO* in the maintenance of *power system security*.

(d) The determination referred to in clause 4.5.1(b) must include a review of the dynamic stability of the *voltage* of the *power system*.

(e) *NEMMCO* must use its reasonable endeavours to maintain *voltage* conditions throughout the *power system* so that the *power system* remains in a *satisfactory operating state*.

(f) *NEMMCO* must use its reasonable endeavours to arrange the provision of *reactive power facilities* and *power system voltage* stabilising *facilities* through:

(1) contractual arrangements for *ancillary services* with appropriate *Registered Participants* in accordance with clause 3.11;

(2) negotiation and agreement with appropriate *Network Service Providers*; or

(3) obligations on the part of *Registered Participants* under their *connection agreements* in accordance with clause 3.11.4(b)(1).

(g) Without limitation, such *reactive power facilities* may include:

(1) *synchronous generator voltage controls* (rotor current adjustment) usually associated with *tap-changing transformers*;

(2) *synchronous condensors* (compensators);

(3) *static VAR compensators* (SVC);

(4) *shunt capacitors*;

(5) *shunt reactors*.

4.5.2 Reactive power reserve requirements

(a) *NEMMCO* must use its reasonable endeavours to ensure that sufficient *reactive power reserve* is available at all times to maintain or restore the *power system* to a *satisfactory operating state* after the most critical *contingency event* as determined by previous analysis or by periodic contingency analysis by *NEMMCO*.

(b) If *voltages* are outside acceptable limits, and the means of *voltage* control set out in this clause 4.5 are exhausted, *NEMMCO* must take all reasonable actions, including to direct changes to demand (through selective *load shedding* from the *power system*), additional *generation* operation or reduction in the *transmission line* flows but only to the extent necessary to restore the *voltages* to within the relevant limits. A *Registered Participant* must comply with any such direction.

4.5.3 Audit and testing

NEMMCO must arrange, co-ordinate and supervise the conduct of appropriate tests to assess the availability and adequacy of the provision of *reactive power* to control and maintain *power system voltages* under both *satisfactory operating state* and *contingency event* conditions.

4.6 Protection of Power System Equipment

4.6.1 Power system fault levels

(a) *NEMMCO*, in consultation with *Network Service Providers*, must determine the fault levels at all *busbars* of the *power system* as described in clause 4.6.1(b).

(b) *NEMMCO* must ensure that there are processes in place, which will allow the determination of fault levels for normal operation of the *power system* and in anticipation of all *credible contingency events* that *NEMMCO* considers may affect the configuration of the *power system*, so that *NEMMCO* can identify any *busbar* which could potentially be exposed to a fault level which exceeds the fault *current ratings* of the circuit breakers associated with that *busbar*.

4.6.2 Power system protection co-ordination

NEMMCO must use its reasonable endeavours to co-ordinate, in consultation with the *Network Service Providers*, the protection of *transmission system plant* and equipment that *NEMMCO* reasonably considers could affect *power system security*.

4.6.3 Audit and testing

NEMMCO must use its reasonable endeavours to co-ordinate such inspections and tests as *NEMMCO* thinks appropriate to ensure that the protection of the *power system* is adequate to protect against damage to *power system plant* and equipment.

4.6.4 Short-term thermal ratings of power system

(a) *NEMMCO* may act so as to use, or require or recommend actions which use, the full extent of the thermal ratings of *transmission elements* to maintain *power system security*, including the short-term ratings (being time dependent ratings), as defined by the *Network Service Providers* from time to time.

(b) *NEMMCO* must use its reasonable endeavours not to exceed the ratings defined by the *Network Service Providers* and not to require or recommend action which causes those ratings to be exceeded, to the extent that *NEMMCO* is or ought reasonably to be aware of such ratings.

4.6.5 Partial outage of power protection systems

(a) Where there is an *outage* of one *protection system* of a *transmission line*, *NEMMCO* must determine, in consultation with the relevant *Network*

Service Provider, the most appropriate action. Depending on the circumstances the determination may be:

(1) to leave the *transmission element* in service for a limited duration;

(2) to take the *transmission element* out of service immediately;

(3) to install a temporary *protection system*;

(4) to accept a degraded performance from the *protection system*, with or without additional operational measures or temporary protection measures to minimise *power system* impact; or

(5) to operate the *transmission element* at a lower capacity.

(b) If there is an *outage* of both *protection systems* on a *transmission line* and *NEMMCO* determines this to be an unacceptable risk to *power system security*, *NEMMCO* must take the *transmission element* out of service as soon as possible and advise the appropriate *Network Service Provider* immediately this action is undertaken.

(c) The *Network Service Provider* must comply with a determination made by *NEMMCO* under this clause 4.6.5 unless, in the reasonable opinion of the *Network Service Provider*, it would threaten the safety of any person or cause material damage.

4.7 Power System Stability Co-Ordination

4.7.1 Stability analysis co-ordination

(a) *NEMMCO* must, in cooperation with the relevant *Network Service Providers*, apply the *power system* stability guidelines described in clause 4.3.4(h) to the conduct of all necessary calculations associated with the stable operation of the *power system* and use its reasonable endeavours to coordinate the determination of the settings of equipment used to maintain *power system* stability. The *Network Service Providers* must submit to *NEMMCO* for approval the settings of any *transmission* equipment used to maintain the stable operation of the *power system*.

(b) *NEMMCO* must arrange and endorse the installation of *power system* devices which are approved by *NEMMCO* to be necessary to assist the stable operation of the *power system*.

4.7.2 Audit and testing

NEMMCO must arrange, co-ordinate and supervise the conduct of such inspections and tests as it deems appropriate to assess the availability and adequacy of the devices installed to maintain *power system* stability.

4.8 Power System Security Operations

4.8.1 Registered Participants' advice

A *Registered Participant* must promptly advise *NEMMCO* or a relevant *System Operator* at the time that the *Registered Participant* becomes aware, of any circumstance which could be expected to adversely affect the secure operation of the *power system* or any equipment owned or under the control of the *Registered Participant* or a *Network Service Provider*.

4.8.2 Protection or control system abnormality

(a) If a *Registered Participant* becomes aware that any relevant *protection system* or *control system* is defective or unavailable for service, that *Registered Participant* must advise *NEMMCO*. If *NEMMCO* considers it to be a threat to *power system security*, *NEMMCO* may direct that the equipment protected or operated by the relevant *protection system* or *control system* be taken out of operation or operated as *NEMMCO* directs.

(b) A *Registered Participant* must comply with a direction given by *NEMMCO* under clause 4.8.2(a).

4.8.3 NEMMCO's advice on power system emergency conditions

(a) *NEMMCO* must *publish* all relevant details promptly after *NEMMCO* becomes aware of any circumstance with respect to the *power system* which, in the reasonable opinion of *NEMMCO*, could be expected to materially adversely affect *supply* to or from *Registered Participants*.

(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 *black system* condition.

4.8.4 Declaration of conditions

NEMMCO may declare the following conditions in relation to a period of time, either present or future:

(a) *Low reserve* condition - when *NEMMCO* considers that the *short term capacity reserves* or *medium term capacity reserves* for the period being assessed have fallen below those determined by *NEMMCO* as being in accordance with the relevant *short term capacity reserve standards* or *medium term capacity reserve standards*;

(b) *Lack of reserve* level 1 (LOR1) - when *NEMMCO* considers that there is insufficient *short term capacity reserves* available to provide complete replacement of the *contingency capacity reserve* on the occurrence of a *critical single credible contingency event* for the period nominated;

(c) *Lack of reserve* level 2 (LOR2) - when *NEMMCO* considers that the occurrence of a *critical single credible contingency event* is likely to require *involuntary load shedding*;

(d) *Lack of reserve* level 3 (LOR3) - when *NEMMCO* considers that *Customer load* (other than *ancillary services* or contracted *interruptible loads*) would be, or is actually being, interrupted automatically or manually in order to maintain or restore the security of the *power system*.

4.8.5 Managing declarations of conditions

(a) *NEMMCO* must as soon as reasonably practicable *publish* any declaration under clause 4.8.4.

(a1) The *publication* of any such declaration must, to the extent reasonably practicable, include the following:

(1) the nature and extent of the *low reserve* or *lack of reserve* condition; and

(2) the time period over which the *low reserve* or *lack of reserve* condition applies.

(b) If *NEMMCO* makes a declaration under clause 4.8.4, *NEMMCO* must use its reasonable endeavours to follow the processes set out in clauses 4.8.5A and 4.8.5B.

(c) Following a declaration under clause 4.8.4, *NEMMCO* must as soon as reasonably practicable *publish* notice of:

(1) any cancellation of that declaration; or

(2) any significant change in the *low reserve* or *lack of reserve* condition due to changed positions of *Scheduled Network Service Providers, Market Customers* and *Scheduled Generators* or due to other reasons.

4.8.5A Determination of the latest time for intervention by direction or dispatch of reserve contract

(a) *NEMMCO* must immediately *publish* a notice of any foreseeable circumstances that may require *NEMMCO* to issue a *direction* or *dispatch reserves* it has available under *reserve contracts* under clause 4.8.6.

(a1) Any such notice must include the forecast circumstances creating the need to issue a *direction* or *dispatch reserves*.

(b) *NEMMCO* must, as soon as reasonably practicable after the *publication* of a notice pursuant to clause 4.8.5A(a), estimate and *publish* the latest time at which it would need to intervene to issue a *direction* under clause 4.8.9, or *dispatch reserves* it has available under *reserve contracts* under clause 4.8.6, should the response from the *market* not be such as to obviate the need to issue a *direction* or *dispatch reserves*.

(c) In order to estimate the time referred to in clause 4.8.5A(b), *NEMMCO* may request information from a *Scheduled Network Service Provider*, *Scheduled Generator* or *Market Customer* and may specify the time within which that information is to be provided. Such information may include, but is not limited to:

(1) *plant* status;

(2) any expected or planned *plant outages* and the MW capacity affected by the *outage*, proposed start date and time and expected end date and time associated with the *outage* and an indication of the possibility of deferring the *outage*;

(3) estimates of the relevant costs to be incurred by the *Scheduled Network Service Provider, Scheduled Generator* or *Market Customer* should it be the subject of a *direction*, but only if *NEMMCO* considers it reasonably likely that such *Scheduled Network Service Provider, Scheduled Generator* or *Market Customer* will be subject to a *direction*.

(d) A *Scheduled Network Service Provider*, *Scheduled Generator* or *Market Customer* must use reasonable endeavours:

(1) to comply with a request for information pursuant to clause 4.8.5A(c); and

(2) to provide *NEMMCO* with the information required in the time specified by *NEMMCO*.

(e) *NEMMCO* must regularly review its estimate of the latest time at which it would need to intervene to issue a *direction* under clause 4.8.9 or to *dispatch reserves* it has available under *reserve contracts* under clause 4.8.6 and must *publish* any revisions to the estimate.

(f) *NEMMCO* must treat any information provided in response to a request under clause 4.8.5A(c) as *confidential information* and use it for the sole purpose of assessing to which *Scheduled Network Service Provider, Market Customer* or *Scheduled Generator* it should issue *directions*.

4.8.5B Notifications of last time of intervention

If the latest practicable time for the *dispatch* of *reserves*, as estimated by *NEMMCO* under clause 4.8.5A, is reached and, taking into account any *reserve contracts*, the circumstances described under clause 4.8.5A(a) have not been alleviated, *NEMMCO* must to the extent reasonably practicable immediately:

(1) *publish* a notice that *NEMMCO*:

(i) considers the time for the negotiation of further *reserve contracts* in accordance with clause 3.12.1 has elapsed; and

(ii) intends to issue *directions* under clause 4.8.9 or *dispatch reserve* available under *reserve contracts* under clause 4.8.6; and

(2) amend the *pre-dispatch schedule* to ensure that it is a physically realisable schedule for all periods in which *NEMMCO* intends to issue *directions* or *dispatch reserves* available under *reserve contracts*.

4.8.6 NEMMCO utilisation of reserves under contract

(a) Notwithstanding clauses 4.8.4, 4.8.5, 4.8.5A and 4.8.5B, if in *NEMMCO's* opinion the latest time for intervention by *dispatch* of *reserves* it has available under *reserve contracts* has arrived, then *NEMMCO* may *dispatch* such *reserves.*

(b) *NEMMCO* must follow the relevant procedures in clause 4.8 prior to *dispatching plant* the subject of a *reserve contract* unless it is not reasonably practicable to do so.

(b1) Subject to clause 4.8.6(b), *NEMMCO* must only *dispatch plant* the subject of a *reserve contract* in accordance with the procedures developed pursuant to clause 4.8.6(c).

(b2) In order to effect the *dispatch* of *plant* the subject of a *reserve contract NEMMCO* may:

(1) submit, update or vary *dispatch bids* or *dispatch offers* in relation to all or part of a *scheduled generating unit*, *scheduled network service* or *scheduled load* which is the subject of a *reserve contract*; or

(2) change other inputs to the *dispatch* process to give effect to the *dispatch* of *reserves*.

(c) *NEMMCO* must develop, and may amend from time to time, in accordance with the *Rules consultation procedures*, procedures for the *dispatch* of *reserves* it has available under *reserve contracts* pursuant to clause 4.8.6(a). Such procedures must reflect the following principles:

(1) *NEMMCO* must use its reasonable endeavours to minimise the cost of *dispatching reserves* and compensation to *Affected Participants* and *Market Customers* pursuant to clause 3.12.11 and compensation to *Directed Participants* pursuant to clauses 3.15.7 and 3.15.7A;

(2) the instruction to *dispatch reserves* is to be revoked as soon as *NEMMCO* determines the *dispatch* of such *reserves* is no longer required; and

(3) *NEMMCO* must take into account the procedures developed pursuant to clause 4.8.9(b).

(d) **[Deleted]**

(e) *NEMMCO* must take into account any guidelines and policies for the provision of *reserves* issued by the *Reliability Panel* pursuant to clause 8.8.1(a)(4).

4.8.7 Managing a power system contingency event

(a) During the period when the *power system* is affected by a *contingency event NEMMCO* must carry out actions, in accordance with the guidelines set out in the *power system security and reliability standards* and its obligations concerning *sensitive loads*, to:

(1) identify the impact of the *contingency event* on *power system security* in terms of the capability of *generating units* or *transmission* or *distribution networks*; and

(2) identify and implement the actions required in each affected *region* to restore the *power system* to its *satisfactory operating state*.

(b) When *contingency events* lead to potential or actual electricity *supply* shortfall events, *NEMMCO* must follow the procedures outlined in clause 4.8.9.

4.8.8 [Deleted]

4.8.9 Power to issue directions and clause 4.8.9 instructions

(a) Notwithstanding any other provision of clause 4.8:

(1) *NEMMCO* may require a *Registered Participant* to do any act or thing if *NEMMCO* is satisfied that it is necessary to do so to maintain or re-establish the *power system* to a *secure operating state*, a *satisfactory operating state*, or a *reliable operating state*; and

(2) *NEMMCO* may authorise a person to do any of the things contemplated by section 116 of the *National Electricity Law* if *NEMMCO* is satisfied that it is necessary to do so for reasons of public safety or the security of the electricity system.

(a1) If *NEMMCO*, or a person authorised by *NEMMCO*, requires a *Registered Participant* to:

(1) take action as contemplated by clause 4.8.9(a) or section 116 of the *National Electricity Law* in relation to *scheduled plant* or a *market generating unit*, *NEMMCO* is taken to have issued a *direction*; or

(2) take some other action contemplated by clause 4.8.9(a) or section 116 of the *National Electricity Law*, *NEMMCO* is taken to have issued a *clause 4.8.9 instruction*.

(a2) *NEMMCO* must use reasonable endeavours to ensure that persons authorised by *NEMMCO* under clause 4.8.9(a)(2) follow all relevant processes in clause 4.8 prior to issuing a *direction*, unless it is not reasonably practical to do so.

(b) *NEMMCO* must develop, and may amend from time to time, in accordance with the *Rules consultation procedures*, procedures for the issuance of *directions*. Such procedures must reflect the following principles:

(1) *NEMMCO* must use its reasonable endeavours to minimise any cost related to *directions* and compensation to *Affected Participants* and *Market Customers* pursuant to clause 3.12.11 and compensation to *Directed Participants* pursuant to clauses 3.15.7 and 3.15.7A;

(2) a *direction* should be revoked as soon as *NEMMCO* determines that the *direction* is no longer required;

(3) *NEMMCO* must take into account any applicable guidelines issued by the *Reliability Panel*;

(4) *NEMMCO* must observe its obligations under clause 4.3.2 concerning *sensitive loads*;

(5) *NEMMCO* must expressly notify a *Directed Participant* that *NEMMCO's* requirement or that of another person authorised by *NEMMCO* pursuant to clause 4.8.9(a) is a *direction*.

(b1) **[Deleted]**

(c) A *Registered Participant* must use its reasonable endeavours to comply with a *direction* or *clause 4.8.9 instruction* unless to do so would, in the *Registered Participant's* reasonable opinion, be a hazard to public safety, or materially risk damaging equipment, or contravene any other law.

(c1) Subject to clause 4.8.9(c) a *Registered Participant* must use its best endeavours to comply with a *direction* or *clause 4.8.9 instruction* in accordance with the timeframe specified by *NEMMCO* in the *direction* or *clause 4.8.9 instruction.*

(c2) A *Market Participant* must not by any act or omission, whether intentionally or recklessly, cause or significantly contribute to the circumstances causing a *direction* to be issued, without reasonable cause.

(d) A *Registered Participant* must immediately notify *NEMMCO* of its inability to comply or its intention not to comply with a *direction* or *clause 4.8.9 instruction*.

(e) If a *Registered Participant* does not comply with a *direction* or *clause 4.8.9 instruction*, it must within 2 *business days* of the *direction* or *clause 4.8.9 instruction* deliver to *NEMMCO* and the *AER* a report detailing the reasons for the non compliance together with all relevant facts.

(f) *NEMMCO* must *publish* a report in accordance with clause 3.13.6A.

(g) **[Deleted]**

(h) *NEMMCO's* obligations and powers under clause 4.8.9(a) to issue a *direction* or *clause 4.8.9 instruction* to maintain or re-establish the *power system* in a *reliable operating state* cease when *NEMMCO's* right to enter into contracts for the provision of *reserves* in accordance with clause 3.12 ceases.

(i) Any *Registered Participant* who is aware of a failure to comply with a *direction* or *clause 4.8.9 instruction* or who believes any such failure has taken place must notify *NEMMCO* and the *AER* in writing and as soon as practicable of that fact.

(j) If *NEMMCO* issues a *direction* or *clause 4.8.9 instruction*, *NEMMCO* may, to give effect to the *direction* or *clause 4.8.9 instruction*:

(1) submit, update or vary *dispatch bids*, *dispatch offers* or *rebids* in relation to the *plant* of *Directed Participants* and *Affected Participants*;

(2) change other inputs to the *dispatch process*; or

(3) select a *Market Participant* or *Market Participants* to become *Affected Participants* to implement clause 3.8.1(b)(11).

(k) When issuing *clause 4.8.9 instructions* to implement *load shedding* across *interconnected regions*, *NEMMCO* must use reasonable endeavours to implement *load shedding* in an equitable manner as specified in the *power system security and reliability standards*, taking into account the *power transfer capability* of the relevant *networks.*

(l) When issuing *clause 4.8.9 instructions* to implement *load shedding*, *NEMMCO* must comply with its obligations under clauses 4.3.2(e) to (l) and Part 8 of the *National Electricity Law*.

(m) **[Deleted]**

4.8.9A System security directions

(a) Notwithstanding any other provision of the *Rules*, a *Registered Participant* must follow any *direction* issued by or on behalf of *NEMMCO* and with which that *Registered Participant* is required to comply under Chapter 4 or section 116 of the *National Electricity Law*.

(b) Any event or action required to be performed pursuant to a *direction* issued under Chapter 4 or section 116 of the *National Electricity Law* on or by a stipulated *day* is required by the *Rules* to occur on or by that *day*, whether or not a *business day*.

(c) Any failure to observe such a *direction* will be deemed to be a breach of the *Rules*.

(d) *NEMMCO* or any *Registered Participant* who is aware of any such failure must notify the *AER* in writing of the failure.

4.8.10 Disconnection of generating units and market network services

(a) Where, under the *Rules*, *NEMMCO* has the authority or responsibility to *disconnect* a *generating unit* or a *market network service*, then it may do so (either directly or through any agent) as described in clause 5.9.

(b) The relevant *Generator* or *Market Network Service Provider* must provide all reasonable assistance to *NEMMCO* for the purpose of such *disconnection*.

4.8.11 [Deleted]

4.8.12 Local black system procedures

(a) Each *Generator* and *Market Network Service Provider* must develop draft *local black system procedures* for each of its *power stations* and each of its *network elements* which contribute to the provision of *market network services* and must submit those procedures for approval by *NEMMCO*.

(b) *NEMMCO* may request amendments to draft *local black system procedures* or any proposed changes as *NEMMCO* reasonably considers necessary by notice in writing to a *Generator* or *Market Network Service Provider*.

(c) If *NEMMCO* and a *Generator* or *Market Network Service Provider* are unable to agree on the amendments, the matter may be dealt with under the dispute resolution procedures in clause 8.2.

4.8.13 Testing of black start-up facilities and local black system procedures

(a) Each *Generator* providing *black start-up facilities* must arrange for the testing of:

(1) its *black start-up facilities* which are the subject of an *ancillary services agreement*; and

(2) the approved *local black system procedures*,

to be carried out in accordance with *NEMMCO's* reasonable requirements at intervals nominated by *NEMMCO*, not exceeding 12 months, to demonstrate that:

(3) each of the *black start-up facilities* is capable of start-up from a condition where it is *disconnected* from external power supplies; and

(4) the arranged *black start-up facilities* can actually start up the nominated *generating units* without assistance from the *power system*.

(b) Each *Generator* providing *black start-up facilities* must ensure that the auxiliary *plant* associated with those *black start-up facilities* is fully tested at intervals not exceeding three months.

4.8.14 Black system start-up

(a) *NEMMCO* must advise a *Registered Participant* if, in *NEMMCO's* reasonable opinion, there is a *black system* condition which is affecting, or which may affect, that *Registered Participant*.

(b) If a *Generator* or *Market Network Service Provider* is bound to provide *system restart* to *NEMMCO* under an *ancillary services agreement*, then the *local black system procedures* for that *Generator* or *Market Network Service Provider* must be consistent with that *ancillary services agreement*.

(c) *NEMMCO* may by notice in writing to the relevant *Generator* or *Market Network Service Provider* require such amendments to the *local black system procedures* for that *Generator* or *Market Network Service Provider* which, in its reasonable opinion, are needed for consistency with:

(1) actual *power system* requirements; or

(2) if the *Generator* or *Market Network Service Provider* is bound to provide *system restart* to *NEMMCO* under an *ancillary services agreement*, the relevant *ancillary services agreement*.

(d) If *NEMMCO* advises a *Generator* or *Market Network Service Provider* of a *black system* condition, and/or if the terms of the relevant *local black system procedures* require the *Generator* or *Market Network Service Provider* to take action, then the *Generator* or *Market Network Service Provider* must comply with the requirements of the *local black system procedures*.

(e) If there is a *black system* condition, then a *Market Customer* must comply with *NEMMCO's* instructions with respect to the timing and magnitude of *load* restoration.

4.8.15 Review of operating incidents

(a) Except where *NEMMCO* is required to carry out a review under clause 3.14.3(c) in respect of an event or circumstance, *NEMMCO* must conduct reviews of significant operating incidents or deviations from normal operating conditions in order to assess the adequacy of the provision and response of *facilities* or services, and the appropriateness of actions taken to restore or maintain *power system security*.

(b) For all cases where *NEMMCO* has been responsible for the *disconnection* of a *Registered Participant's facilities* under the circumstances described in clause 5.9.5, a report of the review carried out in accordance with this clause 4.8.15 must be provided by *NEMMCO* to the *Registered Participant*, the *AEMC* and the *AER* advising of the circumstances requiring that action. Where the report relates to operating incidents which were of significance to the operation of the *power system*, the report of the review carried out in accordance with this clause 4.8.15 must be made available to *Registered Participants* and the public.

(c) A *Registered Participant* must co-operate in any such review conducted by *NEMMCO* (including making available relevant records and information).

(d) A *Registered Participant* must provide to *NEMMCO* such information relating to the performance of its equipment during and after particular *power system* incidents or operating condition deviations as *NEMMCO* reasonably requires for the purposes of analysing or reporting on those *power system* incidents or operating condition deviations.

(e) *NEMMCO* must provide to a *Registered Participant* such information or reports relating to the performance of that *Registered Participant's* equipment during *power system* incidents or operating condition deviations as that *Registered Participant* reasonably requests and in relation to which *NEMMCO* is required to conduct a review under this clause 4.8.15.

4.9 Power System Security Related Market Operations

4.9.1 Load forecasting

(a) *NEMMCO* must produce (at the intervals indicated and in accordance with the timetable) an indicative *load* forecast for each *region* for the periods indicated below:

(1) each *day*, a forecast for the *day* ahead, such forecast divided into half-hourly *load* forecasts for each *trading interval*;

(2) each *day*, a forecast for 2 to 7 *days* (inclusive) ahead, the forecasts for each *day* divided into half-hourly *load* forecasts for each *trading interval*;

(3) every week, a forecast for the 24 *months* ahead of the *day* on which the forecast is produced, with a daily profile based on an estimated weekly peak load condition with allowances for weekends and holidays.

(b) These forecasts must provide an indicative estimate of the total *generation* capacity required to meet the forecast *load* (called “forecast load (as

generated)"), and an equivalent estimation of the *supply* required to be delivered to the relevant *transmission network* (called "forecast load (sent out)").

(c) The following factors must be taken into account in the development of the *load* forecasts, to the extent that such are relevant to the particular forecast:

(1) the annual *load* forecasts and *load* profiles collected by the *Network Service Providers* from all *Registered Participants* as required by schedule 5.7, including *load* management expectations and expected *sent out generation* from *embedded generating units*;

(2) historic *load* data, including *transmission* losses and *power station* in-house use of the *generated* output;

(3) weather forecasts and the current and historic weather conditions and pattern;

(4) the incidence of major events or activities which are known to *NEMMCO*;

(5) anticipated pumped storage *loads*;

(6) official economic activity forecasts from *participating jurisdictions*; and

(7) other information provided by *Registered Participants*.

(d) *NEMMCO* must develop a methodology to create the indicative *load* forecasts.

(e) A 10% probability of exceedence of *load* forecast must be adopted for the purposes of determination of *short term capacity reserve* and *medium term capacity reserve* requirements under the *power system security and reliability standards*.

(f) *NEMMCO* must aggregate the regional forecasts to produce a total *interconnected transmission network* indicative *load* schedule for use in *NEMMCO* processes such as the determination of the required levels of *short term capacity reserves*, *medium term capacity reserves*, the *PASA* assessments and *pre-dispatch schedules*.

(g) The *load* forecasts produced by *NEMMCO* are indicative only as *NEMMCO* has no direct influence over *Market Participants* in their decisions about their level of demand and, accordingly, no person may claim any loss or damage from *NEMMCO* as a result of any difference between *load* forecasts and actual *load*.

4.9.2 Dispatch instructions to Scheduled Generators

(a) To implement *central dispatch* or, where *NEMMCO* has the power to direct or to instruct a *Scheduled Generator* either under Chapter 3 or this Chapter, then for the purpose of giving effect to that direction or instruction, *NEMMCO* may at any time give an instruction to a *Scheduled Generator* in relation to any of its *scheduled generating units* (a "*dispatch instruction*"), in accordance with clause 4.9.5(b), nominating:

(1) whether the facilities for *generation* remote control by *NEMMCO*, if available, are required to be in service; and

(2) the level or schedule of power to be supplied by the *generating unit* over the specified period.

(3) **[Deleted]**

(4) **[Deleted]**

(5) **[Deleted]**

(b) Subject to paragraph (b1), *NEMMCO* may at any time give an instruction to a *Scheduled Generator* in relation to any of its *scheduled generating units* nominating that:

(1) the *generating unit* transformer be set to a nominated tap position (if it has on-load tap changing capability);

(2) the *generating unit's excitation control system voltage* set-point be set to give a nominated *voltage* at its terminals; or

(3) the *generating unit* will be operated to supply or absorb a nominated level of *reactive power* at its terminals.

(b1) Unless otherwise provided under an *ancillary services agreement* or a *connection agreement*, *NEMMCO* may not give an instruction under paragraph (b) that requires a *generating unit* to supply or absorb *reactive power* at its terminals at a level which is outside the mandatory capability for that *generating unit* determined in accordance with clause S5.2.5.1 of schedule 5.2.

(c) A *Scheduled Generator* must, with respect to *scheduled generating units* which have an availability offer of greater than 0 MW (whether *synchronised* or not), ensure that appropriate personnel are available at all times to receive and immediately act upon *dispatch instructions* issued to the *Scheduled Generator* by *NEMMCO*.

4.9.2A Dispatch Instructions to Scheduled Network Service Providers

(a) Where *NEMMCO* has the power to direct or to instruct a *Scheduled Network Service Provider* either under Chapter 3 or this Chapter then, for the purpose of giving effect to that direction or instruction, *NEMMCO* may at any time give an instruction to a *Scheduled Network Service Provider* in relation to any of its *scheduled network services (*a *"dispatch instruction"),* in accordance with clause 4.9.5(b), nominating:

(1) whether the facilities for remote control by *NEMMCO*, if available, are required to be in service; and

(2) the level or schedule of power to be transferred by the *network service* over the specified service.

(b) **[Deleted]**

(c) A *Scheduled Network Service Provider* must, with respect to *scheduled network services* which have an availability offer of greater than 0 MW, ensure that appropriate personnel are available at all times to receive and immediately act upon *dispatch instructions* issued to the *Scheduled Network Service Provider* by *NEMMCO*.

4.9.3 Instructions to Registered Participants

(a) *NEMMCO* may, at any time, give instructions to *Registered Participants* to reduce their *load* for electricity consistent with *dispatch bids* made in accordance with Chapter 3 ("*dispatch instructions*").

(b) **[Deleted]**

(c) **[Deleted]**

(d) A *Market Customer* must, with respect to *scheduled loads* in relation to which a *dispatch offer* has been submitted for a particular *trading interval*, ensure that appropriate personnel and/or electronic facilities are available at all times to receive and immediately act upon *dispatch instructions* issued to the *Market Customer* by *NEMMCO*.

(e) **[Deleted]**

4.9.3A Ancillary services instructions

(a) *NEMMCO* may at any time give an instruction (a "*dispatch instruction*") to a *Market Participant* which has classified one or more of its *generating units* or *market loads* as an *ancillary service generating unit* or an *ancillary service load*:

(1) stating that the relevant *generating unit* or *load* has been selected for the provision of a *market ancillary service;*

(2) stating the *market ancillary service* concerned; and

(3) nominating the range to be *enabled*.

(b) *NEMMCO* may at any time give an instruction (a "*dispatch instruction*") to a *Registered Participant* with which *NEMMCO* has an *ancillary services agreement* in relation to the provision of *non-market ancillary services* under that *ancillary services agreement* or which *NEMMCO* is otherwise entitled to give under that *ancillary services agreement*.

(c) A *Market Participant* which has:

(1) classified one or more of its *generating units* or *market loads* as an *ancillary service generating unit* or an *ancillary service load*; and

(2) submitted a *market ancillary service offer* in respect of that *generating unit* or *load*,

must ensure that appropriate personnel or electronic facilities are available at all times to receive and immediately act upon *dispatch instructions* issued to the *Market Participant* by *NEMMCO*.

(d) A *Registered Participant* with which *NEMMCO* has an *ancillary services agreement* must ensure that appropriate personnel or electronic facilities are available in accordance with that agreement at all times to receive and immediately act upon *dispatch instructions* issued to the *Registered Participant* by *NEMMCO*.

4.9.3B Compliance with dispatch instructions

(a) A *dispatch instruction* applies from the time it is given (or any later time specified in the *dispatch instruction*) until the earlier of:

(1) the cessation time specified in the *dispatch instruction* (if any); or

(2) the time when the next *dispatch instruction* applies.

(b) **[Deleted]**

4.9.4 Dispatch related limitations on Scheduled Generators

A *Scheduled Generator* must not, unless in the *Scheduled Generator's* reasonable opinion public safety would otherwise be threatened or there would be a material risk of damaging equipment or the environment:

(a) send out any *energy* from a *scheduled generating unit*, except:

(1) in accordance with the *self-commitment* procedures specified in clause 4.9.6 up to the *self-dispatch level*;

(2) in accordance with a *dispatch instruction*;

(3) as a consequence of operation of the *generating unit's* automatic *frequency response mode* to *power system* conditions;

(4) in response to remote control signals given by *NEMMCO* or its agent; or

(5) in connection with a test conducted in accordance with the requirements of this Chapter or Chapter 5;

(b) adjust the *transformer tap position* or *excitation control system voltage* set-point of a *scheduled generating unit* except:

(1) in accordance with a *dispatch instruction*;

(2) in response to remote control signals given by *NEMMCO* or its agent;

(3) if, in the *Scheduled Generator's* reasonable opinion, the adjustment is urgently required to prevent material damage to the *Scheduled Generator's plant* or associated equipment, or in the interests of safety; or

(4) in connection with a test conducted in accordance with the requirements of clause 5.7;

(c) *energise* a *connection point* in relation to a *scheduled generating unit* without prior approval from *NEMMCO*. This approval must be obtained immediately prior to *energisation*;

(d) *synchronise* a *scheduled generating unit* to, or *de-synchronise* a *scheduled generating unit* from, the *power system* without prior approval from *NEMMCO* or other than in response to a *dispatch instruction* except *de-synchronisation* as a consequence of the operation of automatic

protection equipment or where such action is urgently required to prevent material damage to *plant* or equipment or in the interests of safety;

(e) change the *frequency response mode* of a *scheduled generating unit* without the prior approval of *NEMMCO*; or

(f) remove from service or interfere with the operation of any *power system* stabilising equipment installed on that *generating unit*.

4.9.4A Dispatch related limitations on Scheduled Network Service Providers

A *Scheduled Network Service Provider* must not, unless in the *Scheduled Network Service Provider's* reasonable opinion public safety would otherwise be threatened or there would be a material risk of damaging equipment or the environment:

(a) *energise* a *connection point* in relation to a *scheduled network service* without prior approval from *NEMMCO.* This approval must be obtained immediately prior to *energisation;* or

(b) *synchronise* a *scheduled network service* to, or *de-synchronise* a *scheduled network service* from, the *power system* without prior approval from *NEMMCO* except *de-synchronisation* as a consequence of the operation of automatic protection equipment or where such action is urgently required to prevent material damage to *plant* or equipment or in the interests of safety.

4.9.5 Form of dispatch instructions

(a) A *dispatch instruction* for a *scheduled generating unit*, a *dispatch instruction* for a *scheduled network service* and a *dispatch instruction* for a *scheduled load* (including aggregated *generating units, scheduled network services* or *scheduled loads* as described in clause 3.8.3) must include the following:

(1) specific reference to the *scheduled generating unit* (including any aggregated *generating unit*), *scheduled network service* or *scheduled load* or other *facility* to which the *dispatch instruction* applies;

(2) the desired outcome of the *dispatch instruction* such as *active power*, *reactive power*, *transformer* tap or other outcome;

(3) in the case of a *dispatch instruction* under clause 4.9.2, the *ramp rate* (if applicable) which is to be followed by the *generating unit* or a specific target time to reach the outcome specified in the *dispatch instruction*;

(4) the time the *dispatch instruction* is issued; and

(5) if the time at which the *dispatch instruction* is to take effect is different from the time the *dispatch instruction* is issued, the start time.

(a1) A *dispatch instruction* for an *ancillary service* must include:

(1) specific reference to the *generating unit* or *load* to which the *dispatch instruction* applies;

(2) the desired outcome of the *dispatch instruction*;

(3) the time the *dispatch instruction* is issued; and

(4) if the time at which the *dispatch instruction* is to take effect is different from the time the *dispatch instruction* is issued, the start time.

(b) The *dispatch instruction* must be provided as provided in clause 3.8.21.

4.9.6 Commitment of scheduled generating units

(a) Self-commitment

(1) In relation to any *scheduled generating unit*, the *Scheduled Generator* must confirm with *NEMMCO* the expected *synchronising* time at least one hour before the expected actual *synchronising* time, and update this advice 5 minutes before *synchronising* unless otherwise agreed with *NEMMCO*. *NEMMCO* may require further notification immediately before *synchronisation*.

(2) The *Scheduled Generator* must advise *NEMMCO* when a *generating unit* reaches the *self-dispatch level* (being a *self-dispatch level* that is greater than zero MW) and must not increase output above that level unless instructed otherwise by *NEMMCO* to increase output or unless the increase in output results from the *generating unit* being placed under remote control to be loaded in accordance with Chapter 3.

(b) Instructions by *NEMMCO* to commit a *generating unit* for service

(1) A *dispatch instruction* for a *scheduled generating unit* to commit given by *NEMMCO* in response to a *dispatch offer* must be consistent with the start-up time specified in the latest *dispatch offer* in relation to the *generating unit*.

(2) When *NEMMCO* issues a *dispatch instruction* to a *generating unit* for *commitment*, *NEMMCO* must nominate the time at which the *generating unit* is to be *synchronised*.

(3) After a *dispatch instruction* for *commitment* of a *generating unit* has been issued, the relevant *Scheduled Generator* must promptly advise *NEMMCO* of any inability to meet the nominated time to *synchronise*.

(4) Unless instructed otherwise by *NEMMCO*, at the time a *dispatch instruction* to *commit* takes effect, the relevant *generating unit* must remain on *self-dispatch level* until *NEMMCO* issues a further *dispatch instruction*.

4.9.7 De-commitment, or output reduction, by Scheduled Generators

(a) In relation to any *scheduled generating unit*, the *Scheduled Generator* must confirm with *NEMMCO* the expected *de-synchronising* time at least one hour before the expected actual *de-synchronising* time, and update this advice 5 minutes before *de-synchronising* unless otherwise agreed with *NEMMCO*. *NEMMCO* may require further notification immediately before *de-synchronisation*.

(b) The *Scheduled Generator* must not de-commit a *generating unit* unless it has confirmed with *NEMMCO*:

(1) the time to commence decreasing the output of the *generating unit*;

(2) the *ramp rate* to decrease the output of the *generating unit*;

(3) the time to *de-synchronise* the *generating unit*; and

(4) the output from which the *generating unit* is to be *de-synchronised*.

4.9.8 General responsibilities of Registered Participants

(a) A *Registered Participant* must comply with a *dispatch instruction* given to it by *NEMMCO* unless to do so would, in the *Registered Participant's* reasonable opinion, be a hazard to public safety or materially risk damaging equipment.

(b) A *Scheduled Generator* must ensure that each of its *scheduled generating units* is at all times able to comply with the latest *generation dispatch offer* under Chapter 3 in respect of that *generating unit*.

(b1) A *Scheduled Network Service Provider* must ensure that each of its *scheduled network services* is at all times able to comply with the latest *network dispatch offer* under Chapter 3 in respect of that *market network service.*

(c) A *Registered Participant* must ensure that each of its *facilities* is at all times able to comply with any relevant *dispatch bid* under Chapter 3 in respect of the *facility* (as adjusted by any subsequent restatement of that bid under Chapter 3).

(d) A *Market Participant* which has classified a *generating unit* or *load* as an *ancillary service generating unit* or an *ancillary service load*, as the case may be, must ensure that the *ancillary service generating unit* or *ancillary service load* is at all times able to comply with the latest *market ancillary service offer* for the relevant *trading interval*.

4.9.9 Scheduled Generator plant changes

A *Scheduled Generator* must, without delay, notify *NEMMCO* of any event which has changed or is likely to change the operational availability of any of its *scheduled generating units*, whether the relevant *generating unit* is *synchronised* or not, as soon as the *Scheduled Generator* becomes aware of the event.

4.9.9A Scheduled Network Service Provider plant changes

A Scheduled Network Service Provider must, without delay, notify *NEMMCO* of any event which has changed or is likely to change the operational availability of any of its *scheduled network services* as soon as the *Scheduled Network Service Provider* becomes aware of the event.

4.9.9B Ancillary service plant changes

A Market Participant which has classified a *generating unit* or *load* as an *ancillary service generating unit* or an *ancillary service load* must, without delay, notify *NEMMCO* of any event which has changed or is likely to change the availability of a *market ancillary service*, or the capability of the *generating unit* or *load* to respond in the manner contemplated by the *market ancillary service specification*, as soon as the *Market Participant* becomes aware of the event.

4.10 Power System Operating Procedures

4.10.1 Power system operating procedures

(a) The *power system operating procedures* are:

(1) any instructions which may be issued by *NEMMCO* from time to time covering *market* operations and relating to the operation of the *power system*;

(2) any guidelines issued from time to time by *NEMMCO* in relation to *power system security*;

(3) regional specific *power system operating procedures* covering the operational activities and associated responsibilities of the relevant *Network Service Provider* and any *Registered Participants* connected to the relevant *transmission network* and operational activities for operational elements of the *transmission network* which interface with *Scheduled Generators* and other *Registered Participants* including, but not limited to, those relating to *sensitive loads*;

(4) the *load shedding procedures*; and

(5) any other procedures, instructions or guidelines which *NEMMCO* nominates to be and advises to *Registered Participants* as being *power system operating procedures* from time to time.

(b) *NEMMCO* must compile the *regional specific power system operating procedures* in conjunction with the relevant *Network Service Providers* and the relevant *Jurisdictional System Security Coordinators* to the extent required under clause 4.10.1(a)(3).

(c) *NEMMCO* must ensure that the various elements of the *power system operating procedures* are consistent with the *load shedding procedures*.

4.10.2 Transmission network operations

(a) *NEMMCO* must exercise any power granted to it by the *Rules* or the *power system operating procedures* to:

(1) approve the manner in which operations are carried out on a *transmission network* by the relevant *Network Service Provider*; or

(2) instruct the relevant *Network Service Provider* to take any action on the *transmission network*,

in accordance with the appropriate *power system operating procedures*.

(b) A *Registered Participant* must observe the requirements of the relevant *power system operating procedures*.

(c) *Registered Participants* must operate their equipment interfacing with a *transmission network* in accordance with the requirements of Chapter 5, any applicable *connection agreement*, *ancillary services agreement*, and the associated *power system operating procedures*.

(d) *Registered Participants* must ensure that *transmission network* operations performed on their behalf are undertaken by authorised persons advised in writing to *NEMMCO*.

(e) *NEMMCO* must ensure the regular review and update of the *regional specific power system operating procedures*.

4.10.3 Operating interaction with distribution networks

(a) *NEMMCO* and each *Distribution System Operator* must maintain effective communications concerning the conditions of its *distribution network* and the *transmission network* or other *distribution network* to which that *distribution network* is *connected* and to co-ordinate activities where operations are anticipated to affect other *transmission* or *distribution networks*.

(b) *NEMMCO* must use its reasonable endeavours to give at least 3 *days*' notice to all affected *Distribution System Operators* prior to a *Transmission Network Service Provider* carrying out switching related to a *transmission network* which could reasonably be expected to affect security of *supply* to any *distribution network.*

4.10.4 Switching of a Distributor's high voltage networks

(a) A *Distribution System Operator* must use reasonable endeavours to give *NEMMCO* at least 3 *days*' prior notice of plans to carry out switching related to the *high voltage* network which could reasonably be expected to materially affect power flows at points of *connection* to a *transmission network*. The *Distribution System Operator* must also notify *NEMMCO* immediately prior to carrying out any such switching.

(b) A *Distribution System Operator* must provide confirmation to *NEMMCO* of any such switching immediately after it has occurred.

4.10.5 Switching of reactive power facilities

(a) *NEMMCO* may instruct a *Distribution System Operator* to place *reactive power facilities* belonging to or controlled by that *Distribution System Operator* into or out of service for the purposes of maintaining *power system security* where prior arrangements concerning these matters have been made between *NEMMCO* and the *Distribution System Operator*.

(b) Without limitation to its obligations under such prior arrangements, a *Distribution System Operator* must use reasonable endeavours to comply with such an instruction given by *NEMMCO* or its authorised agent.

4.10.6 Automatic reclose

(a) A *Network Service Provider* or a *Distribution System Operator* may request *NEMMCO* to disable or enable *automatic reclose equipment* in relation to a particular *transmission* or *distribution network* circuit or a feeder connecting its *distribution network* to a *transmission network* which has *automatic reclose equipment* installed on it.

(b) If a *Distribution System Operator* makes such a request, then *NEMMCO* must use reasonable endeavours to comply with the request as soon as reasonably practical.

(c) *NEMMCO* is not responsible for the consequences of automatic reclosure in relation to a circuit or a feeder and the *Distribution System Operator* must indemnify *NEMMCO* against any loss or damage arising out of *NEMMCO* complying with such a request unless the loss or damage is due to the failure by *NEMMCO* to comply with the request within a reasonable period of time.

4.10.7 Inspection of facilities by NEMMCO

NEMMCO may inspect a *facility* of a *Registered Participant* as specified in clause 5.7.1.

4.11 Power System Security Support

4.11.1 Remote control and monitoring devices

(a) All remote control, operational *metering* and monitoring devices and local circuits as described in schedules 5.2, 5.3 and 5.3a, must be installed and maintained in accordance with the standards and protocols determined and advised by *NEMMCO* (for use in the *control centres*) for each:

(1) *scheduled generating unit connected* to the *transmission* or *distribution network*; and

(2) *substation* connected to the *network.*

(b) The provider of any *ancillary services* must arrange the installation and maintenance of all *remote control equipment* and *remote monitoring equipment* in accordance with the standards and protocols determined and advised by *NEMMCO* for use in the relevant *control centre*.

(c) The control and monitoring devices must include provision for indication of *active power* and *reactive power* output, provision for signalling the status and any associated alarm condition relevant to achieving adequate control of the *transmission network*, and provision for indication of *generating plant* active and reactive output.

(d) Where reasonably necessary to allow *NEMMCO* to discharge its *market* and *power system security* functions *NEMMCO* may, by notice in writing, require a *Network Service Provider*, a *Generator* or a *Market Network Service Provider* to:

(1) install *remote monitoring equipment* which, in *NEMMCO's* reasonable opinion, is adequate to enable *NEMMCO* to remotely monitor the performance of a *transmission system* or *distribution system*, *generating unit* (including its *dynamic performance*) or a *market network service facility* as appropriate; and

(2) upgrade, modify or replace any *remote monitoring equipment* already installed in a *facility* provided that the existing *remote monitoring equipment* is, in the reasonable opinion of *NEMMCO*, no longer fit for the intended purpose.

(e) A *Network Service Provider*, *Generator* or *Market Network Service Provider* who receives a notice in accordance with clause 4.11.1(d), must comply with the notice within 120 *business days* or such further period that *NEMMCO* requires.

(f) **[Deleted]**

(g) A *Generator* or *Market Network Service Provider* wishing to receive *dispatch instructions* electronically from *NEMMCO's automatic generation control system* under clause 3.8.21(d) must comply with *NEMMCO's* reasonable requirements in respect of how the remote control signals are issued by the *automatic generation control system* and transmitted to the *facility*.

4.11.2 Operational control and indication communication facilities

(a) Each *Network Service Provider* must provide and maintain, in accordance with the standards referred to in clause 4.11.2(c), the necessary primary and, where nominated by *NEMMCO*, back-up communications facilities for control, operational *metering* and indication from the relevant local sites to the appropriate interfacing termination as nominated by *NEMMCO*.

(b) *NEMMCO* must provide and maintain the communication facilities between control centres of each *Transmission Network Service Provider*, on the one hand, and the *NEMMCO co-ordinating centre*, on the other hand.

(c) *NEMMCO* must develop, and may amend, standards in consultation with *Network Service Providers* in accordance with the *Rules consultation procedures* which must be met by *Network Service Providers* in providing and maintaining the facilities referred to in clause 4.11.2(a).

(d) Until the standards contemplated by clause 4.11.2(c) are issued by *NEMMCO*, each *Network Service Provider* must maintain the primary and back-up communications facilities referred to in clause 4.11.2(a) that were in place at 13 December 1998 so as to achieve substantially the same

performance and functionality as they did over the 12 months prior to 13 December 1998.

4.11.3 Power system voice/data operational communication facilities

(a) *Network Service Providers*, *System Operators*, *Distribution System Operators*, *Generators* and *Market Participants* must advise *NEMMCO* of each nominated person for the purposes of giving or receiving *operational communications* in relation to each of its *facilities*. The persons so nominated must be those responsible for undertaking the operation of the relevant equipment of the relevant *Registered Participant*.

(b) Contact personnel details which must be forwarded to *NEMMCO* include:

(1) title of contact personnel;

(2) the telephone numbers of those personnel;

(3) the telephone numbers of other available communication systems in relation to the relevant *facility*;

(4) a facsimile number for the relevant *facility*; and

(5) an electronic mail address for the relevant *facility*.

(c) Each *Registered Participant* must provide, for each nominated person, two independent telephone communication systems fully compatible with the equipment installed at the appropriate *control centre* nominated by *NEMMCO*.

(d) Each *Registered Participant* must maintain both telephone communication systems in good repair and must investigate faults within 4 hours, or as otherwise agreed with *NEMMCO*, of a fault being identified and must repair or procure the repair of faults promptly.

(e) Each *Registered Participant* must establish and maintain a form of electronic mail facility as approved by *NEMMCO* for communication purposes (such approval may not be unreasonably withheld).

(f) *NEMMCO* must advise all *Registered Participants* of nominated persons for the purposes of giving or receiving *operational communications*.

(g) Contact personnel details to be provided by *NEMMCO* include title, telephone numbers, a facsimile number and an electronic mail address for the contact person.

4.11.4 Records of power system operational communication

(a) *NEMMCO* and the *System Operators* must record each telephone *operational communication* in the form of log book entries or by another auditable method which provides a permanent record as soon as practicable after making or receiving the *operational communication*.

(b) Records of *operational communications* must include the time and content of each communication and must identify the parties to each communication.

(c) Voice recordings of telephone *operational communications* may be undertaken by *NEMMCO* and the *System Operators*. *NEMMCO* and the *System Operators* must ensure that, when a telephone conversation is being recorded under this clause, the persons having the conversation receive an audible indication that the conversation is being recorded. Voice recordings may be used as an alternative to written logs.

(d) *NEMMCO* and the *System Operators* must retain all *operational communications* records including voice recordings for a minimum of 7 years.

(e) In the event of a dispute involving an *operational communication*, the records of that *operational communication* maintained by, or on behalf of, *NEMMCO* will constitute prima facie evidence of the contents of the *operational communication*.

(f) Any recordings made in accordance with this clause 4.11.4 must be made in accordance with the provisions of all applicable privacy laws.

4.11.5 Agent communications

(a) A *Registered Participant* may appoint an agent (called a "*Registered Participant Agent*") to co-ordinate operations of one or more of its *facilities* on its behalf, but only with the prior written consent of *NEMMCO*.

(b) A *Registered Participant* which has appointed a *Registered Participant Agent* may replace that *Registered Participant Agent* but only with the prior written consent of *NEMMCO*.

(c) *NEMMCO* may only withhold its consent to the appointment of a *Registered Participant Agent* under clause 4.11.5(a) or (b) if it reasonably believes that the relevant person is not suitably qualified or experienced to operate the relevant *facility*.

(d) For the purposes of the *Rules*, acts or omissions of a *Registered Participant Agent* are deemed to be acts or omissions of the relevant *Registered Participant*.

(e) *NEMMCO* and its representatives (including authorised agents) may:

(1) rely upon any communications given by a *Registered Participant Agent* as being given by the relevant *Registered Participant*; and

(2) rely upon any communications given to a *Registered Participant Agent* as having been given to the relevant *Registered Participant*.

(f) *NEMMCO* and the *System Operators* are not required to consider whether any instruction has been given to a *Registered Participant Agent* by the relevant *Registered Participant* or the terms of those instructions.

4.12 Nomenclature Standards

(a) A *Network Service Provider* must use the *nomenclature standards* for *transmission* equipment and apparatus as agreed with *NEMMCO* or, failing agreement, as determined by *NEMMCO*.

(b) A *Registered Participant* must use reasonable endeavours to ensure that its *representatives* comply with the *nomenclature standards* in any *operational communications* with *NEMMCO*.

(c) A *Registered Participant* must ensure that nameplates on its equipment relevant to operations at any point within the *power system* conform to the requirements set out in the *nomenclature standards*.

(d) A *Registered Participant* must use reasonable endeavours to ensure that nameplates on its equipment relevant to operations at any point within the *power system* are maintained to ensure easy and accurate identification of equipment.

(e) A *Registered Participant* must ensure that technical drawings and documentation provided to *NEMMCO* comply with the *nomenclature standards*.

(f) *NEMMCO* may, by notice in writing, request a *Registered Participant* to change the existing numbering or nomenclature of *transmission* equipment and apparatus of the *Registered Participant* for purposes of uniformity, and the *Registered Participant* must comply with such a request provided that if the existing numbering or nomenclature conforms with the *nomenclature standards*, *NEMMCO* must pay all reasonable costs incurred in complying with the request.

4.13 Submission of Performance Standards

(a) A *Generator*, *Customer* or *Market Network Service Provider* who, at the date that Tasmania becomes a *participating jurisdiction*, engages in the

activity of owning, operating or controlling a *facility* located in Tasmania must, within 30 *days* of the date that Tasmania becomes a *participating jurisdiction*, submit to *NEMMCO* proposed *performance standards* for that *plant*, such *performance standards* to be:

(1) in the case of a person who is registered as a *Generator* in relation to that *plant* – in accordance with schedule 5.2;

(2) in the case of a person who is registered as a *Customer* in relation to that *plant* – in accordance with schedule 5.3; or

(3) in the case of a person who is registered as a *Market Network Service Provide*r in relation to that *plant* – in accordance with schedule 5.3a.

(b) A *Network Service Provider* who plans, owns, operates or controls a *facility* that is connected to a *facility* planned, owned, controlled or operated by a *Generator*, *Customer* or *Market Network Service Provider* must provide that *Generator*, *Customer* or *Market Network Service Provider* with all performance data and other information, other than *confidential information*, reasonably required by the *Generator*, *Customer* or *Market Network Service Provider* to enable the *Generator*, *Customer* or *Market Network Service Provider* to satisfy its obligations under clause 4.13(a).

4.14 Acceptance of Performance Standards

(a) *NEMMCO* must, following receipt of a proposed set of *performance standards* in accordance with clauses 4.13(a) or 4.14(g), assess whether, in its reasonable opinion, each proposed *performance standard* satisfies the criteria set out in clause 4.14(b).

(b) Subject to clause 4.14(c), for the purposes of clause 4.14(a), the *performance standards* must comply with:

(1) the performance criteria set out in schedules 5.1, 5.2, 5.3 and 5.3a;

(2) any *derogation* applicable to the *plant* to which the *performance standards* apply;

(3) the *connection agreement* applicable to the *plant* to which the *performance standards* apply; and

(4) the design performance of the *plant* at the *performance standards commencement date*.

(c) To the extent of any inconsistency between:

(1) a *performance standard* determined in accordance with a *derogation* and a *performance standard* determined in accordance with:

(i) the performance criteria set out in schedules 5.1, 5.2, 5.3 and 5.3a;

(ii) the *connection agreement* applicable to the *plant* to which the *performance standard* applies; or

(iii) the design performance of the *plant* at the *performance standards commencement date*,

the *performance standard* determined in accordance with the *derogation* will prevail;

(2) a *performance standard* determined in accordance with an existing *connection agreement* and a *performance standard* determined in accordance with:

(i) the performance criteria set out in schedules 5.1, 5.2, 5.3 and 5.3a; or

(ii) the design performance of the *plant* at the *performance standards commencement date*,

the *performance standard* determined in accordance with the *connection agreement* will prevail; and

(3) a *performance standard* determined in accordance with the design performance of the *plant* at the *performance standards commencement date* and a *performance standard* determined in accordance with the performance criteria set out in schedules 5.1, 5.2, 5.3 and 5.3a, the *performance standard* determined in accordance with the design performance of the *plant* will prevail.

(d) *NEMMCO* must:

(1) if it assesses that a proposed *performance standard* meets the criteria set out in clause 4.14(b), accept the proposed *performance standard*; or

(2) if it assesses that a proposed *performance standard* does not meet the criteria set out clause 4.14(b), reject the proposed *performance standard*.

(e) *NEMMCO* must advise the person who submitted a proposed *performance standard*, in accordance with clause 4.13(a) or 4.14(g), of its decision to accept or reject the proposed *performance standard*, in accordance with clause 4.14(d), within 60 *business days* of submission of the proposed *performance standard* to *NEMMCO* in accordance with clause 4.13(a) or 4.14(g).

(f) If *NEMMCO* rejects a proposed *performance standard*, in accordance with clause 4.14(d)(2), *NEMMCO* must, when advising the person in accordance clause 4.14(e), also provide the person with detailed reasons for its decision to reject the proposed *performance standard*.

(g) If *NEMMCO* rejects a proposed *performance standard* in accordance with clause 4.14(d)(2), the person who submitted the proposed *performance standard* to *NEMMCO* must, within 20 *business days* of the date upon which *NEMMCO* made its decision to reject the proposed *performance standard*, resubmit an amended proposed *performance standard* in accordance with clause 4.13(a), taking *NEMMCO's* comments into consideration.

(h) If, 11 months from the date that a person is required, in accordance with clause 4.13(a), to submit a proposed *performance standard*, a *performance standard* has not been approved in accordance with clause 4.14(d)(1), the *performance standard* for the *plant* to which the proposed *performance standard* related is deemed to be (in order of priority):

(1) the technical characteristics set out in the relevant *connection agreement*;

(2) if a *derogation* is in place, the *connection agreement* subject to the technical characteristics set out in the relevant *derogation*; or

(3) the *connection* requirements of the *connection point* determined in accordance with clause 5.3.3.

(i) For the purposes of this clause 4.14, *NEMMCO* must accept a *performance standard* proposed by a *Registered Participant* materially based upon and consistent with a *derogation* applicable to the plant to which the *performance standard* applies.

(j) *NEMMCO* may request that a *Registered Participant*, who has submitted a proposed *performance standard* in accordance with clauses 4.13(a) or 4.14(g), provide additional supporting information reasonably required by *NEMMCO* to facilitate its assessment of the *performance standard* submitted.

(k) A *Registered Participant* who receives a request from *NEMMCO*, in accordance with clause 4.14(j), must comply with the request within 5 *business days*.

(l) A *Registered Participant* whose proposed *performance standard* is rejected in accordance with clause 4.14(d)(2) may dispute the decision by *NEMMCO* to reject the proposed *performance standard*.

(m) If a dispute arising under clause 4.14(l) is not resolved in accordance with clause 8.2.4 within 60 *business days* then, notwithstanding any other provision in clause 8.2, the *Adviser* must refer the dispute to a *DRP* for determination in accordance with clauses 8.2.6A to 8.2.6D.

(n) *NEMMCO* must establish and maintain a register of the *performance standards* applicable to *plant* as advised by *Registered Participants* in accordance with clause 5.3.7(e)(1) or established in accordance with clause 4.14.

(o) *NEMMCO* or, in respect of a matter concerning the quality of *supply* to *Network Users*, *NEMMCO* in consultation with the relevant *Network Service Provider*, must, when determining the applicable *performance standard* for a particular requirement based on any provision of schedules 5.1, 5.2, 5.3 and 5.3a, require a *Registered Participant* to meet or exceed the *minimum access standard* but must not require the *Registered Participant* to exceed the relevant *automatic access standard* for that requirement.

4.15 Performance Standard Compliance

(a) A *Registered Participant* must:

(1) ensure that its *plant* meets or exceeds the *performance standard* applicable to its *plant*;

(2) ensure that its *plant* is not likely to cause a material adverse effect on *power system security*; and

(3) immediately ensure that its *plant* ceases to be likely to cause a material adverse effect on *power system security*, if:

(i) the *Registered Participant* reasonably believes that its *plant* is likely to cause a material adverse effect on *power system security*; or

(ii) *NEMMCO* advises the *Registered Participant* that the *Registered Participant's plant* is likely to cause a material adverse effect on *power system security*.

(b) A *Registered Participant* who engages in the activity of planning, owning, controlling or operating *plant* to which a *performance standard* applies must, within 6 months of the later of the date of the establishment of the *performance standard* in accordance with clause 4.14 or clause 5.3.4A(g) (as the case may be) or the commencement of operation of the *plant*, institute and maintain a compliance program, in accordance with clause 4.15(c).

(c) A compliance program instituted and maintained in accordance with clause 4.15(b) must:

(1) monitor the performance of the *plant* in accordance with the provisions of the compliance program;

(2) ensure that the *plant* complies with the relevant *performance standards*;

(3) be in accordance with *good electricity industry practice*; and

(4) provide reasonable assurance of ongoing compliance with each applicable *performance standard*.

(d) The *AER* may request that a *Registered Participant*, who is required to institute and maintain a compliance program in accordance with clause 4.15(b) or clause 5.7.4(a1), deliver to the *AER*:

(1) the compliance program records setting out the written results of the performance monitoring conducted in accordance with clause 4.15(f) or clause 5.7.4(a2)(1); and

(2) any other records maintained in accordance with clause 5.7.3 or clause 5.7.4, if applicable.

(e) Each *Registered Participant* must maintain the compliance program records and any other records developed or maintained under clause 5.7.3 or clause 5.7.4 for 7 years and deliver such records to the *AER*, in accordance with clause 4.15(d), within 2 *business days* of the date of the request or such further period as the *AER* requires.

(f) A *Registered Participant* who engages in the activity of planning, owning, controlling or operating *plant* to which a *performance standard* applies must immediately notify *NEMMCO* if:

(1) the *Registered Participant* becomes aware that the *plant* is breaching a *performance standard* applicable to the *plant*; or

(2) the *Registered Participant* reasonably believes that the *plant* is likely to breach a *performance standard* applicable to the *plant.*

(g) A notice in accordance with clause 4.15(f) must detail:

(1) the reason for the actual or likely non-conformance of the *plant* with the *performance standard*;

(2) the actual or likely time of commencement of non-conformance of the *plant* with the *performance standard*;

(3) the expected duration of non-conformance of the *plant* with the *performance standard*; and

(4) the expected performance of the *plant* in comparison with the *performance standard*.

(h) A *Registered Participant* who has notified *NEMMCO*, in accordance with clause 4.15(f), must notify *NEMMCO* that its *plant* has returned to compliance with the *performance standard* immediately following the return of the *plant* to compliance.

(i) If:

(1) a *Registered Participant* notifies *NEMMCO* in accordance with clause 4.15(f); or

(2) *NEMMCO* otherwise reasonably believes that the *plant* of a *Registered Participant*, in respect of which a *performance standard* applies, is in breach of that *performance standard*,

NEMMCO must, in accordance with clause 4.15(j), advise the *Registered Participant* of the period within which the *Registered Participant* must rectify the breach.

(j) *NEMMCO* must, when determining the period within which a *Registered Participant* may rectify a *performance standard* breach in accordance with clause 4.15(i), take into consideration:

(1) the time necessary, in *NEMMCO's* reasonable opinion, to provide the *Registered Participant* with the opportunity to remedy the breach; and

(2) the need to act to remedy the breach given the nature of the breach.

(k) If the *plant* of a *Registered Participant* remains in breach of a *performance standard* for a period greater than that determined in accordance with clause 4.15(i), *NEMMCO* must notify the *AER* of the breach.

(l) The effectiveness of a compliance regime established in accordance with clause 4.15(b) must be taken into consideration in any proceeding against a *Registered Participant* for a breach of clause 4.15(a).

(m) Any obligation imposed on a *Generator* in accordance with clause 5.7.3(c) ceases to operate upon the commencement of a compliance program by the *Generator* in accordance with clause 4.15(b).

CHAPTER 5

5. Network Connection

5.1 Statement of Purpose

5.1.1 [Deleted]

5.1.2 Purpose

(a) This Chapter*:*

(1) provides the framework for *connection* to a *transmission network* or a *distribution network* and access to the *networks* forming part of the *national grid*; and

(2) has the following purposes:

(i) to detail the principles and guidelines governing *connection* and access to a *network*;

(ii) to establish the process to be followed by a *Registered Participant* to establish or modify a *connection* to a *network*;

(iii) to address a *Connection Applicant's* reasonable expectations of the level and standard of *power transfer capability* that the relevant *network* should provide; and

(iv) to establish processes to ensure ongoing compliance with the technical requirements of this Chapter to facilitate management of the *national grid*.

(b) Any person who is not a *Registered Participant* may agree with a *Network Service Provider* to comply with this Chapter as part of a *connection agreement*.

(c) Nothing in the *Rules* is to be read or construed as preventing any person from constructing any *network* or *connection assets*.

5.1.3 Principles

This Chapter is based on the following principles relating to *connection* to the *national grid*:

(a) All *Registered Participants* should have the opportunity to form a *connection* to a *network* and have access to the *network services* provided by the *networks* forming part of the *national grid*.

(b) The terms and conditions on which *connection* to a *network* and provision of *network service* is to be granted are to be set out in commercial agreements on reasonable terms entered into between a *Network Service Provider* and other *Registered Participants*.

(b1) The technical terms and conditions of *connection agreements* regarding standards of performance must be established at levels at or above the *minimum access standards* set out in schedules 5.1, 5.2, 5.3 and 5.3a, with the objective of ensuring that the *power system* operates securely and reliably and in accordance with the *system standards* set out in schedule 5.1a.

(b2) A *Registered Participant* may request *connection* of a *facility* at a standard below an *automatic access standard* if the *connection* does not adversely affect other *Registered Participants*.

(c) In some jurisdictions separate agreements may be required for *connection services* and *use of system services*.

(d) The operation of the *Rules* should result in the achievement of:

(i) long term benefits to *Registered Participants* in terms of costs and *reliability* of the *national grid*; and

(ii) open communication and information flows between *Registered Participants* themselves, and between *Registered Participants* and *NEMMCO*, relating to *connections* while ensuring the security of *confidential information* belonging to competitors in the *market*.

5.2 Obligations

5.2.1 Obligations of Registered Participants

(a) All *Registered Participants* must maintain and operate (or ensure their authorised *representatives* maintain and operate) all equipment that is part of their *facilities* in accordance with:

(1) relevant laws;

(2) the requirements of the Rules; and

(3) *good electricity industry practice* and applicable *Australian Standards*.

(b) All *Registered Participants* must ensure that the *connection agreements* to which they are a party require the provision and maintenance of all required *facilities* consistent with *good electricity industry practice* and must operate their equipment in a manner:

(1) to assist in preventing or controlling instability within the *power system*;

(2) comply with the minimum standards *published* pursuant to clause 3.11.4(c);

(3) to assist in the maintenance of, or restoration to, a *satisfactory operating state* of the *power system*; and

(4) to prevent uncontrolled separation of the *power system* into isolated *regions* or partly combined *regions*, *intra-regional transmission* break-up, or *cascading outages*, following any *power system* incident.

5.2.2 Connection agreements

(a) If requested to do so by a *Network User*, *NEMMCO* or the *AER*, a *Network Service Provider* and a *Network User* must document the terms of any *network connection* arrangements made prior to 13 December 1998 and the resulting document will then be deemed to be a *connection agreement* for the purposes of the *Rules*.

(b) The *Rules* apply to:

(1) all *connection agreements* made after 13 December 1998;

(2) all deemed *connection agreements* created pursuant to clause 5.2.2(a); and

(3) all requests to establish *connection* or modify an existing *connection* after 13 December 1998.

(c) This Chapter is neither intended to have, nor is it to be read or construed as having, the effect of:

(1) altering any of the terms of a *connection agreement*; or

(2) altering the contractual rights or obligations of any of the parties under the *connection agreement* as between those parties; or

(3) relieving the parties under any such *connection agreement* of their contractual obligations under such an *agreement*.

(d) Notwithstanding the provisions of clause 5.2.2(c), if any obligation imposed or right conferred on a *Registered Participant* by this Chapter is inconsistent with the terms of a *connection agreement* to which the *Rules* apply and the application of the inconsistent terms of the *connection agreement* would adversely affect the quality or security of *network service* to other *Network Users*, the parties to the *connection agreement* must observe the provisions

of this Chapter as if they prevail over the *connection agreement* to the extent of the inconsistency.

5.2.3 Obligations of network service providers

(a) To be registered by *NEMMCO* as a *Network Service Provider*, a person must satisfy the relevant requirements specified in Chapter 2 and submit an application to *NEMMCO* in such form as *NEMMCO* may require.

(a1) **[Deleted]**

(a2) **[Deleted]**

(b) A *Network Service Provider* must comply with the *power system* performance and quality of *supply* standards:

(1) described in schedule 5.1;

(2) in accordance with any *connection agreement* with a *Registered Participant*,

and if there is an inconsistency between schedule 5.1 and such a *connection agreement*:

(3) if compliance with the relevant provision of the *connection agreement* would adversely affect the quality or security of *network service* to other *Network Users*, schedule 5.1 is to prevail;

(4) otherwise the *connection agreement* is to prevail.

(c) Where the provisions of the *connection agreement* vary the technical requirements set out in the schedules to this Chapter, the relevant *Network Service Provider* must report on such variations to *NEMMCO* on an annual basis. *NEMMCO* must allow access to such information to all other *Network Service Providers* and the *Network Service Providers* must keep such information confidential.

(d) A *Network Service Provider* must:

(1) review and process *applications to connect* or modify a *connection* which are submitted to it and must enter into a *connection agreement* with each *Registered Participant* and any other person to which it has provided a *connection* in accordance with clause 5.3 to the extent that the *connection point* relates to its part of the *national grid*;

(1A) co-operate with any other *Network Service Provider* who is processing a *connection* enquiry or *application to connect* to allow that *connection* enquiry or *application to connect* to be processed expeditiously and in accordance with clause 5.3;

(2) ensure that, to the extent that a *connection point* relates to its part of the *national grid*, every arrangement for *connection* with a *Registered Participant* or any other arrangement involving a *connection agreement* with that *Network Service Provider* complies with all relevant provisions of the *Rules*;

(3) co-ordinate the design aspects of equipment proposed to be *connected* to its *networks* with those of other *Network Service Providers* in accordance with clause 5.4 in order to seek to achieve *power system* performance requirements in accordance with schedule 5.1;

(4) together with other *Network Service Providers*, arrange for and participate in planning and development of their *networks* and *connection points* on or with those *networks* in accordance with clause 5.6;

(5) permit and participate in inspection and testing of *facilities* and equipment in accordance with clause 5.7;

(6) permit and participate in commissioning of *facilities* and equipment which are to be *connected* to its *network* in accordance with clause 5.8;

(7) advise a *Registered Participant* or other person with whom there is a *connection agreement* upon request of any expected interruption characteristics at a *connection point* on or with its *network* so that the *Registered Participant* or other person may make alternative arrangements for *supply* during such interruptions, including negotiating for an alternative or backup *connection*;

(8) use its reasonable endeavours to ensure that modelling data used for planning, design and operational purposes is complete and accurate and order tests in accordance with clause 5.7 where there are reasonable grounds to question the validity of data;

(9) provide to *NEMMCO* and other *Network Service Providers* all data available to it and reasonably required for modelling the static and *dynamic performance* of the *power system*;

(10) forward to *NEMMCO* and other *Network Service Providers* subsequent updates of the data referred to in clause 5.2.3(d)(9) and, to the best of its ability and knowledge, ensure that all data used for the purposes referred to in clause 5.3 is consistent with data used for such purposes by other *Network Service Providers*;

(11) provide to *NEMMCO* the information required from *Generators* under schedule 5.2 and from *Customers* under schedule 5.3 and from *Market Network Service Providers* under schedule 5.3a in relation to a

connection agreement and details of any *connection points* with other *Network Service Providers*; and

(12) where *network augmentations*, setting changes or other technical issues arise which could impact across *regional* boundaries, provide *NEMMCO* with a written report on the impact and its effects.

(e) A *Network Service Provider* must arrange for operation of that part of the *national grid* over which it has control in accordance with instructions given by *NEMMCO*.

(e1) A *Network Service Provider* must, except in so far as its *market network services* and parts of its *network* which are used solely for the provision of *market network services* are concerned, arrange for:

(1) management, maintenance and operation of its part of the *national grid* such that, in the *satisfactory operating state*, electricity may be transferred continuously at a *connection point* on or with its *network* up to the *agreed capability*;

(2) operation of its *network* such that the fault level at any *connection point* on or with that *network* does not exceed the limits that have been specified in a *connection agreement*;

(3) management, maintenance and operation of its *network* to minimise the number of interruptions to *agreed capability* at a *connection point* on or with that *network* by using *good electricity industry practice*; and

(4) restoration of the *agreed capability* at a *connection point* on or with that *network* as soon as reasonably practicable following any interruption at that *connection point*.

(f) A *Network Service Provider* must comply with *applicable regulatory instruments*.

(g) Each *Network Service Provider* must in respect of new or altered equipment owned, operated or controlled by it for the purpose of providing a *market network service*:

(1) submit an *application to connect* and enter into a *connection agreement* with a *Network Service Provider* in accordance with clause 5.3 prior to that equipment being connected to the *network* of that *Network Service Provider* or altered (as the case may be);

(2) comply with the reasonable requirements of *NEMMCO* and the relevant *Network Service Provider* in respect of design requirements of equipment proposed to be *connected* to the *network* of that *Network Service Provider* in accordance with clause 5.4 and schedule 5.3a;

(3) provide forecast information to the relevant *Network Service Provider* in accordance with clause 5.6;

(4) permit and participate in inspection and testing of *facilities* and equipment in accordance with clause 5.7;

(5) permit and participate in commissioning of *facilities* and equipment which are to be *connected* to a *network* for the first time in accordance with clause 5.8; and

(6) **[Deleted]**

(7) give notice of intended voluntary permanent *disconnection* in accordance with clause 5.9.

(h) **[Deleted]**

(h1) On receipt of a written request from Basslink Pty Ltd or another party nominated in writing to *NEMMCO* by the Basslink Development Board (collectively 'Basslink') together with a copy of the *application to connect* lodged by Basslink with the relevant *Transmission Network Service Provider*, including all necessary supporting information and data required under clause 5.3.3(c), the *Inter-regional Planning Committee* must in accordance with clause 5.6.3 advise *NEMMCO* of the requirements that should be imposed on Basslink as the intending *Market Network Service Provider* for the purposes of clause 5.2.3(g)(2).

(h2) The *Inter-regional Planning Committee* must, in preparing its advice to *NEMMCO* under 5.2.3(h1), conduct a review of the technical impacts of the proposed interconnector to be constructed by Basslink covering those matters in clause 5.6.6(b)(1), (2) and (4) and *publish* a report of its review.

(h3) *NEMMCO* must, following receipt of advice from the *Inter-regional Planning Committee* in accordance with clause 5.2.3(h1), advise the relevant *Transmission Network Service Provider* and Basslink of its reasonable design requirements in respect of the equipment proposed to be *connected* to the *network* as set out in clause 5.4 and schedule 5.3a, in addition to those reasonable design requirements of the relevant *Transmission Network Service Provider*, for the purposes of clause 5.2.3(g)(2).

(i) This Chapter is neither intended to require, nor is it to be read or construed as having the effect of requiring, a *Network Service Provider* to permit *connection* to or to *augment* any part of its *network* which is solely used for the provision of *market network services.*

5.2.4 Obligations of customers

(a) Each *Customer* must plan and design its *facilities* and ensure that its *facilities* are operated to comply with:

(1) its *connection agreement* with a *Network Service Provider*;

(2) subject to clause 5.2.4(a)(1), all applicable *performance standards*; and

(3) subject to clause 5.2.4(a)(2), the *system standards.*

(b) A *Customer* must:

(1) submit an *application to connect* in respect of new or altered equipment owned, operated or controlled by the *Customer* and enter into a *connection agreement* with a *Network Service Provider* in accordance with clause 5.3 prior to that equipment being *connected* to the *network* of that *Network Service Provider* or altered (as the case may be);

(2) comply with the reasonable requirements of the relevant *Network Service Provider* in respect of design requirements of equipment proposed to be *connected* to the *network* of that *Network Service Provider* in accordance with clause 5.4 and schedule 5.3;

(3) provide *load* forecast information to the relevant *Network Service Provider* in accordance with clause 5.6;

(4) permit and participate in inspection and testing of *facilities* and equipment in accordance with clause 5.7;

(5) permit and participate in commissioning of *facilities* and equipment which are to be *connected* to a *network* for the first time in accordance with clause 5.8; and

(6) **[Deleted]**

(7) give notice of any intended voluntary permanent *disconnection* in accordance with clause 5.9.

5.2.5 Obligations of generators

(a) Each *Generator* must plan and design its *facilities* and ensure that its *facilities* are operated to comply with:

(1) its *connection agreement* with a *Network Service Provider*;

(2) subject to clause 5.2.5(a)(1), all applicable *performance standards*; and

(3) subject to clause 5.2.5(a)(2), the *system standards*.

(b) A *Generator* must:

(1) submit an *application to connect* in respect of new or altered equipment owned, operated or controlled by the *Generator* and enter into a *connection agreement* with a *Network Service Provider* in accordance with clause 5.3 prior to that equipment being *connected* to the *network* of that *Network Service Provider* or altered (as the case may be);

(2) comply with the reasonable requirements of the relevant *Network Service Provider* in respect of design requirements of equipment proposed to be *connected* to the *network* of that *Network Service Provider* in accordance with clause 5.4 and schedule 5.2;

(3) provide *generation* forecast information to the relevant *Network Service Provider* in accordance with clause 5.6;

(4) permit and participate in inspection and testing of *facilities* and equipment in accordance with clause 5.7;

(5) permit and participate in commissioning of *facilities* and equipment which are to be *connected* to a *network* for the first time in accordance with clause 5.8; and

(6) **[Deleted]**

(7) give notice of intended voluntary permanent *disconnection* in accordance with clause 5.9.

5.2.6 [Deleted]

5.3 Establishing or Modifying Connection

5.3.1 Process and procedures

(a) The process and procedures in this clause 5.3 must be followed by a *Registered Participant* and may be followed by any other person wishing to establish or modify a *connection* to a *network.*

(b) Establishing *connection* in this clause includes modifying an existing *connection* to the *national grid*.

5.3.2 Connection enquiry

(a) An existing or intending *Registered Participant*, or a person who is eligible to become a *Registered Participant*, who wishes to lodge or consider lodging an *application to connect* to a *network* must first make a *connection* enquiry by advising the *Local Network Service Provider* of the type, magnitude and timing of the proposed *connection* to the *network* of that *Local Network Service Provider*.

(a1) If the information submitted with a *connection* enquiry is inadequate to enable the *Local Network Service Provider* to process the enquiry the *Local Network Service Provider* must, within 5 *business days*, advise the *Connection Applicant* what other relevant preliminary information of the kind listed in schedule 5.4 is required before the *connection* enquiry can be further processed.

(b) The *Local Network Service Provider* must advise the *Connection Applicant* within 10 *business days* of receipt of the *connection* enquiry and the further information required in accordance with clause 5.3.2(a1) if the enquiry would be more appropriately directed to another *Network Service Provider*. The *Connection Applicant*, notwithstanding the advice, may if it is reasonable in all the circumstances, request the *Local Network Service Provider* to process the *connection* enquiry and the *Local Network Service Provider* must meet this request.

(c) Where the *Local Network Service Provider* considers that the *connection* enquiry should be jointly examined by more than one *Network Service Provider* then, with the agreement of the *Connection Applicant*, one of those *Network Service Providers* may be allocated the task of liaising with the *Connection Applicant* and the other *Network Service Providers* to process and respond to the enquiry.

(d) A *Network Service Provider* must, to the extent that it holds technical information necessary to facilitate the processing of a *connection* enquiry made in accordance with clause 5.3.2(a) or an *application to connect* in accordance with clause 5.3.4(a), provide that information to the *Connection Applicant* in accordance with the requirements of schedules 5.1, 5.2, 5.3 or 5.3a, as relevant.

5.3.3 Response to connection enquiry

(a) In preparing a response to a *connection* enquiry, the *Network Service Provider* must liaise with other *Network Service Providers* with whom it has *connection agreements*, if the *Network Service Provider* believes, in its reasonable opinion, that compliance with the terms and conditions of those *connection agreements* will be affected. The *Network Service Provider* responding to the *connection* enquiry may include in that response the

reasonable requirements of any such other *Network Service Providers* for information to be provided by the *Connection Applicant*.

(b) The *Network Service Provider* must provide the following information in writing to the *Connection Applicant* within 10 *business days* after receipt of the *connection* enquiry and all such additional information (if any) advised under clause 5.3.2(a1) or, if the *Connection Applicant* has requested the *Local Network Service Provider* to process the *connection* enquiry under clause 5.3.2(b), within 10 *business days* after receipt of that request:

(1) the identity of other parties that the *Network Service Provider* considers:

(i) will need to be involved in planning to make the *connection*; and

(ii) must be paid for *transmission* or *distribution service*s in the appropriate jurisdiction;

(2) whether it will be necessary for any of the parties identified in clause 5.3.3(b)(1) to enter into an agreement with the *Connection Applicant* in respect of the provision of *connection* or other *transmission services* or *distribution services* to the *Connection Applicant* or both;

(3) whether any service the *Network Service Provider* proposes to provide is *contestable* in the relevant *participating jurisdiction*; and

(4) a *preliminary program* showing proposed milestones for *connection* and access activities which may be modified from time to time by agreement of the parties, which agreement must not be unreasonably withheld.

(b1) The *Network Service Provider* must, within 20 *business days* after receipt of the *connection* enquiry and all such additional information (if any) advised under clause 5.3.2(a1) or, if the *Connection Applicant* has requested the *Local Network Service Provider* to process the *connection* enquiry under clause 5.3.2(b), within 20 *business days* after receipt of that request, provide the *Connection Applicant* with written details, for each technical requirement set out in the schedules to this Chapter and which are relevant to the proposed *plant*, of:

(1) the *automatic access standards*;

(2) the *minimum access standards*;

(3) the applicable *plant standards*; and

(4) which of the requirements *NEMMCO* will be involved in the negotiation of for the purposes of clause 5.3.4A(b),

in accordance with any relevant access standards set out in:

(5) schedule 5.1 for *connection* of a *network*;

(6) schedule 5.2 for *connection* of a *generating system*;

(7) schedule 5.3 for *connection* of a *Network User's connection point*; and

(8) schedule 5.3a for *connection* of a *market network service*.

(b2) A *Registered Participant*, *NEMMCO* or *interested party* may request the *Reliability Panel* to determine whether, in respect of one or more technical requirements for access, an existing Australian or international standard, or a part thereof, may be adopted as a *plant standard* for a particular class of *plant*.

(b3) Where, in respect of a technical requirement for access, the *Reliability Panel* determines a *plant standard* for a particular class of *plant* in accordance with clause 8.8.1(a)(8) as an acceptable alternative to a particular *minimum access standard* or *automatic access standard*, a *plant* which meets that *plant standard* is deemed to meet the applicable *automatic access standard* or *minimum access standard* for that technical requirement.

(b4) In making a determination in accordance with clause 5.3.3(b2) the *Reliability Panel* must consult *Registered Participants* and *NEMMCO* using the *Rules consultation procedures*.

(c) Within 20 *business days* after receipt of the *connection* enquiry and all such additional information (if any) advised under clause 5.3.2(a1) or, if the *Connection Applicant* has requested the *Local Network Service Provider* to process the *connection* enquiry under clause 5.3.2(b), within 20 *business days* after receipt of that request, the *Network Service Provider* must provide to the *Connection Applicant* written advice of all further information which the *Connection Applicant* must prepare and obtain in conjunction with the *Network Service Provider* to enable the *Network Service Provider* to assess an *application to connect* including:

(1) details of the *Connection Applicant's connection* requirements, and the *Connection Applicant's* specifications of the *facility* to be connected, consistent with the requirements advised in accordance with clause 5.3.3(b1);

(2) details of the *Connection Applicant's* reasonable expectations of the level and standard of service of *power transfer capability* that the *network* should provide;

(3) a list of the technical data to be included with the *application to connect*, which may vary depending on the *connection* requirements and the type, rating and location of the *facility* to be *connected* and

will generally be in the nature of the information set out in schedule 5.5 but may be varied by the *Network Service Provider* as appropriate to suit the size and complexity of the proposed *facility* to be *connected*;

(4) commercial information to be supplied by the *Connection Applicant* to allow the *Network Service Provider* to make an assessment of the ability of the *Connection Applicant* to satisfy the prudential requirements set out in clauses 6.6 and 6.15;

(5) the amount of the application fee which is payable on lodgment of an *application to connect*, such amount not being more than necessary to:

(i) cover the reasonable costs of all work anticipated to arise from investigating the *application to connect* and preparing the associated offer to *connect*; and

(ii) meet the reasonable costs anticipated to be incurred by *NEMMCO* and other *Network Service Providers* whose participation in the assessment of the *application to connect* will be required; and

(6) any other information relevant to the submission of an *application to connect*.

5.3.4 Application for connection

(a) A person who has made a *connection* enquiry under clause 5.3.2 may, following receipt of the responses under clause 5.3.3, make an *application to connect* in accordance with this clause 5.3.4 and clause 5.3.4A.

(b) To be eligible for *connection*, the *Connection Applicant* must submit an *application to connect* containing the information specified in clause 5.3.3(c) and the relevant application fee to the relevant *Network Service Provider*.

(c) The *Connection Applicant* may submit *applications to connect* to more than one *Network Service Provider* in order to receive additional offers to *connect* in respect of *facilities* to be provided that are *contestable*.

(d) To the extent that an application fee includes amounts to meet the reasonable costs anticipated to be incurred by any other *Network Service Providers* or *NEMMCO* in the assessment of the *application to connect*, a *Network Service Provider* who receives the *application to connect* and associated fee must pay such amounts to the other *Network Service Providers* or *NEMMCO*, as appropriate.

(e) For each technical requirement where the proposed arrangement will not meet the *automatic access standards* nominated by the *Network Service Provider* pursuant to clause 5.3.3(b1), the *Connection Applicant* must submit with the *application to connect* a proposal for a *negotiated access standard* for each such requirement to be determined in accordance with clause 5.3.4A.

(f) The *Connection Applicant* may:

(1) lodge separate *applications to connect* and separately liaise with the other *Network Service Providers* identified in clause 5.3.3(b) who may require a form of agreement; or

(2) lodge one *application to connect* with the *Network Service Provider* who processed the *connection* enquiry and require it to liaise with those other *Network Service Providers* and obtain and present all necessary draft agreements to the *Connection Applicant*.

5.3.4A Negotiated access standards

(a) A *negotiated access standard* must:

(1) be no less onerous than the corresponding *minimum access standard* specified by the *Network Service Provider* in accordance with clause 5.3.3(b1)(2);

(2) be set at a level that will not adversely affect *power system security*; and

(3) be set at a level that will not adversely affect the quality of *supply* for other *Network Users*.

(b) A *Network Service Provider* must, following the receipt of a proposed *negotiated access standard* in accordance with clause 5.3.4(e) or clause 5.3.4A(f), consult *NEMMCO* on all matters allocated to *NEMMCO* under clause 5.3.3(b1)(4) and must accept *NEMMCO's* advice in respect of those matters in determining its response to each proposed *negotiated access standard* and any applicable terms or conditions of acceptance to be applied to each proposed *negotiated access standard*.

(c) *NEMMCO* must, within 20 *business day*s following the submission of a proposed *negotiated access standard* under clause 5.3.4(e) or clause 5.3.4A(f), respond to the *Network Service Provider* in writing in respect of all matters allocated to *NEMMCO*, in accordance with clause 5.3.3(b1).

(d) A *Network Service Provider* must, within 30 *business day*s following the receipt of a proposed *negotiated access standard* in accordance with clause 5.3.4(e) or clause 5.3.4A(f)(3):

(1) accept the proposed *negotiated access standard*; or

(2) reject the proposed *negotiated access standard* if *connection* at the *negotiated access standard* proposed by the *Connection Applicant* would:

(i) in *NEMMCO's* reasonable opinion, adversely affect *power system security*; or

(ii) in the *Network Service Provider's* reasonable opinion, adversely affect quality of *supply* for other *Network Users*; or

(iii) in the opinion of *NEMMCO* (in respect of a matter allocated to *NEMMCO* under clause 5.3.3(b1)(4)) or in the opinion of the *Network Service Provider* (in respect of a matter not allocated to *NEMMCO* under clause 5.3.3(b1)(4)), not meet the requirements of clause 5.3.4A(a).

(e) If a *Network Service Provider* rejects a proposed *negotiated access standard*, the *Network Service Provider* must, when rejecting the proposed *negotiated access standard*, advise the *Connection Applicant* of a *negotiated access standard* that the *Network Service Provider* will accept.

(f) The *Connection Applicant* may, in relation to a proposed *negotiated access standard* advised by a *Network Service Provide*r in accordance with clause 5.3.4A(e):

(1) accept the proposed *negotiated access standard*;

(2) reject the proposed *negotiated access standard*;

(3) propose an alternative proposed *negotiated access standard* to be further evaluated in accordance with the criteria in clause 5.3.4A(a); or

(4) elect to adopt the relevant *automatic access standard* or a corresponding *plant standard*.

(g) An *automatic access standard* or, if the procedures in this clause 5.3.4A have been followed, a *negotiated access standard* that forms part of the terms and conditions of a *connection agreement*, is taken to be the *performance standard* applicable to the *connected plant* for the relevant technical requirement.

5.3.5 Preparation of offer to connect

(a) The *Network Service Provider* to whom the *application to connect* is submitted:

(1) at the *automatic access standards* in accordance with clause 5.3.4;

(2) at a *negotiated access standard* that has been accepted by a *Network Service Provider* in accordance with clause 5.3.4A(d)(1); or

(3) at any applicable *plant standard*;

must proceed to prepare an offer to *connect* in response.

(b) The *Network Service Provider* must use its reasonable endeavours to advise the *Connection Applicant* of all risks and obligations in respect of the proposed *connection* associated with planning and environmental laws not contained in the *Rules.*

(c) The *Connection Applicant* must provide such other additional information in relation to the *application to connect* as the *Network Service Provider* reasonably requires to assess the technical performance and costs of the required *connection* and to enable the *Network Service Provider* to prepare an offer to *connect.*

(d) So as to maintain levels of service and quality of *supply* to existing *Registered Participants* in accordance with the *Rules*, the *Network Service Provider* in preparing the offer to *connect* must consult with *NEMMCO* and other *Registered Participants* with whom it has *connection agreements*, if the *Network Service Provider* believes, in its reasonable opinion, that compliance with the terms and conditions of those *connection agreements* will be affected, in order to assess the *application to connect* and determine:

(1) the performance requirements for the equipment to be *connected*;

(2) the extent and cost of *augmentations* and changes to all affected *networks*;

(3) any consequent change in *network service* charges; and

(4) any possible material effect of this new *connection* on the *network power transfer capability* including that of other *networks*.

(e) **[Deleted]**

(f) If the *application to connect* involves the *connection* of *generating units* having a *nameplate rating* of 10 MW or greater to a *distribution network*, the *Distribution Network Service Provider* must consult the relevant *Transmission Network Service Provider* regarding the impact of the

connection contemplated by the *application to connect* on fault levels, line reclosure protocols, and stability aspects. The *Transmission Network Service Provider* must determine the reasonable costs of addressing these matters for inclusion by the *Network Service Provider* in the offer to *connect* and the *Distribution Network Service Provider* must make it a condition of the offer to *connect* that the *Connection Applicant* pay these costs.

(g) If the *application to connect* involves the *connection* of a *scheduled generating unit* or *facilities* which, when *connected*, would be a *scheduled generating unit*, the *Network Service Provider* responsible for preparing the offer to *connect* must consult *NEMMCO*.

(h) The *Network Service Provider* preparing the offer to *connect* must include provision for payment of the reasonable costs associated with *remote control equipment* and *remote monitoring equipment* as required by *NEMMCO* and it may be a condition of the offer to *connect* that the *Connection Applicant* pay such costs.

5.3.6 Offer to connect

(a) Subject to clause 5.3.3(b)(4), the *Network Service Provider* processing the *application to connect* must make an offer to *connect* the *Connection Applicant's facilities* to the *network* within the time period specified in the *preliminary program*.

(a1) The *Network Service Provider* may amend the time period referred to in clause 5.3.6(a) to allow for any additional time taken in excess of the period allowed in the *preliminary program* for the negotiation of *negotiated access standards* in accordance with clause 5.3.4A.

(b) The offer to *connect* must contain the proposed terms and conditions for *connection* to the *network* including:

(1) for each technical requirement identified by the *Network Service Provider* under clause 5.3.3(b1), the *automatic access standard* or the *negotiated access standard* as determined in accordance with clauses 5.3.4 and 5.3.4A; and

(2) the terms and conditions of the kind set out in schedule 5.6,

and must be capable of acceptance by the *Connection Applicant* so as to constitute a *connection agreement.*

(b1) The proposed terms and conditions detailed in the offer to *connect* must be no lower than the applicable *minimum access standards*.

(c) The offer to *connect* must be fair and reasonable and must be consistent with the safe and *reliable* operation of the *power system* in accordance with the *Rules*. Without limitation, unless the parties otherwise agree, to be fair and reasonable an offer to *connect* must offer *connection* and *network services* consistent with schedule 5.1 and (as applicable) schedules 5.2, 5.3 and 5.3a and must not impose conditions on the *Connection Applicant* which are more onerous than those contemplated in schedules 5.1, 5.2, 5.3 or 5.3a.

(c1) An offer to *connect* and the resulting *connection agreement* must be consistent with any minimum standards set by *NEMMCO* under clause 3.11.4(b)(1).

(d) The *Network Service Provider* must use its reasonable endeavours to provide the *Connection Applicant* with an offer to *connect* in accordance with the reasonable requirements of the *Connection Applicant*, including without limitation, the location of the proposed *connection point* and the level and standard of *power transfer capability* that the *network* will provide.

(e) The *Network Service Provider* may offer terms and conditions which vary from those contemplated by the *Rules* where relevant considerations such as geographic factors make variation necessary or desirable provided that any such conditions are reasonable and are explicitly identified in the offer to *connect*.

(f) An offer to *connect* may contain options for *connection* to a *network* at more than one point in a *network* and/or at different levels of service and with different terms and conditions applicable to each *connection point* according to the different characteristics of *supply* at each *connection point*.

(g) Both the *Network Service Provider* and the *Connection Applicant* are entitled to negotiate with each other in respect of the provision of *connection* and any other matters relevant to the provision of *connection* and, if negotiations occur, the *Network Service Provider* and the *Connection Applicant* must conduct such negotiations in good faith.

(h) An offer to *connect* must define the basis for determining *transmission* or *distribution service* charges in accordance with Chapter 6 including the prudential requirements set out in clauses 6.6 and 6.15 as appropriate.

(i) An offer to *connect* made to a *Generator* must conform with the access arrangements for *Generators* set out in clause 5.5.

(j) An offer to *connect* made to a *Market Network Service Provider* must conform with the access arrangements for *Market Network Service Providers* set out in clause 5.5A.

(k) Nothing in the *Rules* is to be read or construed as imposing an obligation on a *Network Service Provider* to effect an *extension* of a *network* unless that *extension* is required to effect or facilitate the *connection* of a *Connection Applicant* and the *connection* is the subject of a *connection agreement.*

5.3.7 Finalisation of connection agreements

(a) If the *Connection Applicant* wishes to accept an offer to *connect*, the *Connection Applicant* must:

(1) **[Deleted]**

(2) enter into a *connection agreement* with each relevant *Network Service Provider* identified in accordance with clause 5.3.3(b)(2) and, in doing so, must use its reasonable endeavours to negotiate in good faith with all parties with which the *Connection Applicant* must enter into such a *connection agreement*.

(b) The provision of *connection* by any *Network Service Provider* may be made subject to gaining environmental and planning approvals for any necessary *augmentation* or *extension* works to a *network.*

(c) Where permitted by the applicable law in the relevant *participating jurisdiction*, the *connection agreement* may assign responsibility to the *Connection Applicant* for obtaining the approvals referred to in clause 5.3.7(b) as part of the project proposal and the *Network Service Provider* must provide all reasonable information and may provide reasonable assistance for a reasonable fee to enable preparation of applications for such approvals.

(d) Subject to clause 5.3.7(c), each *connection agreement* must be based on the offer to *connect* as varied by agreement between the parties.

(e) The *Network Service Provider* responsible for the *connection point* and the *Registered Participant* must jointly advise *NEMMCO* that a *connection agreement* has been entered into between them and forward to *NEMMCO* relevant technical details of the proposed *plant* and *connection*, including, as applicable:

(1) details of all *performance standards* that form part of the terms and conditions of the *connection agreement*;

(2) if a *Generator*, the arrangements for updating the information required in accordance with clause S5.2.4(b) of schedule 5.2;

(3) the proposed *metering installation*;

(4) arrangements for the *Metering Provider* to obtain physical access to the *metering installation*; and

(5) the terms upon which a *Registered Participant* is to supply any *ancillary services* under the *connection agreement*.

(f) *NEMMCO* must, within 20 *business days* of receipt of the notice under clause 5.3.7(e), advise the relevant *Network Service Provider* and the *Registered Participant* of whether the proposed *metering installation* is acceptable for those *metering installations* associated with those *connection points* which are classified as *metering installation* types 1, 2, 3 and 4 as specified in schedule 7.2.

5.3.8 Provision and use of information

(a) The data and information to be provided by a *Connection Applicant* under this clause 5.3 must be:

(1) prepared, given and used in good faith;

(2) treated as *confidential information*; and

(3) protected from being disclosed or made available by the recipient to a third party, except for the purpose of enabling *Network Service Providers* and *NEMMCO* to assess the effect of the proposed *facility* on the performance of the *power system* and determine the extent of any required *augmentation* or *extension* or for the purpose of enabling *Network Service Providers* to advise *NEMMCO* of *ancillary services* to be provided under a *connection agreement*.

(b) A person intending to disclose information under clause 5.3.8(a)(3) must first advise the relevant *Connection Applicant* of the extent of the disclosure.

(c) If a *Connection Applicant* or *Network Service Provider* becomes aware of any material change to any information contained in or relevant to an *application to connect* then it must promptly notify the other party in writing of that change.

(d) A *Registered Participant* must, within 5 *business days* of becoming aware that any information provided to *NEMMCO* in relation to a *performance standard* or other information of a kind required to be provided to *NEMMCO* under clauses 5.3.7(e)(1) or 5.3.7(e)(2) is incorrect, advise *NEMMCO* of the correct information.

5.4 Design of Connected Equipment

5.4.1 Applicability

This clause 5.4 applies only to new installations and modifications to existing installations after 13 December 1998 (in the case of installations located in *participating jurisdictions* other than Tasmania) and after the date that Tasmania becomes a *participating jurisdiction* in the case of installations located in Tasmania).

5.4.2 Advice of inconsistencies

(a) At any stage prior to commissioning the *facility* in respect of a *connection*, the *Registered Participant* must advise the relevant *Network Service Provider* in writing of any inconsistency between the proposed equipment and the provisions of the relevant *connection agreement* and, if necessary, the *Network Service Provider* and the *Registered Participant* must negotiate in good faith any necessary changes to the *connection agreement*.

(b) If there is an inconsistency in a *connection agreement* identified in clause 5.4.2(a), the *Registered Participant* and *Network Service Provider* must not commission the *facility* in respect of a *connection* unless the facility or the *connection agreement* has been varied to remove the inconsistency.

(c) Nothing in this clause 5.4.2 affects the operation of clause 5.3.6(c1).

5.4.3 Additional information

A *Registered Participant* must provide any additional information in relation to its *plant* or associated equipment as the relevant *Network Service Provider* reasonably requests.

5.4.4 Advice on possible non-compliance

(a) If the relevant *Network Service Provider* reasonably believes that the design of a proposed *facility* has potential to adversely and materially affect the performance of the *power system*, the *Network Service Provider* may require the *Registered Participant* to submit to it specified design information and drawings to enable the *Network Service Provider* to assess the performance of the *facility* in respect of its interaction with the *power system*:

(1) after the *Registered Participant* has entered into an agreement for the supply of *plant* or associated equipment to be connected; and

(2) when the relevant contractor's designs have progressed to a point where preliminary designs are available but prior to manufacture of equipment.

(b) The *Network Service Provider* must, within 40 *business days* of receipt of such information, use its reasonable endeavours to advise the *Registered Participant* in writing of any design deficiencies which the *Network Service Provider* believes would cause the design to be inconsistent with the *connection agreement* or the *Rules*.

(c) Notwithstanding clause 5.4.4(b), it is the *Registered Participant's* sole responsibility to ensure that all *plant* and equipment associated with the *connection* complies with the *connection agreement* and the *Rules*.

5.5 Access Arrangements for Generators

(a) The *Network Service Provider* referred to in this clause 5.5 is the *Network Service Provider* required under clause 5.3.3 to process and respond to a *connection* enquiry or required under clause 5.3.5 to prepare an offer to *connect* for the provision of *network service* to a *Generator's generating unit* or group of *generating units.*

(b) If requested by the *Generator*, whether as part of a *connection* enquiry, *application to connect* or the subsequent negotiation of a *connection agreement*, the *Network Service Provider* must negotiate in good faith with the *Generator* to reach agreement in respect of the *generator access* arrangements sought by the *Generator*.

(c) As a basis for negotiations under clause 5.5(b):

(1) the *Generator* must provide to the *Network Service Provider* such information as is reasonably requested relating to the expected operation of its *generating units*; and

(2) the *Network Service Provider* must provide to the *Generator* such information as is reasonably requested to allow the *Generator* to fully assess the commercial significance of the *generator access* arrangements sought by the *Generator* and offered by the *Network Service Provider.*

(d) A *Generator* may seek *generator access* arrangements at any level of *power transfer capability* between zero and the *maximum power input* of the *Generator's generating units* or group of *generating units*.

(e) The *Network Service Provider* must use reasonable endeavours to provide the *generator access* arrangements being sought by the *Generator* subject to those arrangements being consistent with *good electricity industry practice* considering:

(1) the *connection assets* to be provided by the *Network Service Provider* or otherwise at the *connection point*; and

(2) the potential *augmentations* or *extensions* required to be undertaken on all affected *transmission networks* or *distribution networks* to provide that level of *power transfer capability* over the period of the *connection agreement* taking into account the amount of *power transfer capability* provided to other *Registered Participants* under *generator access* or *market network service provider access* arrangements in respect of all affected *transmission networks* and *distribution networks.*

(f) The *Network Service Provider* and the *Generator* must negotiate in good faith to reach agreement as appropriate on the:

(1) *connection service* charge to be paid by the *Generator* in relation to *connection assets* to be provided by the *Network Service Provider*;

(2) *use of system services* charge to be paid by the *Generator* in relation to any *augmentations* or *extensions* required to be undertaken on all affected *transmission networks* and *distribution networks* (*"negotiated use of system charges"*);

(3) **[Deleted]**

(4) amount to be paid by the *Generator* to the *Network Service Provider* in relation to the costs reasonably incurred by the *Network Service Provider* in providing *generator access*;

(5) compensation to be provided by the *Network Service Provider* to the *Generator* in the event that the *generating units* or group of *generating units* of the *Generator* are *constrained off* or *constrained on* during a *trading interval*; and

(6) compensation to be provided by the *Generator* to the *Network Service Provider* in the event that *dispatch* of the *Generator's generating units* or group of *generating units* causes another *Generator's generating units* or group of *generating units* to be *constrained off* or *constrained on* during a *trading interval*.

(g) The maximum charge that can be applied by the *Network Service Provider* in respect of *negotiated use of system charges* for the *transmission network* and/or *distribution network* is that determined in accordance with schedule 6.3.

(h) A *Distribution Network Service Provider* must pass through to an *Embedded Generator* the amount calculated in accordance with clause 5.5(i) for *Customer TUOS usage charges* that would have been payable by the *Distribution Network Service Provider* to a *Transmission Network Service Provider* had the *Embedded Generator* not been *connected* to its *distribution network* (*"avoided Customer TUOS usage charges"*).

(i) To calculate the amount to be passed through to an *Embedded Generator* in accordance with clause 5.5(h), a *Distribution Network Service Provider* must, if *Customer TUOS usage prices* were in force at the relevant *transmission network connection point* throughout the relevant *financial year*:

(1) determine the *Customer TUOS usage charges* that would have been payable by the *Distribution Network Service Provider* for the relevant *financial year* if the *Embedded Generator* had not injected any *energy* at its *connection point* during that *financial year*; and

(2) determine the amount by which the charges calculated in clause 5.5(i)(1) exceed the *Customer TUOS usage charges* actually payable by the *Distribution Network Service Provider*, which amount will be the relevant amount for the purposes of clause 5.5(h).

Where *Customer TUOS usage prices* were not in force at the relevant *transmission network connection point* throughout the relevant *financial year*, the *Distribution Network Service Provider* must apply an equivalent procedure to that described above in relation to that component of its *transmission use of system service* charges which is deemed by the relevant *Transmission Network Service Provider* to represent the marginal cost of *transmission*, less an allowance for locational signals present in the *spot market*, to determine the relevant amount for the purposes of clause 5.5(h).

(j) Any payments to *Generators* and *Embedded Generators* under clause 5.5(h) are to be included as part of the *aggregate annual revenue requirement* of the relevant *Transmission Network Service Provider* or *Distribution Network Service Provider*, respectively, and are to be recovered in the same manner as payments to *Embedded Generators* under clauses 6.13.3(c) and (d) (except that, where the *Generator* is *connected* to a *transmission network*, all references in clause 6.13.3(d) and schedule 6.3 to "*distribution*" are to be read as references to "*transmission*").

5.5A Access Arrangements for Market Network Service Providers

(a) This clause 5.5A applies to circumstances in which a *Market Network Service Provider* has made a *connection* enquiry under clause 5.3.2 or has made an *application to connect* under clause 5.3.4 in relation to *network elements* used in the provision of a *market network service.*

(b) The other *Network Service Provider* referred to in this clause 5.5A is a *Network Service Provider* required under clause 5.3.3 to process and respond to the *connection* enquiry referred to in clause 5.5A(a) or required under clause 5.3.5 to prepare an offer to *connect* in response to the *application to connect* referred to in clause 5.5.A(a).

(c) If requested by the *Market Network Service Provider*, whether as part of the *connection* enquiry, *application to connect* or the subsequent negotiation of

a *connection agreement*, the *Network Service Provider* must negotiate in good faith with the *Market Network Service Provider* to reach agreement in respect of the *market network service provider access* arrangements sought by the *Market Network Service Provider*.

(d) As a basis for negotiations under clause 5.5A(c):

(1) the *Market Network Service Provider* must provide to the *Network Service Provider* such information as is reasonably requested relating to the expected operation of its *network elements*; and

(2) the *Network Service Provider* must provide to the *Market Network Service Provider* such information as is reasonably requested to allow the *Market Network Service Provider* to fully assess the commercial significance of the *market network service provider access* arrangements sought by the *Market Network Service Provider* and offered by the *Network Service Provider*.

(e) A *Market Network Service Provider* may seek *market network service provider access* arrangements at any level of *power transfer capability* between zero and the *power transfer capability* of the *network elements* referred to in clause 5.5A(a).

(f) The *Network Service Provider* must use reasonable endeavours to provide the *market network service provider access* arrangements being sought by the *Market Network Service Provider* subject to those arrangements being consistent with *good electricity industry practice* considering:

(1) the *connection assets* to be provided by the *Network Service Provider* or otherwise at the *connection point*; and

(2) the potential *augmentations* or *extensions* required to be undertaken on all affected *transmission networks* or *distribution networks* to provide that level of *power transfer capability* over the period of the *connection agreement* taking into account the amount of *power transfer capability* provided to other *Registered Participants* under *generator access* or *market network service provider access* arrangements in respect of all affected *transmission networks* and *distribution networks*.

(g) The *Network Service Provider* and the *Market Network Service Provider* must negotiate in good faith to reach agreement as appropriate on the:

(1) *connection service* charge to be paid by the *Market Network Service Provider* in relation to *connection assets* to be provided by the *Network Service Provider*;

(1A) service level standards to which the *Market Network Service Provider* requires the *Network Service Provider* to adhere in providing it services;

(2) *use of system services* charge to be paid:

(A) to the *Market Network Service Provider* in respect of any reduction in the long run marginal cost of *augmenting* the *network* as a result of it being *connected* to the *network;* and

(B) by the *Market Network Service Provider* in relation to any *augmentations* or *extensions* required to be undertaken in respect of all affected *transmission networks* and *distribution networks*.

("*negotiated use of system charges*");

(3) amount to be paid by the *Market Network Service Provider* to the *Network Service Provider* in relation to the costs reasonably incurred by the *Network Service Provider* in providing *market network service provider access*;

(4) compensation to be provided by the *Network Service Provider* to the *Market Network Service Provider* in the event that the relevant *market network service provider access* is not provided; and

(5) compensation to be provided by the *Market Network Service Provider* to the *Network Service Provider* in the event that *dispatch* of the relevant *market network service* causes a *Generator's generating units* or group of *generating units* to be *constrained off* or *constrained on* during a *trading interval* or causes the *dispatch* of another *market network service* to be *constrained*.

(h) The maximum charge that can be applied by the *Network Service Provider* in respect of *negotiated use of system charges* for the *transmission network* and/or *distribution network* is that determined in accordance with the methods specified for *Generators* in schedule 6.3, except that references to "*Generators*" in that schedule are to be read as references to "*Market Network Service Providers*" together with any other necessary changes.

(i) A *Distribution Network Service Provider* must pass through to a *Market Network Service Provider* the amount calculated in accordance with clause 5.5A(j) for *Customer TUOS usage charges* that would have been payable by the *Distribution Network Service Provider* to a *Transmission Network Service Provider* had the *Market Network Service Provider* not been *connected* to its *distribution network* ("*avoided Customer TUOS usage charges*").

(j) To calculate the amount to be passed through to a *Market Network Service Provider* in accordance with clause 5.5A(i), a *Distribution Network Service Provider* must, if *Customer TUOS usage prices* were in force at the relevant *transmission network connection point* throughout the relevant *financial year*:

(1) determine the *Customer TUOS usage charges* that would have been payable by the *Distribution Network Service Provider* for the relevant *financial year* if the *Market Network Service Provider* had not been *connected* to the *Distribution Network Service Provider's distribution network* during that *financial year*; and

(2) determine the amount by which the charges calculated in clause 5.5A(j)(1) exceed the *Customer TUOS usage charges* actually payable by the *Distribution Network Service Provider*, which amount will be the relevant amount for the purposes of clause 5.5A(i).

Where *Customer TUOS usage prices* were not in force at the relevant *transmission network connection point* throughout the relevant *financial year*, the *Distribution Network Service Provider* must apply an equivalent procedure to that described above in relation to that component of its *transmission use of system service* charges which is deemed by the relevant *Transmission Network Service Provider* to represent the marginal cost of *transmission*, less an allowance for locational signals present in the *spot market*, to determine the relevant amount for the purposes of clause 5.5A(i).

(k) Any payments to *Market Network Service Providers* under clauses 5.5A(g)(2) and 5.5A(i) are to be included as part of the *aggregate annual revenue requirement* of the relevant *Transmission Network Service Provider* or *Distribution Network Service Provider*, respectively, and are to be recovered in the same manner as payments to *Embedded Generators* under clauses 6.13.3(c) and (d) (except that, where the *Market Network Service Provider* is *connected* to a *transmission network*, all references in clause 6.13.3(d) and schedule 6.3 to "*distribution*" are to be read as references to "*transmission*").

5.6 Planning and Development of Network

5.6.1 Forecasts for connection points to transmission network

(a) The relevant *Network Service Provider* must give at least 40 *business days'* written notice to each relevant *Registered Participant* of the annual date by which the *Registered Participant* must provide the relevant *Network Service Provider* with the short and long term electricity *generation, market network service* and *load* forecast information listed in schedule 5.7 in relation to each *connection point* which *connects* the *Registered Participant* to a *transmission network* of that *Network Service Provider* and any other

relevant information as reasonably required by the *Network Service Provider*.

(b) Details of planned future *generating units*, *market network services* and *loads*, being details regarding the proposed commencing date, *active power capability* and *reactive power capability*, *power transfer capability*, operating times/seasons and special operating requirements, must be given by each relevant *Registered Participant* to the relevant *Network Service Provider* on reasonable request.

(c) Each relevant *Registered Participant* must use reasonable endeavours to provide accurate information under clause 5.6.1(a) which must include details of any factors which may impact on *load* forecasts or proposed *facilities* for *generation* or *market network services*.

(d) If the *Network Service Provider* reasonably believes any forecast information to be inaccurate, the *Network Service Provider* may modify that forecast information and must advise the relevant *Registered Participant* and *NEMMCO* in writing of this action and the reason for the modification. The *Network Service Provider* is not responsible for any adverse consequences of this action or for failing to modify forecast information under this clause 5.6.1(d).

5.6.2 Network Development

(a1) The terms *Network Service Provider*, *Transmission Network Service Provider* and *Distribution Network Service Provider* when used in this clause 5.6.2 are not intended to refer to, and are not to be read or construed as referring to, any *Network Service Provider* in its capacity as a *Market Network Service Provider*.

(a2) **[Deleted]**

(a) Each *Transmission Network Service Provider* and *Distribution Network Service Provider* must analyse the expected future operation of its *transmission networks* or *distribution networks* over an appropriate planning period, taking into account the relevant forecast *loads*, any future *generation*, *market network service*, demand side and *transmission* developments and any other relevant data.

(b) Each *Transmission Network Service Provider* must conduct an annual planning review with each *Distribution Network Service Provider connected* to its *transmission network* within each *region.* The annual planning review must incorporate the forecast *loads* submitted by the *Distribution Network Service Provider* in accordance with clause 5.6.1 or as modified in accordance with clause 5.6.1(d) and must include a review of the adequacy of existing *connection points* and relevant parts of the *transmission system* and planning proposals for future *connection points*.

(c) Where the necessity for *augmentation* or a non-network alternative is identified by the annual planning review conducted under clause 5.6.2(b), the relevant *Network Service Providers* must undertake joint planning in order to determine plans that can be considered by relevant *Registered Participants*, *NEMMCO* and *interested parties.*

(d) The minimum planning period for the purposes of the annual planning review is 5 years for *distribution networks* and 10 years for *transmission networks.*

(e) Each *Network Service Provider* must extrapolate the forecasts provided to it by *Registered Participants* for the purpose of planning and, where this analysis indicates that any relevant technical limits of the *transmission or distribution systems* will be exceeded, either in normal conditions or following the contingencies specified in schedule 5.1, the *Network Service Provider* must notify any affected *Registered Participants* and *NEMMCO* of these limitations and advise those *Registered Participants* and *NEMMCO* of the expected time required to allow the appropriate corrective network *augmentation* or non-*network* alternatives, or modifications to *connection facilities* to be undertaken.

(f) Within the time for corrective action notified in clause 5.6.2(e) the relevant *Distribution Network Service Provider* must consult with affected *Registered Participants*, *NEMMCO* and *interested parties* on the possible options, including but not limited to demand side options, *generation* options and *market network service* options to address the projected limitations of the relevant *distribution system* except that a *Distribution Network Service Provider* does not need to consult on a *network* option which would be a *new small distribution network asset*.

(g) Each *Distribution Network Service Provider* must carry out an economic cost effectiveness analysis of possible options to identify options that satisfy the *regulatory test*, while meeting the technical requirements of schedule 5.1, and where the *Network Service Provider* is required by clause 5.6.2(f) to consult on the option this analysis and allocation must form part of the consultation on that option.

(h) Following conclusion of the process outlined in clauses 5.6.2(f) and (g), the *Distribution Network Service Provider* must prepare a report that is to be made available to affected *Registered Participants, NEMMCO* and *interested parties* which:

(1) includes assessment of all identified options;

(2) includes details of the *Distribution Network Service Provider's* preferred proposal and details of:

(A) its economic cost effectiveness analysis in accordance with clause 5.6.2(g); and

(B) its consultations conducted for the purposes of clause 5.6.2(g);

(3) summarises the submissions from the consultations; and

(4) recommends the action to be taken.

(i) *Registered Participants* may dispute the recommendation of the report prepared under clause 5.6.2(h) within 40 *business days* after the report is made available in respect of any proposal that is a *new large distribution network asset* or is reasonably likely to change the *distribution use of system service* charges applicable to that *Registered Participant* by more than 2% at the date of the next price review, based on the assumption that the same approach to *distribution network* pricing is taken for the next review period as that taken for the current review period.

(j) Where any *Registered Participant* disputes a recommendation under clause 5.6.2(i), the *Distribution Network Service Provider* and the affected *Registered Participants* must negotiate in good faith with a view to reaching agreement on the action to be taken.

(k) Following:

(1) completion of the 40 *business day* period referred to in clause 5.6.2(i) or on resolution of any dispute in accordance with clause 8.2, in relation to proposals to which clause 5.6.2(j) applies; or

(2) completion of the report referred to in clause 5.6.2(h), in relation to any other *network* option recommended by the report,

the relevant *Distribution Network Service Provider* must arrange for the *network* options (if any) recommended by its report made in accordance with clause 5.6.2(h) to be available for service by the agreed time.

(k1) The *Distribution Network Service Provider* must include the cost of the relevant assets of the *network options* referred to in clause 5.6.2(k) in the calculation of *distribution service* prices determined in accordance with Chapter 6.

(l) If a *use of system service* or the provision of a service at a *connection point* is directly affected by a *transmission network* or *distribution network augmentation,* appropriate amendments to relevant *connection agreements* must be negotiated in good faith between the parties to them.

(m) Where the relevant *Transmission Network Service Provider* or *Distribution Network Service Provider* decides to implement a *generation* option as an alternative to *network augmentation*, the *Network Service Provider* must:

(1) register the *generating unit* with *NEMMCO* and specify that the *generating unit* may be periodically used to provide a *network* support function and will not be eligible to set *spot prices* when *constrained on* in accordance with clause 3.9.7; and

(2) include the cost of this *network* support service in the calculation of *transmission service* and *distribution service* prices determined in accordance with Chapter 6.

(n) *NEMMCO* must provide to the *Inter-Regional Planning Committee*, and to other *Network Service Providers* on request, a copy of any report provided to *NEMMCO* by a *Network Service Provider* under clause 5.2.3(d)(12). If a *Registered Participant* reasonably considers that it is or may be adversely affected by a development or change in another *region*, the *Registered Participant* may request the preparation of a report by the relevant *Network Service Provider* as to the technical impacts of the development or change. If so requested, the *Network Service Provider* must prepare such a report and provide a copy of it to *NEMMCO*, the *Registered Participant* requesting the report and, on request, any other *Registered Participant*.

5.6.2A Annual Planning Report

(a) By 30 June each year all *Transmission Network Service Providers* must *publish* an *Annual Planning Report* setting out the results of the annual planning review conducted in accordance with clause 5.6.2(a) and (b).

(b) The *Annual Planning Report* must set out:

(1) the forecast *loads* submitted by a *Distribution Network Service Provider* in accordance with clause 5.6.1 or as modified in accordance with clause 5.6.1(d);

(2) planning proposals for future *connection points*;

(3) a forecast of *constraints* and inability to meet the *network* performance requirements set out in schedule 5.1 or relevant legislation or regulations of a *participating jurisdiction* over 1, 3 and 5 years;

(4) for all proposed *augmentations* to the *network* the following information, in sufficient detail relative to the size or significance of the project and the proposed operational date of the project:

(i) project/asset name and the month and year in which it is proposed that the asset will become operational;

(ii) the reason for the actual or potential *constraint*, if any, or inability, if any, to meet the *network* performance requirements

set out in schedule 5.1 or relevant legislation or regulations of a *participating jurisdiction*, including *load* forecasts and all assumptions used;

(iii) the proposed solution to the *constraint* or inability to meet the *network* performance requirements identified in clause 5.6.2A(b)(4)(ii), if any;

(iv) total cost of the proposed solution;

(v) whether the proposed solution will have a *material inter-network impact*. In assessing whether an *augmentation* to the *network* will have a *material inter-network impact* a *Transmission Network Service Provider* must have regard to the objective set of criteria *published* by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(i) (if any such criteria have been *published* by the *Inter-regional Planning Committee*); and

(vi) other reasonable *network* and non-*network* options considered to address the actual or potential *constraint* or inability to meet the *network* performance requirements identified in clause 5.6.2A(b)(4)(ii), if any. Other reasonable *network* and non-*network* options include, but are not limited to, *interconnectors*, *generation* options, demand side options, *market network service* options and options involving other *transmission* and *distribution networks*;

(5) for all proposed *new small transmission network assets*:

(i) an explanation of the ranking of reasonable alternatives to the project including non-*network* alternatives. This ranking must be undertaken by the *Transmission Network Service Provider* in accordance with the principles contained in the *regulatory test*;

(ii) an *augmentation technical report* prepared by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(j) if, and only if, the asset is reasonably likely to have a *material inter-network impact* and the *Transmission Network Service Provider* has not received the consent to proceed with the proposed solution from all *Transmission Network Service* Providers whose *transmission networks* are materially affected by the *new small transmission network asset*. In assessing whether a *new small transmission network asset* is reasonably likely to have a *material inter-network impact*, a *Transmission Network Service Provider* must have regard to the objective set of criteria *published* by the *Inter-regional Planning Committee*

in accordance with clause 5.6.3(i) (if any such criteria have been *published* by the *Inter-regional Planning Committee*); and

(iii) analysis of why the *Transmission Network Service Provider* considers that the *new small transmission network asset* satisfies the *regulatory test* and, where the *Transmission Network Service Provider* considers that the *new small transmission network asset* satisfies the *regulatory test* as the *new small transmission network asset* is a *reliability augmentation*, analysis of why the *Transmission Network Service Provider* considers that the *new small transmission network asset* is a *reliability augmentation*. In assessing whether a *new small transmission network asset* is a *reliability augmentation*, a *Transmission Network Service Provider* must consider whether the *new small transmission network asset* satisfies the criteria for a *reliability augmentation published* by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(l) (if any such criteria have been *published* by the *Inter-regional Planning Committee*).

5.6.3 Inter-regional planning committee

(a) *NEMMCO* must establish an *Inter-regional Planning Committee*. The functions of the *Inter-regional Planning Committee* include to:

(1) provide such assistance as *NEMMCO* reasonably requests in connection with the preparation of the *statement of opportunities* and any update of it;

(2) provide such assistance as *NEMMCO* reasonably requests in connection with the carrying out of the *ANTS review*;

(3) *publish* an objective set of criteria for assessing whether a proposed *transmission network augmentation* is reasonably likely to have a *material inter-network impact* in accordance with clause 5.6.3(i);

(4) *publish augmentation technical reports* in accordance with clause 5.6.3(j);

(5) *publish* an objective set of criteria for assessing whether a proposed *new small transmission network asset* or *new large transmission network asset* is a *reliability augmentation*, in accordance with clause 5.6.3(l);

(6) *publish* guidelines to assist *Registered Participants* to determine when an *inter-network test* may be required, in accordance with clause 5.7.7(k); and

(7) make recommendations to *NEMMCO* in relation to draft *test programs* in accordance with clause 5.7.7(o) and (q).

(b) The *Inter-regional Planning Committee* is to consist of:

(1) a *NEMMCO representative* as *Convener* of the *Inter-regional Planning Committee*;

(2) a *representative* from any entity that has been nominated by the relevant *Minister* of a *participating jurisdiction* as having *transmission system* planning responsibility in that *participating jurisdiction*; and

(3) such other persons appointed by *NEMMCO* that *NEMMCO* considers have the appropriate expertise to be members of the *Inter-regional Planning Committee*,

provided that a person appointed under clause 5.6.3(b)(2) must not take part in any decision or determination of the *Inter-regional Planning Committee* where the entity which they represent has a material financial interest in the matter to be decided or determined by the *Inter-regional Planning Committee*.

(c) A person appointed under clause 5.6.3(b)(2) will serve on the *Inter-regional Planning Committee* until such time as the relevant entity nominates a different person or the *Minister* of the *participating jurisdiction* who nominated the relevant entity notifies *NEMMCO* that another entity is to replace the previous entity as having *transmission system* planning responsibility in that *participating jurisdiction*.

(d) The term of office of members appointed under clause 5.6.3(b)(3) may be terminated at any time by *NEMMCO*.

(e) The *Inter-regional Planning Committee* must meet during the year at a frequency to be determined by the *Inter-regional Planning Committee*.

(f) The *Convener* of the *Inter-regional Planning Committee* must convene a meeting of the *Inter-regional Planning Committee* within a reasonable time after a reasonable request from a member of the *Inter-regional Planning Committee* is received setting out the business to be considered.

(g) *NEMMCO* and each entity from which a member of the *Inter-regional Planning Committee* has been appointed under clause 5.6.3(b)(2) must procure the availability of reasonable resources to enable the *Inter-regional Planning Committee* to carry out its responsibilities.

(h) *NEMMCO* and each entity from which a member of the *Inter-regional Planning Committee* has been appointed under clause 5.6.3(b)(2) must share the costs involved in conducting studies and analysis required to be

undertaken by the *Inter-regional Planning Committee* under the *Rules* on a basis to be agreed between them.

(i) The *Inter-regional Planning Committee* must develop and *publish*, and may vary from time to time, an objective set of criteria for assessing whether or not a proposed *transmission network augmentation* is reasonably likely to have a *material inter-network impact*, in accordance with the *Rules consultation procedures*. In developing the objective set of criteria referred to in this clause, the *Inter-regional Planning Committee* must have regard to the relevant guiding objectives and principles provided by the *AEMC* in accordance with clause 5.6.3(n).

(j) Immediately upon receipt of a written request for an *augmentation technical report*, which must include sufficient information to enable the *Inter-regional Planning Committee* to carry out a review pursuant to this clause 5.6.3(j), together with payment of any reasonable fees to recover the *Inter-regional Planning Committee's* direct costs and expenses of the preparation of the *augmentation technical report*, the *Inter-regional Planning Committee* must:

(1) undertake a review of all matters referred to it by the *Transmission Network Service Provider* in order to assess the *augmentation* proposal and determine:

(i) the performance requirements for the equipment to be *connected*;

(ii) the extent and cost of *augmentations* and changes to all affected *transmission networks*; and

(iii) the possible material effect of the *new connection* on the *network power transfer capability* including that of other *transmission networks*;

(2) within 90 *business days*, or such other period as may be agreed by the *Transmission Network Service Provider* and the *Inter-Regional Planning Committee*, of receipt of such written request *publish* an *augmentation technical report*. The *Inter-Regional Planning Committee* must use reasonable endeavours to *publish* an *augmentation technical report* in as short a period as is reasonably practicable. The *augmentation technical report* must set out:

(i) the determinations of the *Inter-Regional Planning Committee* referred to in clause 5.6.3 (j)(1);

(ii) the information considered; and

(iii) the assumptions used.

(k) For the purposes of clause 5.6.3(j), the period in which the *Inter-regional Planning Committee* must *publish* an *augmentation technical report* will be automatically extended by the period of time taken by the *Transmission Network Service Provider* to provide additional information requested by the *Inter-regional Planning Committee*.

(l) The *Inter-regional Planning Committee* must develop and *publish*, and may vary from time to time, an objective set of criteria for assessing whether a proposed *new small transmission network asset* or *new large transmission network asset* is a *reliability augmentation*, in accordance with the *Rules consultation procedures*. In developing the objective set of criteria referred to in this clause, the *Inter-regional Planning Committee* must have regard to the relevant guiding objectives and principles provided by the *AEMC* in accordance with clause 5.6.3(n).

(m) Should the objective set of criteria referred to in clauses 5.6.3(i) or (l) be changed after an application notice (referred to in clause 5.6.6(b)) has been made available to *Registered Participants* and *NEMMCO*, in the case of a *new large transmission network asset*, or after the *publication* of the *Annual Planning Report*, in the case of a *new small transmission network asset*, then the relevant *Network Service Provider* is entitled to choose whether the new criteria, or the criteria that existed at the time the application notice was made available to *Registered Participants* and *NEMMCO* or the *Annual Planning Report* was *published*, is to be applied.

(n) The AEMC must, in consultation with *NEMMCO*, provide the *Inter-regional Planning Committee* with guiding objectives and principles for the development by the *Inter-regional Planning Committee* of the criteria for assessing whether a proposed *transmission network augmentation* is reasonably likely to have a *material inter-network impact* and/or whether a proposed *new small transmission network asset* or *new large transmission network asset* is a *reliability augmentation* under clauses 5.6.3(i) and 5.6.3(l), respectively.

5.6.4 [Deleted]

5.6.5 Annual National Transmission Statement

(a) *NEMMCO* must each year conduct a review of:

(1) *national transmission flow paths*;

(2) forecast *constraints* in respect of *national transmission flow paths*;

(3) those options which, in *NEMMCO's* reasonable opinion, have the technical capability of relieving forecast *constraints* in respect of *national transmission flow paths*,

and prepare and *publish* an *Annual National Transmission Statement* by 31 October each year setting out the results of that review.

(b) *NEMMCO* must, in the course of conducting the *ANTS review*, consult with *Registered Participants* and *interested parties* in relation to:

(1) the data and assumptions to be used as part of the *ANTS review*; and

(2) the content of the *Annual National Transmission Statement*.

(c) In carrying out the *ANTS review*, *NEMMCO* must consider the following:

(1) the location of the current *national transmission flow paths* and the current capacities, *constraints* and congestion points on those flow paths;

(2) the location of the potential *national transmission flow paths* over the next 10 years, and the likely capacities, *constraints* and congestion points on those flow paths;

(3) the quantity of electricity which flowed, the periods in which the electricity flowed, and *constraints*, on the *national transmission flow paths* over the previous *financial year* or such other period as determined by *NEMMCO* having regard to data which is available to *NEMMCO*;

(4) the forecast quantity of electricity which is expected to flow, and the periods in which the electricity is expected to flow, the magnitude and significance of future *network losses* and *constraints* on the current and potential *national transmission flow paths* over the current *financial year* or such other period as determined by *NEMMCO* having regard to data which is available to *NEMMCO*;

(5) the projected capabilities of the existing *transmission network* and the *network control ancillary services* required to support existing and future *transmission network* capabilities;

(6) demand forecasts for the next 10 *financial years*;

(7) possible scenarios for additional *generation* and demand side options to meet demand forecasts;

(8) relevant intra-jurisdictional developments and any incremental works which may be needed to co-ordinate *national transmission flow path* planning with intra-jurisdictional planning;

(9) those *transmission network* options for relieving forecast *constraints* on the *national transmission flow paths*, which in *NEMMCO's* opinion, deliver technically feasible solutions that meet the projected

capabilities, demands, congestion and capacity for the *generation* expansion scenarios, taking into account committed projects; and

(10) such other matters as *NEMMCO*, in consultation with the *participating jurisdictions*, considers are appropriate.

(d) In considering the matters described in clause 5.6.5(c), *NEMMCO* must have regard to:

(1) the *Annual Planning Reports published* in the year in which the *ANTS review* is being conducted; and

(2) information obtained for the purposes of preparing the *statement of opportunities* to be *published* in the year in which the *ANTS review* is being conducted,

and may include information from the *Annual Planning Reports* and the *statement of opportunities* in the *Annual National Transmission Statement*.

(e) In carrying out the *ANTS review*, *NEMMCO* may seek the assistance of the *Inter-regional Planning Committee*.

(f) *NEMMCO* may by written notice request an entity nominated under clause 5.6.3(b)(2) to provide *NEMMCO* with any additional information or documents reasonably available to it that *NEMMCO* reasonably requires for the purpose of the *ANTS review*.

(g) An entity nominated under clause 5.6.3(b)(2) must comply with a written notice from *NEMMCO* issued pursuant to clause 5.6.5(f).

(h) *NEMMCO* may only use information or documents provided in accordance with clauses 5.6.5(f) and 5.6.5(g) for the purpose of preparing the *Annual National Transmission Statement* or, where relevant, the *statement of opportunities* or any update of it.

5.6.5A Regulatory Test

The *AER* must:

(a) promulgate the *regulatory test* (and may vary the *regulatory test* from time to time);

(b) have regard to the need to ensure that the *regulatory test* is consistent with the basis of asset valuation determined by the *AER* for the purposes of clause 6.2.3; and

(c) have regard to the obligations imposed on *Network Service Providers* to meet the *network* performance requirements set out in schedule 5.1 and

relevant legislation and regulations of a *participating jurisdiction*, in developing and maintaining the *regulatory test*.

5.6.6 Applications to establish new large transmission network assets

(a) In addition to the process and procedures to establish a *connection* to a *network* in clause 5.3, all applications to establish a *new large transmission network asset* must conform to the access arrangements in this clause 5.6.6 and follow the process set out in this clause 5.6.6.

(b) An applicant who proposes to establish a *new large transmission network asset* must consult all *Registered Participants*, *NEMMCO* and *interested parties* about the proposed *new large transmission network asset* in accordance with this clause 5.6.6. The applicant must make available to all *Registered Participants* and *NEMMCO* a notice *(*an *'application notice')* which must set out:

(1) a detailed description of:

(i) the proposed *new large transmission network asset*;

(ii) the reasons for proposing to establish the *new large transmission network asset* (including, where applicable, the actual or potential *constraint* or inability to meet the *network* performance requirements set out in schedule 5.1 or relevant legislation or regulations of a *participating jurisdiction*, including *load* forecasts and all assumptions used); and

(iii) all other reasonable *network* and non-*network* alternatives to address the identified *constraint* or inability to meet the *network* performance requirements identified in clause 5.6.6(b)(1)(ii). These alternatives include, but are not limited to, *interconnector*s, *generation* options, demand side options, *market network service* options and options involving other *transmission* and *distribution networks*;

(2) all relevant technical details concerning the proposed *new large transmission network asset* and the construction timetable and commissioning date for the *new large transmission network asset*;

(3) an analysis of the ranking of the proposed *new large transmission network asset* and all reasonable alternatives. This ranking must be undertaken by the applicant in accordance with the principles contained in the *regulatory test*;

(4) an *augmentation technical report* prepared by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(j) if, and only if, the asset is reasonably likely to have a *material inter-network impact*

and the applicant has not received the consent to proceed with such construction from all *Transmission Network Service Providers* whose *transmission networks* will be materially affected by the *new large transmission network asset*. In assessing whether a *new large transmission network asset* is reasonably likely to have a *material inter-network impact*, an applicant must have regard to the objective set of criteria *published* by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(i) (if any such criteria have been *published* by the *Inter-regional Planning Committee*); and

(5) detailed analysis of why the applicant considers that the *new large transmission network asset* satisfies the *regulatory test* and, where the applicant considers that the *new large transmission network asset* satisfies the *regulatory test* as the *new large transmission network asset* is a *reliability augmentation*, analysis of why the applicant considers that the *new large transmission network asset* is a *reliability augmentation*. In assessing whether a *new large transmission network asset* is a *reliability augmentation*, the applicant must consider whether the *new large transmission network asset* satisfies the criteria for a *reliability augmentation published* by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(l) (if any such criteria have been *published* by the *Inter-regional Planning Committee*).

(c) The applicant must provide a summary of the *application notice* to *NEMMCO*. Within 3 *business days* of receipt of the summary, *NEMMCO* must *publish* the summary on its website. The applicant must, upon request by an *interested party*, provide a copy of the *application notice* to the *interested party* within 3 *business days* of the request.

(d) Within 30 *business days* of publication of the summary of the *application notice* on *NEMMCO's* website *interested parties* may make written submissions to the applicant on any matter in the *application notice*. A written submission may state whether the *interested party* considers that a meeting is necessary.

(e) The applicant must consider all submissions received in accordance with the requirements of clause 5.6.6(d) within a further 30 *business days*. The applicant must use its best endeavours to hold meetings with *interested parties* who have requested meetings within a further 21 *business days* if:

(1) after having considered all submissions received in accordance with the requirements of clause 5.6.6(d), it concludes that it is desirable or necessary to hold any such meetings; or

(2) a meeting is requested by 2 or more *interested parties*.

(f) The applicant must prepare a final report, that is to be made available to all *Registered Participants, NEMMCO* and *interested parties* who responded to the *application notice*, which must set out the matters detailed in clause 5.6.6(b) and summarises the submissions received from *interested parties* and the applicant's response to each such submission.

(g) The applicant must provide a summary of the final report to *NEMMCO*. Within 3 *business days* of receipt of the summary, *NEMMCO* must publish the summary on its website.

(h) *Registered Participants*, *NEMMCO* and *interested parties* may dispute the contents, assumptions, findings or recommendations of the final report prepared under clause 5.6.6(f) with respect to:

(1) possible alternatives considered and their ranking under clause 5.6.6(b)(3);

(2) whether the *new large transmission network asset* will have a *material inter-network impact*;

(3) the basis on which the applicant has assessed that the *new large transmission network asset* satisfies the *regulatory test*; and

(4) whether the *new large transmission network asset* is a *reliability augmentation* and (if any such criteria had been *published* by the *Inter-regional Planning Committee* at the time of preparation of the final report under clause 5.6.6(f)) whether the *new large transmission network asset* satisfies the criteria for a *reliability augmentation published* by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(l),

using the dispute resolution process in clause 8.2. The Stage 1 dispute resolution process set out in clause 8.2.4 does not apply to a dispute of a type referred to in this clause 5.6.6(h) and the dispute must be referred to the *Adviser* under clause 8.2.5 within 30 *business days* after publication of the summary of the final report on *NEMMCO's* website. For the avoidance of doubt, *Registered Participants*, *NEMMCO* and *interested parties* may not dispute any matters set out in the final report prepared in accordance with clause 5.6.6(f) which are regarded as externalities by the *regulatory test*.

(i) Where a dispute is referred to the *Adviser* in accordance with clause 5.6.6(h), clause 8.2 applies generally to the dispute (subject to clause 5.6.6(h)) except to the extent that the following provisions apply to the dispute:

(1) The *Adviser* must refer the dispute for resolution by a *DRP* under clause 8.2.5(c)(2) and must not attempt to resolve the dispute in accordance with clause 8.2.5(c)(1).

(2) The *DRP* may only extend the time for determination of the dispute with the agreement of the *AER* and of all parties to the dispute.

(3) The *DRP* may only determine factual issues referred to it, except to the extent that clauses 5.6.6(i)(4) and (5) expressly provide to the contrary.

(4) The *DRP* may determine, in a dispute regarding the contents of the final report prepared under clause 5.6.6(f), that the final report prepared in accordance with clause 5.6.6(j) include findings or recommendations on specified matters.

(5) The *DRP* may determine whether the *new large transmission network asset* will have a *material inter-network impact* and/or is a *reliability augmentation*. In doing so, the *DRP* must take into account the *Inter-regional Planning Committee*'s objective set of criteria for assessing whether the *new large transmission network asset* is reasonably likely to have a *material inter-network impact* or whether it is a *reliability augmentation* (if any such criteria had been *published* by the *Inter-regional Planning Committee* at the time of preparation of the final report under clause 5.6.6(f)).

(6) The *DRP* cannot determine whether the *new large transmission network asset* satisfies the *regulatory test*.

(7) The *DRP* has the power to disregard any frivolous matter set out by the *complainant* or raised by a party in the dispute resolution process.

(8) The *DRP* has power to bar any person from further participation in the dispute resolution process.

(9) All disputes relating to the same *new large transmission network asset* must be determined contemporaneously in the same proceeding by the *DRP*.

(10) The *DRP* must *publish* the reasons for its determination.

(j) Following the resolution of a dispute raised in accordance with clause 5.6.6(h), the applicant must *publish* a final report which includes the matters set out in clause 5.6.6(f), incorporating any agreed or amended matters and any determination by the *DRP*.

(k) The applicant must provide a summary of the final report prepared in accordance with clause 5.6.6(j) to *NEMMCO*. Within 3 *business days* of receipt of the summary, *NEMMCO* must publish the summary on its website. The applicant must, upon request by an *interested party*, provide a copy of the final report prepared in accordance with clause 5.6.6(j) to the *interested party* within 3 *business days* of the request.

(l) *Registered Participants*, *NEMMCO* and *interested parties* may dispute the finding in a final report prepared in accordance with clause 5.6.6(j), or if no dispute is raised under clause 5.6.6(h) a final report prepared in accordance with clause 5.6.6(f), that the *new large transmission network asset* satisfies the *regulatory test*, provided the *new large transmission network asset* is not a *reliability augmentation*. To be valid, the dispute must be raised within 10 *business days* after *publication* of the final report as described in clause 5.6.6(j) or, if no dispute is raised in accordance with clause 5.6.6(h), within 10 *business days* after the time allowed for raising a valid dispute under clause 5.6.6(h) ends.

(m) Where a dispute is raised in accordance with clause 5.6.6(l), the applicant must apply to the *AER* for a determination whether the *new large transmission network asset* satisfies the *regulatory test* prior to construction.

(n) The *AER* must use the findings and recommendations in the final report prepared in accordance with clause 5.6.6(f) or, if a dispute is raised under clause 5.6.6(h) the final report prepared in accordance with clause 5.6.6(j), and may have regard to any other matter it considers relevant when determining whether or not the *new large transmission network asset* satisfies the *regulatory test*.

(o) Subject to clause 5.6.6(q), where the applicant makes an application to the *AER* in accordance with clause 5.6.6(m), the *AER* must determine whether the *new large transmission network asset* satisfies the *regulatory test* within 120 *business days* of receipt from an applicant of:

(1) a referral setting out the details required by the *AER* from time to time;

(2) a copy of the *application notice*;

(3) a copy of the final report prepared in accordance with clause 5.6.6(f) or, if a dispute is raised under clause 5.6.6(h), the final report prepared in accordance with clause 5.6.6(j); and

(4) a copy of the determination of the *DRP*, if any.

The period in which the *AER* must determine whether the *new large transmission network asset* satisfies the *regulatory test* will be automatically extended by the period of time taken by the applicant to provide additional information on request by the *AER*.

(p) The determination of the *AER* pursuant to clause 5.6.6(o) will only apply until the end of the *regulatory control period* in which the determination is made.

(q) The *AER* may, prior to the expiry of the time period referred to in clause 5.6.6(o), render the applicant an invoice in relation to the costs incurred by the *AER* in engaging a consultant to assist the *AER* in its determination under clause 5.6.6(o) as to whether or not a *new large transmission network asset* satisfies the *regulatory test*. If such an invoice is rendered, the *AER* is not required to make a *regulatory test* determination until the expiry of a period of 7 *business days* from the payment to the *AER* of the full amount of the invoice.

5.6.6A Construction of new small transmission network assets

(a) Each *Transmission Network Service Provider* must consult with any *interested parties* on any matter relating to a proposed *new small transmission network asset* set out in the *Annual Planning Report*. *Interested parties* may make written submissions to the *Transmission Network Service Provider*. To be valid, a submission must be received within 20 *business days* of *publication* of the *Annual Planning Report*.

(b) At the conclusion of the consultation process in clause 5.6.6A(a):

(1) if there is any material change in the matters referred to in clauses 5.6.2A(b)(4) and (5) with respect to the *new small transmission network asset* as a result of the consultation process, the *Transmission Network Service Provider* must *publish* again the matters set out in clauses 5.6.2A(b)(4) and (5) in relation to such *new small transmission network asset*, incorporating the agreed or amended matters; and

(2) the *AER* must take into account the report *published* by the *Transmission Network Service Provider* in accordance with clause 5.6.6A(b)(1) and all material submitted to the *Transmission Network Service Provider* in the consultation process in the process of its determination of the *Transmission Network Service Provider's revenue cap* and whether the *new small transmission network asset* the subject of the consultation satisfies the *regulatory test*.

(c) In relation to a *new small transmission network asset* which was not identified in an *Annual Planning Report* or if a matter set out in the *Annual Planning Report* pursuant to clause 5.6.2A(b) has materially changed since the *publication* of the *Annual Planning Report* the *Transmission Network Service Provider* must prepare a report that is to be published to all *Registered Participants*, *NEMMCO* and *interested parties* which sets out the matters referred to in clauses 5.6.2A(b)(4) and (5) in relation to that *new small transmission network asset*.

(d) Each *Transmission Network Service Provider* must consult with any *interested parties* on any matter relating to a proposed *new small transmission network asset* set out in a report prepared pursuant to

clause 5.6.6A(c). *Interested parties* may make written submissions to the *Transmission Network Service Provider*. To be valid, a submission must be received within 20 *business days* of publication of the report prepared pursuant to clause 5.6.6A(c).

(e) At the conclusion of the consultation process in clause 5.6.6A(d):

(1) if there is any material change in the matters referred to in clauses 5.6.2A(b)(4) and (5) with respect to the *new small transmission network asset* as a result of the consultation process the *Transmission Network Service Provider* must *publish* again the matters set out in clauses 5.6.2A(b)(4) and (5) in relation to such *new small transmission network asset*, incorporating the agreed or amended matters; and

(2) the *AER* must take into account the matters raised in the consultation process in its determination of the *Transmission Network Service Provider's revenue cap* and its determination of whether the *new small transmission network asset* the subject of the consultation satisfies the *regulatory test.*

5.6.6B Construction of Funded Augmentations

(a) The term *Transmission Network Service Provider* when used in this clause 5.6.6B is not intended to refer to, and is not to be read or construed as referring to, any *Transmission Network Service Provider* in its capacity as a *Market Network Service Provider*.

(b) A *Transmission Network Service Provider* who proposes to construct a *funded augmentation* must make available to all *Registered Participants* and *NEMMCO* a notice which must set out:

(1) a detailed description of the proposed *funded augmentation*;

(2) all relevant technical details concerning the proposed *funded augmentation*, the impact of the *funded augmentation* on the relevant *transmission network's Transmission Network Users* and the construction timetable and commissioning date for the *funded augmentation*;

(3) an *augmentation technical report* prepared by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(j) if, and only if, the *funded augmentation* is reasonably likely to have a *material inter-network impact* and the *Transmission Network Service Provider* has not received consent to proceed with construction from all *Transmission Network Service Providers* whose *transmission networks* are materially affected by the *funded augmentation*. In assessing whether a *funded augmentation* is reasonably likely to have

a *material inter-network impact*, the *Transmission Network Service Provider* must have regard to the objective set of criteria *published* by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(i) (if any such criteria have been *published* by the *Inter-regional Planning Committee*).

(c) The *Transmission Network Service Provider* must provide a summary of the notice prepared in accordance with clause 5.6.6B(b) to *NEMMCO*. Within 3 *business days* of receipt of the summary, *NEMMCO* must publish the summary on its website.

(d) The *Transmission Network Service Provider* must consult with any *interested parties*, in accordance with the *Rules consultation procedures*, on any matter set out in the notice prepared in accordance with clause 5.6.6B(b).

5.6.6C Review of clause 5.6

[Deleted]

5.7 Inspection and Testing

5.7.1 Right of entry and inspection

(a) If a *Registered Participant* who is party to a *connection agreement* reasonably believes that the other party to the *connection agreement* (being a party who is also a *Registered Participant*) is not complying with a technical provision of the *Rules* and that, as a consequence, the first *Registered Participant* is suffering, or is likely to suffer, a material adverse effect, then the first *Registered Participant* may enter the relevant *facility* at the *connection point* of the other *Registered Participant* in order to assess compliance by the other *Registered Participant* with its technical obligations under the *Rules*.

(b) A *Registered Participant* who wishes to inspect the *facilities* of another *Registered Participant* under clause 5.7.1(a) must give that other *Registered Participant* at least 2 *business days'* notice of its intention to carry out an inspection.

(c) A notice given under clause 5.7.1(b) must include the following information:

(1) the name of the *representative* who will be conducting the inspection on behalf of the *Registered Participant*;

(2) the time when the inspection will commence and the expected time when the inspection will conclude; and

(3) the nature of the suspected non-compliance with the *Rules*.

(d) Neither a *Registered Participant* nor *NEMMCO* may carry out an inspection under this clause 5.7 within 6 *months* of any previous inspection except for the purpose of verifying the performance of corrective action claimed to have been carried out in respect of a non-conformance observed and documented on the previous inspection or (in the case of *NEMMCO*) for the purpose of investigating an operating incident in accordance with clause 4.8.15.

(e) At any time when the *representative* of a *Registered Participant* is in another *Registered Participant's facility*, that *representative* must:

(1) cause no damage to the *facility;*

(2) only interfere with the operation of the *facility* to the extent reasonably necessary and approved by the relevant *Registered Participant* (such approval not to be unreasonably withheld or delayed); and

(3) observe "permit to test" access to sites and clearance protocols of the operator of the *facility*, provided that these are not used by the operator of the *facility* solely to delay the granting of access to site and inspection.

(f) Any *representative* of a *Registered Participant* conducting an inspection under this clause 5.7.1 must be appropriately qualified to perform the relevant inspection.

(g) The costs of inspections under this clause 5.7.1 must be borne by the *Registered Participant* requesting the inspection.

(h) *NEMMCO* or any of its *representatives* may, in accordance with this clause 5.7, inspect a *facility* of a *Registered Participant* and the operation and maintenance of that *facility* in order to:

(1) assess compliance by the relevant *Registered Participant* with its operational obligations under Chapter 3 or 4, or an *ancillary services agreement*;

(2) investigate any possible past or potential threat to *power system security*; or

(3) conduct any periodic familiarisation or training associated with the operational requirements of the *facility*.

(i) Any inspection under clause 5.7.1(a) or (h) must only be for so long as is reasonably necessary.

(j) Any equipment or goods installed or left on land or in premises of a *Registered Participant* after an inspection conducted under clause 5.7.1 do not become the property of the relevant *Registered Participant* (notwithstanding that they may be annexed or affixed to the relevant land or premises).

(k) In respect of any equipment or goods left on land or premises of a *Registered Participant* during or after an inspection, a *Registered Participant*:

(1) must not use any such equipment or goods for a purpose other than as contemplated in the *Rules* without the prior written approval of the owner of the equipment or goods;

(2) must allow the owner of any such equipment or goods to remove any such equipment or goods in whole or in part at a time agreed with the relevant *Registered Participant*, such agreement not to be unreasonably withheld or delayed; and

(3) must not create or cause to be created any mortgage, charge or lien over any such equipment or goods.

(l) A *Registered Participant* (in the case of an inspection carried out under clause 5.7.1(a)) or *NEMMCO* (in the case of an inspection carried out under clause 5.7.1(h)) must provide the results of that inspection to the *Registered Participant* whose *facilities* have been inspected, any other *Registered Participant* which is likely to be materially affected by the results of the test or inspection and *NEMMCO* (in the case of an inspection carried out under clause 5.7.1(a)).

5.7.2 Right of testing

(a) A *Registered Participant*, who has reasonable grounds to believe that equipment owned or operated by a *Registered Participant* with whom it has a *connection agreement* (which equipment is associated with the *connection agreement)* may not comply with the *Rules* or the *connection agreement*, may request testing of the relevant equipment by giving notice in writing to the other *Registered Participant*.

(b) If a notice is given under clause 5.7.2(a) the relevant test is to be conducted at a time agreed by *NEMMCO*.

(c) The *Registered Participant* who receives a notice under clause 5.7.2(a) must co-operate in relation to conducting tests requested under clause 5.7.2(a).

(d) The cost of tests requested under clause 5.7.2(a) must be borne by the *Registered Participant* requesting the test, unless the equipment is determined by the tests not to comply with the relevant *connection*

agreement and the *Rules*, in which case all reasonable costs of such tests must be borne by the owner of that equipment.

(e) Tests conducted in respect of a *connection point* under clause 5.7.2 must be conducted using test procedures agreed between the relevant *Registered Participants*, which agreement is not to be unreasonably withheld or delayed.

(f) Tests under clause 5.7.2 must be conducted only by persons with the relevant skills and experience.

(g) A *Transmission Network Service Provider* must give *NEMMCO* adequate prior notice of intention to conduct a test in respect of a *connection point* to that *Network Service Provider's network*.

(h) The *Registered Participant* who requests a test under this clause 5.7.2 may appoint a *representative* to witness a test and the relevant *Registered Participant* must permit a *representative* appointed under this clause 5.7.2(h) to be present while the test is being conducted.

(i) A *Registered Participant* who conducts a test must submit a report to the *Registered Participant* who requested the relevant test, *NEMMCO* and to any other *Registered Participant* which is likely to be materially affected by the results of the test, within a reasonable period after the completion of the test and the report is to outline relevant details of the tests conducted, including but not limited to the results of those tests.

(j) A *Network Service Provider* may attach test equipment or *monitoring equipment* to *plant* owned by a *Registered Participant* or require a *Registered Participant* to attach such test equipment or *monitoring equipment*, subject to the provisions of clause 5.7.1 regarding entry and inspection.

(k) In carrying out monitoring under clause 5.7.2(j) the *Network Service Provider* must not cause the performance of the monitored *plant* to be *constrained* in any way.

5.7.3 Tests to demonstrate compliance with connection requirements for generators

(a) Each *Generator* must, prior to the *Generator* implementing a compliance program in accordance with clause 4.15(b), provide evidence to any relevant *Network Service Provider* with which that *Generator* has a *connection agreement* and *NEMMCO* that each of its *generating units* complies with the applicable technical requirements of clause S5.2.5 of schedule 5.2 and the relevant *connection agreement* and the *performance standards* for that *generating unit*.

(b) Each *Generator* must negotiate in good faith with the relevant *Network Service Provider* and *NEMMCO* to agree on a compliance monitoring program, including an agreed method, for each of its *generating units* to confirm ongoing compliance with the applicable technical requirements of clause S5.2.5 of schedule 5.2 and the relevant *connection agreement* and the *performance standards* for that *generating unit*.

(c) If, prior to the *Generator* implementing a compliance program in accordance with the requirements of clause 4.15(b), a performance test or monitoring of in-service performance demonstrates that a *generating unit* is not complying with one or more technical requirements of clause S5.2.5 of schedule 5.2 and the relevant *connection agreement* or one or more of the *performance standards* for that *generating unit* then the *Generator* must:

(1) promptly notify the relevant *Network Service Provider* and *NEMMCO* of that fact;

(2) promptly advise the *Network Service Provider* and *NEMMCO* of the remedial steps it proposes to take and the timetable for such remedial work;

(3) diligently undertake such remedial work and report at monthly intervals to the *Network Service Provider* on progress in implementing the remedial action; and

(4) conduct further tests or monitoring on completion of the remedial work to confirm compliance with the relevant technical requirements or *performance standards* (as the case may be).

(d) If *NEMMCO* reasonably believes that a *generating unit* is not complying with one or more applicable *performance standards* or one or more applicable technical requirements of clause S5.2.5 of schedule 5.2 and the relevant *connection agreement*, *NEMMCO* may instruct the *Generator* to conduct tests within 25 *business days* to demonstrate that the relevant *generating unit* complies with those *performance standards* or technical requirements and if the tests provide evidence that the relevant *generating unit* continues to comply with those requirement(s) *NEMMCO* must reimburse the *Generator* for the reasonable expenses incurred as a direct result of conducting the tests.

(e) If *NEMMCO*:

(1) is satisfied that a *generating unit* does not comply with one or more technical requirements of clause S5.2.5 of schedule 5.2 and the relevant *connection agreement*;

(2) does not have evidence demonstrating that a *generating unit* complies with the technical requirements set out in clause S5.2.5 of schedule 5.2; and

(3) holds the reasonable opinion that there is or could be a threat to the *power system security* because of the performance of the *generating unit*,

NEMMCO may direct the relevant *Generator* to operate the relevant *generating unit* at a particular *generated* output or in a particular mode until the relevant *Generator* submits evidence reasonably satisfactory to *NEMMCO* that the *generating unit* is complying with the relevant technical requirement(s).

(f) Each *Generator* must maintain records for 7 years for each of its *generating units* and *power stations* setting out details of the results of all technical performance and monitoring conducted under this clause 5.7.3 and make these records available to *NEMMCO* on request.

5.7.4 Routine testing of protection equipment

(a) A *Registered Participant* must co-operate with any relevant *Network Service Provider* to test the operation of equipment forming part of a *protection system* relating to a *connection point* at which that *Registered Participant* is *connected* to a *network* and the *Registered Participant* must conduct these tests:

(1) prior to the *plant* at the relevant *connection point* being placed in service; and

(2) at intervals specified in the *connection agreement* or in accordance with an asset management plan agreed between the *Network Service Provider* and the *Registered Participant*.

(a1) A *Network Service Provider* must institute and maintain a compliance program to ensure that its *facilities* of the following types, to the extent that the proper operation of a *facility* listed in this clause may affect *power system security*, operate reliably and in accordance with their performance requirements under schedule 5.1:

(1) *protection systems*;

(2) *control systems* for maintaining or enhancing *power system* stability;

(3) *control systems* for controlling *voltage* or *reactive power*; and

(4) *control systems* for *load shedding.*

(a2) A compliance program under clause 5.7.4(a1) must:

(1) include monitoring of the performance of the *facilities*;

(2) to the extent reasonably necessary, include provision for periodic testing of the performance of those *facilities* upon which *power system security* depends;

(3) provide reasonable assurance of ongoing compliance of the *facilities* with the relevant performance requirements of schedule 5.1; and

(4) be in accordance with *good electricity industry practice*.

(a3) A *Network Service Provider* must immediately notify *NEMMCO* if it reasonably believes that a *facility* of a type listed in clause 5.7.4(a1) does not comply with, or is likely not to comply with, its performance requirements.

(a4) A notice issued under clause 5.7.4(a3) must:

(1) identify the *facility* and the requirement with which the *facility* does not comply;

(2) give an explanation of the reason why the *facility* failed to comply with its performance requirement;

(3) give the date and time when the *facility* failed to comply with its performance requirement;

(4) give the date and time when the *facility* is expected to again comply with its performance requirement; and

(5) describe the expected impact of the failure on the performance of the *Network Service Provider's transmission system* or *distribution system.*

(b) Each *Registered Participant* must bear its own costs of conducting tests under this clause 5.7.4.

5.7.5 Testing by Registered Participants of their own plant requiring changes to normal operation

(a) A *Registered Participant* proposing to conduct a test on equipment related to a *connection point*, which requires a change to the normal operation of that equipment, must give notice in writing to the relevant *Network Service Provider* of at least 15 *business days* except in an emergency.

(b) The notice to be provided under clause 5.7.5(a) must include:

(1) the nature of the proposed test;

(2) the estimated start and finish time for the proposed test;

(3) the identity of the equipment to be tested;

(4) the *power system* conditions required for the conduct of the proposed test;

(5) details of any potential adverse consequences of the proposed test on the equipment to be tested;

(6) details of any potential adverse consequences of the proposed test on the *power system*; and

(7) the name of the person responsible for the co-ordination of the proposed test on behalf of the *Registered Participant*.

(c) The *Network Service Provider* must review the proposed test described in a notice provided under clause 5.7.5(a) to determine whether the test:

(1) could adversely affect the normal operation of the *power system*;

(2) could cause a threat to *power system security*;

(3) requires the *power system* to be operated in a particular way which differs from the way in which the *power system* is normally operated; or

(4) could affect the normal *metering* of *energy* at a *connection point*.

(d) If the *Network Service Provider* determines that the proposed test does fulfil one of the conditions specified in clause 5.7.5(c), then the *Registered Participant* and *Network Service Provider* must seek *NEMMCO's* approval prior to undertaking the test, which approval must not be unreasonably withheld or delayed.

(e) If, in *NEMMCO's* reasonable opinion, a test could threaten public safety, damage or threaten to damage equipment or adversely affect the operation of the *power system*, *NEMMCO* may direct that the proposed test procedure be modified or that the test not be conducted at the time proposed.

(f) *NEMMCO* must advise *Network Service Providers* of any test which may have a possible effect on normal *metering* of *energy* at a *connection point.*

(g) *NEMMCO* must advise any other *Registered Participants* who might be adversely affected by a proposed test and consider any reasonable requirements of those *Registered Participants* when approving the proposed test.

(h) The *Registered Participant* who conducts a test under this clause 5.7.5 must ensure that the person responsible for the co-ordination of a test promptly advises *NEMMCO* when the test is complete.

(i) If *NEMMCO* approves a proposed test, *NEMMCO* must use its reasonable endeavours to ensure that *power system* conditions reasonably required for that test are provided as close as is reasonably practicable to the proposed start time of the test and continue for the proposed duration of the test.

(j) Within a reasonable period after any such test has been conducted, the *Registered Participant* who has conducted a test under this clause 5.7.5 must provide the *Network Service Provider* with a report in relation to that test including test results where appropriate.

5.7.6 Tests of generating units requiring changes to normal operation

(a) A *Network Service Provider* may, at intervals of not less than 12 months per *generating unit*, require the testing by a *Generator* of any *generating unit connected* to the *network* of that *Network Service Provider* in order to determine analytic parameters for modelling purposes or to assess the performance of the relevant *generating unit* for the purposes of a *connection agreement*, and the *Network Service Provider* is entitled to witness such tests.

(b) Adequate notice of not less than 15 *business days* must be given by the *Network Service Provider* to the *Generator* before the proposed date of a test under clause 5.7.6(a).

(c) The *Network Service Provider* must use its best endeavours to ensure that tests permitted under this clause 5.7.6 are conducted at a time which will minimise the departure from the *commitment* and *dispatch* that are due to take place at that time.

(d) If not possible beforehand, a *Generator* must conduct a test under clause 5.7.6 at the next scheduled *outage* of the relevant *generating unit* and in any event within 9 months of the request.

(e) A *Generator* must provide any reasonable assistance requested by the *Network Service Provider* in relation to the conduct of tests.

(f) Tests conducted under clause 5.7.6 must be conducted in accordance with test procedures agreed between the *Network Service Provider* and the relevant *Generator* and a *Generator* must not unreasonably withhold its agreement to test procedures proposed for this purpose by the *Network Service Provider*.

(g) The *Network Service Provider* must provide to a *Generator* such details of the analytic parameters of the model derived from the tests referred to in

clause 5.7.6 for any of that *Generator's generating units* as may reasonably be requested by the *Generator*.

(h) Each *Generator* must bear its own costs associated with tests conducted under this clause 5.7.6 and no compensation is payable for financial losses incurred as a result of these tests or associated activities.

5.7.7 Inter-network power system tests

(a) For each kind of development or activity described in the first column of chart 1 below, the *Proponent* is as set out in the second column and the *Relevant Transmission Network Service Provider* ("*Relevant TNSP*") is as set out in the third column, respectively, opposite the description of the development or activity.

Chart 1

No.	**Kind of development or activity**	***Proponent***	***Relevant TNSP***
	column 1	**column 2**	**column 3**
1.	A new *transmission line* between two *networks*, or within a *transmission network*, that is anticipated to have a *material inter-network impact* is commissioned.	*Network Service Provider* in respect of the new *transmission line*.	*Proponent* and the *Transmission Network Service Provider* in respect of any *network* to which the *transmission line* is *connected*.
2.	An existing *transmission line* between two *networks*, or within a *transmission network*, that is anticipated to have a *material inter-network impact* is *augmented* or substantially modified.	*Network Service Provider* in respect of the *augmentation* or modification of the *transmission line*.	*Proponent* and the *Transmission Network Service Provider* in respect of any *network* to which the *transmission line* is *connected*.

No.	Kind of development or activity	*Proponent*	*Relevant TNSP*
	column 1	**column 2**	**column 3**
3.	A new *generating unit* or *facility* of a *Customer* or a *network* development is commissioned that is anticipated to have a *material inter-network impact*.	*Generator* in respect of the *generating unit* and associated *connection assets*. *Customer* in respect of the *facility* and associated *connection assets*. *Network Service Provider* in respect of the relevant *network*.	*Transmission Network Service Provider* in respect of any *network* to which the *generating unit*, *facility* or *network* development is *connected* and, if a *network* development, then also the *Proponent*.
4.	Setting changes are made to any *power system* stabilisers as a result of a *generating unit*, *facility* of a *Customer* or *network development* being commissioned, modified or replaced.	*Generator* in respect of the *generating unit*. *Customer* in respect of the *facility*. *Network Service Provider* in respect of the relevant *network*.	*Transmission Network Service Provider* in respect of any *transmission network* to which the *generating unit*, *facility* or *network* development is *connected*.
5.	Setting changes are made to any *power system* stabilisers as a result of a decision by the *Inter-regional Planning Committee* or *NEMMCO*, which are not covered by item 4 in this chart.	*NEMMCO*.	None.
6.	*NEMMCO* determines that a test is required to verify the performance of the *power system* in light of the results of planning studies or simulations or one or more system incidents.	*NEMMCO*.	None.

(b) A *Registered Participant*, not being a *Transmission Network Service Provider*, determined in accordance with clause 5.7.7(a) to be a *Proponent* for a development or activity detailed in chart 1, may require the *Relevant TNSP* corresponding to that development or activity to undertake on their behalf their obligations as the *Proponent* and, where the *Relevant TNSP* receives a written request to undertake those obligations, the *Relevant TNSP* must do so.

(c) Where, in this clause 5.7.7, there is a reference to a *Proponent* that reference includes a *Relevant TNSP* required in accordance with clause 5.7.7(b) to undertake the obligations of another *Registered Participant*.

(d) If a *Relevant TNSP* is required by a *Registered Participant* in respect of a *scheduled generating unit*, a *scheduled load* or a *market network service*, any of which have a *nameplate rating* in excess of 30 MW, to act as a *Proponent* in accordance with clause 5.7.7(b), that *Relevant TNSP* is entitled to recover all reasonable costs incurred from the *Registered Participant* that required the *Relevant TNSP* to act as the *Proponent*.

(e) A *Registered Participant* wishing to undertake a development or conduct an activity listed in item 1, 2, 3 or 4 of chart 1 must notify *NEMMCO* not less than 80 *business days* before the *transmission line*, *generating unit*, *facility* or *network* development is planned to be commissioned, modified or replaced, giving details of the development or activity.

(f) If *NEMMCO* receives a notice under clause 5.7.7(e), then it must provide a copy of the notice to each member of the *Inter-regional Planning Committee* and consult with the *Inter-regional Planning Committee* about the potential impact of the development or activity.

(g) *NEMMCO* or the *Relevant TNSP* in respect of a development or activity may notify the *Proponent* of the development or activity that *NEMMCO* or the *Relevant-TNSP* believes that an *inter-network test* is required in relation to that development or activity.

(h) *NEMMCO* or the *Relevant TNSP* may only give a notice under clause 5.7.7(g) if *NEMMCO* or the *Relevant TNSP* considers that:

(1) the development or activity may have a material impact on the magnitude of the *power transfer capability* of more than one *transmission network* and, in the circumstances, an *inter-network test* is required; or

(2) if the *Inter-regional Planning Committee* has *published* guidelines under clause 5.7.7(k), an *inter-network test* is required having regard to those guidelines and the surrounding circumstances.

(i) If *NEMMCO* or the *Relevant TNSP* gives a notice under clause 5.7.7(g), then they must also promptly give a copy of the notice to each member of the *Inter-regional Planning Committee*.

(j) A *Registered Participant* undertaking a development or activity listed in chart 1 must provide such information to *NEMMCO* or the *Relevant TNSP* in respect of the development or activity as *NEMMCO* or the *Relevant TNSP* reasonably requests in order to make an assessment under this clause 5.7.7.

(k) The *Inter-regional Planning Committee* may develop, *publish* and amend from time to time, in accordance with the *Rules consultation procedures*, a set of guidelines to assist *Registered Participants* to determine when an *inter-network test* may be required.

(l) If the *Inter-regional Planning Committee* has *published* guidelines in accordance with clause 5.7.7(k), then *NEMMCO* and the *Relevant TNSP* must consider those guidelines in determining whether an *inter-network test* is required under clause 5.7.7(g) or 5.7.7(n).

(m) If *NEMMCO* or the *Relevant TNSP* gives notice under clause 5.7.7(g), then the *Proponent* must, in consultation with *NEMMCO*, prepare a draft *test program* for the *inter-network test* and submit it to each member of the *Inter-regional Planning Committee* and the *Relevant TNSP* (if the *Relevant TNSP* gave the notice given under clause 5.7.7(g)).

(n) If *NEMMCO* determines that an *inter-network test* is required for a reason contemplated in item 5 or 6 of chart 1, then it must prepare a draft *test program* for the *inter-network test* and submit it to each member of the *Inter-regional Planning Committee* at least 40 *business days* prior to the proposed test.

(o) The *Inter-regional Planning Committee* must:

(1) meet within 15 *business days* of the members receiving a draft *test program* under clauses 5.7.7(m) or (n); and

(2) within a period of not more than 10 *business days* make a recommendation to *NEMMCO* on the draft *test program* that identifies changes the *Inter-regional Planning Committee* proposes to the *test program*.

(p) *NEMMCO* must:

(1) *publish* a copy of the draft *test program* and any relevant changes recommended by the *Inter-regional Planning Committee* and invite interested *Registered Participants* to make written submissions;

(2) only accept as valid submissions received not later than the date specified in the notice *publishing* the copy of the draft *test program* (not to be less than 14 *days* after the date of *publication*); and

(3) provide the *Inter-regional Planning Committee* with copies of all valid submissions and seek its final recommendation.

(q) The *Inter-regional Planning Committee* must consider and take into account all valid submissions received and may amend its recommendation.

(r) *NEMMCO* must determine and *publish* in accordance with clause 3.13.13 the *test program* for an *inter-network test* after taking into account the draft *test program* submitted to the *Inter-regional Planning Committee*, the *Inter-regional Planning Committee's* recommendation and any valid submissions received from *Registered Participants*.

(s) In making a recommendation under clause 5.7.7(o) and in determining the *test program*, the *Inter-regional Planning Committee* and *NEMMCO* must so far as practicable have regard to the following principles:

(1) *power system security* must be maintained in accordance with Chapter 4;

(2) the variation from the *central dispatch* outcomes that would otherwise occur if there was no *inter-network test* should be minimised;

(3) the duration of the tests should be as short as possible consistent with test requirements and *power system security*; and

(4) subject to clauses 5.7.7(s)(1), (2) and (3), the test facilitation costs borne or payable under clause 5.7.7 (aa) by the *Proponent* should be minimised.

(t) An *inter-regional test* must not be conducted within 20 *business days* after *NEMMCO publishes* the *test program* for the *inter-network test* determined by *NEMMCO* under clause 5.7.7(r).

(u) The *Proponent* in respect of an *inter-network test* must seek to enter into agreements with other *Registered Participants* to provide the test facilitation services identified in the *test program* in order to ensure that the *power system* conditions required by the *test program* are achieved.

(v) If the *Proponent* approaches another *Registered Participant* seeking to enter into an agreement under clause 5.7.7(u) then the *Proponent* and the *Registered Participant* must negotiate in good faith concerning the provision of the relevant test facilitation service.

(w) If:

(1) a *Proponent* approaches another *Registered Participant* as described in clause 5.7.7(v); and

(2) the *Proponent* and the other *Registered Participant* have not agreed the terms and conditions to be included in the agreement under which the *Registered Participant* will provide the test facilitation service requested within 15 *business days* of the approach,

then those terms and conditions must be determined in accordance with clause 8.2 and a dispute of this type is deemed to fall within clause 8.2.5(c)(2).

(x) If the dispute concerns the price which the *Proponent* is to pay for a test facilitation service, then it must be resolved applying the following principles:

(1) the other *Registered Participant* is entitled to recover the costs it incurs, and a reasonable rate of return on the capital it employs, in providing the test facilitation service, determined taking into account the additional costs associated with:

(i) maintaining the equipment necessary to provide the test facilitation service;

(ii) any labour required to operate and maintain the equipment used to provide the test facilitation service; and

(iii) any materials consumed when the test facilitation service is utilised; and

(2) the other *Registered Participant* is entitled to be compensated for any commercial opportunities foregone by providing the test facilitation service.

(y) When the terms and conditions are determined in accordance with clause 8.2 under this clause 5.7.7, then the *Proponent* and the other *Registered Participant* must enter into an agreement setting out those terms and conditions.

(z) If *NEMMCO* is not the *Proponent* in respect of an *inter-network test*, the *Proponent* must:

(1) prior to the scheduled date of the *inter-network test*, confirm to *NEMMCO* that the test facilitation services identified in the *test program* will be available to be utilised, who will be providing them and the operational arrangements for utilising them;

(2) provide sufficient information to enable *NEMMCO* to utilise the test facilitation services in conducting the *inter-network test*; and

(3) respond promptly to any queries *NEMMCO* raises with the *Proponent* concerning the availability of the test facilitation services and *NEMMCO's* ability to utilise those services in conducting the *inter-network tests*.

(aa) The *Proponent* in respect of an *inter-network test* must bear all of the following costs associated with that *inter-network test*:

(1) any amounts payable under an agreement under which test facilitation services are provided;

(2) the *Proponent's* own costs associated with the *inter-network test* and in negotiating and administering the agreements referred to in clause 5.7.7(u); and

(3) if the *Proponent* is not *NEMMCO* and the amount of *settlements residue* on any *directional interconnector* for a *trading interval* during which there is an impact on *central dispatch* outcomes as a result of the *inter-network test* is negative, then the *Proponent* must enter into an agreement with *NEMMCO* to pay that amount to *NEMMCO*.

(ab) If the *Proponent* is *NEMMCO* and the amount of *settlements residue* on any *directional interconnector* for a *trading interval* during which there is an impact on *central dispatch* outcomes as a result of the *inter-network test* is negative, then *NEMMCO* must adjust that residue to be zero and must recover the amount as provided for in clause 2.11.3(b)(2A).

(ac) *NEMMCO* must establish operational conditions to achieve the particular *power transfer* levels for each stage of the *inter-network test* as contemplated by the *test program*:

(1) utilizing where practicable and economic to do so the test facilitation services identified in the *test program*; and

(2) otherwise, by applying to the minimum extent necessary to fulfil the test requirements, *inter-network testing constraints*.

(ad) An *inter-network test* must be coordinated by an officer nominated by the *Inter-regional Planning Committee* who has authority to stop the test or any part of it or vary the procedure within pre-approved guidelines determined by the *Inter-regional Planning Committee* if that officer considers any of these actions to be reasonably necessary.

(ae) Each *Registered Participant* must:

(1) cooperate with *NEMMCO* in planning, preparing for and conducting *inter-regional tests*;

(2) act in good faith in respect of, and not unreasonably delay, an *inter-network test*; and

(3) comply with any instructions given to it by *NEMMCO* under clause 5.7.7(af).

(af) *NEMMCO* may utilise test facilitation services under agreements entered into by the *Proponent* under this clause 5.7.7 during an *inter-network test* in order to achieve operational conditions on the *power system* which are reasonably required to achieve valid test results.

5.8 Commissioning

5.8.1 Requirement to inspect and test equipment

(a) A *Registered Participant* must ensure that any of its new or replacement equipment is inspected and tested to demonstrate that it complies with relevant *Australian Standards*, the *Rules* and any relevant *connection agreement* prior to or within an agreed time after being *connected* to a *transmission network* or *distribution network,* and the relevant *Network Service Provider* is entitled to witness such inspections and tests.

(b) The *Registered Participant* must produce test certificates on demand by the relevant *Network Service Provider* showing that the equipment has passed the tests and complies with the standards set out in clause 5.8.1(a) before *connection* to a *network*, or within an agreed time thereafter.

5.8.2 Co-ordination during commissioning

A *Registered Participant* seeking to *connect* to a *network* must co-operate with the relevant *Network Service Provider*(s) and *NEMMCO* to develop procedures to ensure that the commissioning of the *connection* and *connected facility* is carried out in a manner that:

(a) does not adversely affect other *Registered Participants* or affect *power system security* or quality of *supply* of the *power system*; and

(b) minimises the threat of damage to any other *Registered Participant's* equipment.

5.8.3 Control and protection settings for equipment

(a) Not less than 3 months prior to the proposed commencement of commissioning by a *Registered Participant* of any new or replacement equipment that could reasonably be expected to alter performance of the *power system* (other than replacement by identical equipment), the *Registered Participant* must submit to the relevant *Network Service Provider* sufficient design information including proposed parameter

settings to allow critical assessment including analytical modelling of the effect of the new or replacement equipment on the performance of the *power system*.

(b) The *Network Service Provider* must*:*

(1) consult with other *Registered Participants* and *NEMMCO* as appropriate; and

(2) within 20 *business days* of receipt of the design information under clause 5.8.3(a), notify the *Registered Participant* and *NEMMCO* of any comments on the proposed parameter settings for the new or replacement equipment.

(c) If the *Network Service Provider's* comments include alternative parameter settings for the new or replacement equipment, then the *Registered Participant* must notify the *Network Service Provider* that it either accepts or disagrees with the alternative parameter settings suggested by the *Network Service Provider*.

(d) The *Network Service Provider* and the *Registered Participant* must negotiate parameter settings that are acceptable to them both and if there is any unresolved disagreement between them, the matter must be referred to the *Inter-regional Planning Committee* whose majority decision must be given within 20 *business days* of referral of the dispute and, once a decision is given, it is to be final.

(e) The *Registered Participant* and the *Network Service Provider* must co-operate with each other to ensure that adequate grading of protection is achieved so that faults within the *Registered Participant's facility* are cleared without adverse effects on the *power system*.

5.8.4 Commissioning program

(a) Prior to the proposed commencement of commissioning by a *Registered Participant* of any new or replacement equipment that could reasonably be expected to alter performance of the *power system*, the *Registered Participant* must advise the relevant *Network Service Provider* and *NEMMCO* in writing of the commissioning program including test procedures and proposed test equipment to be used in the commissioning.

(b) Notice under clause 5.8.4(a) must be given not less than 3 months prior to commencement of commissioning for a *connection* to a *transmission network* and not less than 1 month prior to commencement of commissioning for a *connection* to a *distribution network*.

(c) The relevant *Network Service Provider* and *NEMMCO* must, within 15 *business days* of receipt of such advice under clause 5.8.4(a), notify the *Registered Participant* either that they:

(1) agree with the proposed commissioning program; or

(2) require changes to it in the interest of maintaining *power system security*, safety or quality of *supply*.

(d) If the relevant *Network Service Provider* or *NEMMCO* require changes to the proposed commissioning program, then the parties must co-operate to reach agreement and finalise the commissioning program within a reasonable period.

(e) A *Registered Participant* must not commence the commissioning until the commissioning program has been finalised and the relevant *Network Service Provider* and *NEMMCO* must not unreasonably delay finalising a commissioning program.

5.8.5 Commissioning tests

(a) The relevant *Network Service Provider* and/or *NEMMCO* has the right to witness commissioning tests relating to new or replacement equipment that could reasonably be expected to alter performance of the *power system* or the accurate *metering* of *energy*.

(b) The relevant *Network Service Provider* must, within a reasonable period of receiving advice of commissioning tests, notify the *Registered Participant* whose new or replacement equipment is to be tested under this clause 5.8.5 whether or not it:

(1) wishes to witness the commissioning tests; and

(2) agrees with the proposed commissioning times.

(c) A *Registered Participant* whose new or replacement equipment is tested under this clause 5.8.5 must submit to the relevant *Network Service Provider* the commissioning test results demonstrating that a new or replacement item of equipment complies with the *Rules* or the relevant *connection agreement* or both to the satisfaction of the relevant *Network Service Provider*.

(d) If the commissioning tests conducted in relation to a new or replacement item of equipment demonstrates non-compliance with one or more requirements of the *Rules* or the relevant *connection agreement* then the *Registered Participant* whose new or replacement equipment was tested under this clause 5.8.5 must promptly meet with the *Network Service*

Provider to agree on a process aimed at achievement of compliance of the relevant item with the *Rules*.

(e) On request by a *Network Service Provider*, *NEMMCO* may direct that the commissioning and subsequent *connection* of the *Registered Participant's* equipment must not proceed if the relevant equipment does not comply with the requirements described in clause 5.8.1(a).

5.9 Disconnection and Reconnection

5.9.1 Voluntary disconnection

(a) Unless agreed otherwise and specified in a *connection agreement*, a *Registered Participant* must give to the relevant *Network Service Provider* notice in writing of its intention to permanently *disconnect* a *facility* from a *connection point*.

(b) A *Registered Participant* is entitled, subject to the terms of the relevant *connection agreement*, to require voluntary permanent *disconnection* of its equipment from a *network* in which case appropriate operating procedures necessary to ensure that the *disconnection* will not threaten *power system security* must be implemented in accordance with clause 5.9.2.

(c) The *Registered Participant* must pay all costs directly attributable to the voluntary *disconnection* and *decommissioning*.

5.9.2 Decommissioning procedures

(a) In the event that a *Registered Participant's facility* is to be permanently *disconnected* from a *network*, whether in accordance with clause 5.9.1 or otherwise, the *Network Service Provider* and the *Registered Participant* must, prior to such *disconnection* occurring, follow agreed procedures for *disconnection*.

(b) The *Network Service Provider* must notify *NEMMCO* and any *Registered Participants* with whom it has a *connection agreement* if it believes, in its reasonable opinion, the terms and conditions of such a *connection agreement* will be affected by procedures for *disconnection* or proposed procedures agreed with any other *Registered Participant.* The parties must negotiate any amendments to the procedures for *disconnection* or the *connection agreement* that may be required.

(c) Any *disconnection* procedures agreed to or determined under clause 5.9.2(a) must be followed by all relevant *Network Service Providers* and *Registered Participants*.

5.9.3 Involuntary disconnection

(a) *NEMMCO* may direct a *Network Service Provider* to, or a *Network Service Provider* may (either on its own initiative or in accordance with a direction from *NEMMCO*), *disconnect* a *Registered Participant's facilities* from a *network*, or a *Registered Participant's market loads*, in the following circumstances:

(1) pursuant to a direction for a *disconnection* made by a court under section 62 or 63 of the *National Electricity Law* or pursuant to regulations made under section 44AAG of the Trade Practices Act 1974 (Cth);

(2) during an emergency in accordance with clause 5.9.5;

(3) in accordance with the *National Electricity Law*; or

(4) in accordance with the provisions of the *Registered Participant's connection agreement.*

(b) In all cases of *disconnection* by a *Network Service Provider* at *NEMMCO's* direction during an emergency in accordance with clause 5.9.5, *NEMMCO* must undertake a review under clause 4.8.15 and *NEMMCO* must then provide a report to the *Registered Participant*, the *AEMC* and the AER advising of the circumstances requiring such action.

(c) A *Network Service Provider* that has received a direction from *NEMMCO* under this clause 5.9.3 must comply with that direction promptly.

5.9.4 Direction to disconnect

(a) Where a *disconnection* is made pursuant to clause 5.9.3(a)(1), neither *NEMMCO* nor the relevant *Network Service Provider* is liable in any way for any loss or damage suffered or incurred by the *Registered Participant* by reason of the *disconnection* and neither *NEMMCO* nor the relevant *Network Service Provider* is obliged for the duration of the *disconnection* to fulfil any agreement to convey electricity to or from the *Registered Participant's facility.*

(b) A *Registered Participant* must not bring proceedings against *NEMMCO* or a *Network Service Provider* to seek to recover any amount for any loss or damage described in clause 5.9.4(a).

(c) *Transmission service* charges and *distribution service* charges must be paid by a *Registered Participant* whose *facilities* have been *disconnected* under this clause 5.9.4 as if any *disconnection* had not occurred.

(d) A *Network Service Provider* that has received a direction from *NEMMCO* to *disconnect* a *Registered Participant's facilities* in the circumstances described in clause 5.9.3(a)(1) must comply with that direction promptly.

5.9.4A Notification of disconnection

If the *AER* applies to a court for a direction, under section 62 or 63 of the *National Electricity Law* or pursuant to regulations made under section 44AAG of the Trade Practices Act 1974 (Cth), that a *Registered Participant's market loads* be *disconnected*, the *AER* must promptly notify *NEMMCO* and the *participating jurisdictions* which the *AER* considers may be affected.

5.9.5 Disconnection during an emergency

(a) Where *NEMMCO* may direct a *Network Service Provider* to *disconnect* a *Registered Participant's facilities* during an emergency under the *Rules* or otherwise, then *NEMMCO* may:

(1) require the relevant *Registered Participant* to reduce the *power transfer* at the proposed point of *disconnection* to zero in an orderly manner and then direct a *Network Service Provider* to *disconnect* the *Registered Participant's facility* by automatic or manual means; or

(2) direct a *Network Service Provider* to immediately *disconnect* the *Registered Participant's facilities* by automatic or manual means where, in *NEMMCO's* reasonable opinion, it is not appropriate to follow the procedure set out in clause 5.9.5(a)(1) because action is urgently required as a result of a threat to safety of persons, hazard to equipment or a threat to *power system security*.

(b) A *Network Service Provider* that has received a direction from *NEMMCO* under this clause 5.9.5 must comply with that direction promptly.

5.9.6 Obligation to reconnect

(a) Either *NEMMCO* (by directing the *Network Service Provider*) or the relevant *Network Service Provider* (either on its own initiative or in accordance with a direction from *NEMMCO*) must reconnect a *Registered Participant's facilities* to a *transmission network* or *distribution network* at a reasonable cost to the *Registered Participant* as soon as practicable if:

(1) *NEMMCO* is reasonably satisfied that there no longer exists an emergency due to which the *Registered Participant's facilities* were *disconnected* under clause 5.9.5;

(2) *NEMMCO* is reasonably satisfied that there no longer exists a reason for the *disconnection* under the *National Electricity Law* or the *Registered Participant's connection agreement*;

(3) one of the following occurs:

(i) a breach of the *Rules* giving rise to the *disconnection* has been remedied;

(ii) where the breach is not capable of remedy, compensation has been agreed and paid by the *Registered Participant* to the affected parties or, failing agreement, the amount of compensation payable has been determined in accordance with the dispute resolution procedure in clause 8.2 and that amount has been paid;

(iii) where the breach is not capable of remedy and the amount of compensation has not been agreed or determined, assurances for the payment of reasonable compensation have been given to the satisfaction of *NEMMCO*, the *Network Service Provider* and the parties affected; or

(iv) the *Registered Participant* has taken all necessary steps to prevent the re-occurrence of the breach and has delivered binding undertakings to *NEMMCO* or the *Network Service Provider* that the breach will not re-occur.

(b) In carrying out its obligations under clause 5.9.6(a), *NEMMCO* must, to the extent practicable, arrange for the implementation of an equitable sharing of the reconnection of *facilities* across *interconnected regions* up to the *power transfer capability* of the *network* and, in performing these obligations within a *region*, both *NEMMCO* and the relevant *Network Service Provider* must, to the extent practicable, give priority to reconnection of a *region's sensitive loads.*

(c) A *Network Service Provider* that has received a direction from *NEMMCO* under this clause 5.9.6 must comply with that direction promptly.

Schedule 5.1a - System standards

S5.1a.1 Purpose

The purpose of this schedule is to establish *system standards* that:

(a) are necessary or desirable for the safe and reliable operation of the *facilities* of *Registered Participants*;

(b) are necessary or desirable for the safe and reliable operation of equipment;

(c) could be reasonably considered *good electricity industry practice*; and

(d) seek to avoid the imposition of undue costs on the industry or *Registered Participants*.

A *Registered Participant* should not, by virtue of this schedule, rely on *system standards* being fully complied with at a *connection point* under all circumstances. However, a *Registered Participant* should expect to be reasonably informed of circumstances where the standard of *supply* at its *connection points* will not conform to the *system standards*.

Except for standards of *frequency* and system stability, a *Registered Participant* should have the opportunity to negotiate or renegotiate relevant terms of a *connection agreement* (including relevant charges), to improve the standard of *supply* to the level of the *system standard*.

The *system standards* are set out below.

S5.1a.2 Frequency

The *frequency operating standards* are *system standards* and are as determined by the *Reliability Panel* and *published* by the *AEMC*.

S5.1a.3 System stability

The *power system* should remain in synchronism and be stable:

(a) **Transient stability:** following any *credible contingency event*; and

(b) **Oscillatory stability:** in the absence of any *contingency event*, for any level of *inter-regional* or *intra-regional* power transfer up to the applicable operational limit; and

(c) **Voltage stability:** stable *voltage* control must be maintained following the most severe *credible contingency event*.

For the purposes of clause S5.1a.3 a *credible contingency event* includes the application of a fault (other than a three-phase fault) to any part of the *power system* and de-energisation of the faulted element within the allowable clearance time applicable to that element according to clause S5.1a.8.

The halving time of any *inter-regional* or *intra-regional* oscillation, being the time for the amplitude of an oscillation to reduce by half, should be less than 10 seconds. To allow for planning and operational uncertainties, the *power system* should be planned and operated to achieve a halving time of 5 seconds.

S5.1a.4 Power frequency voltage

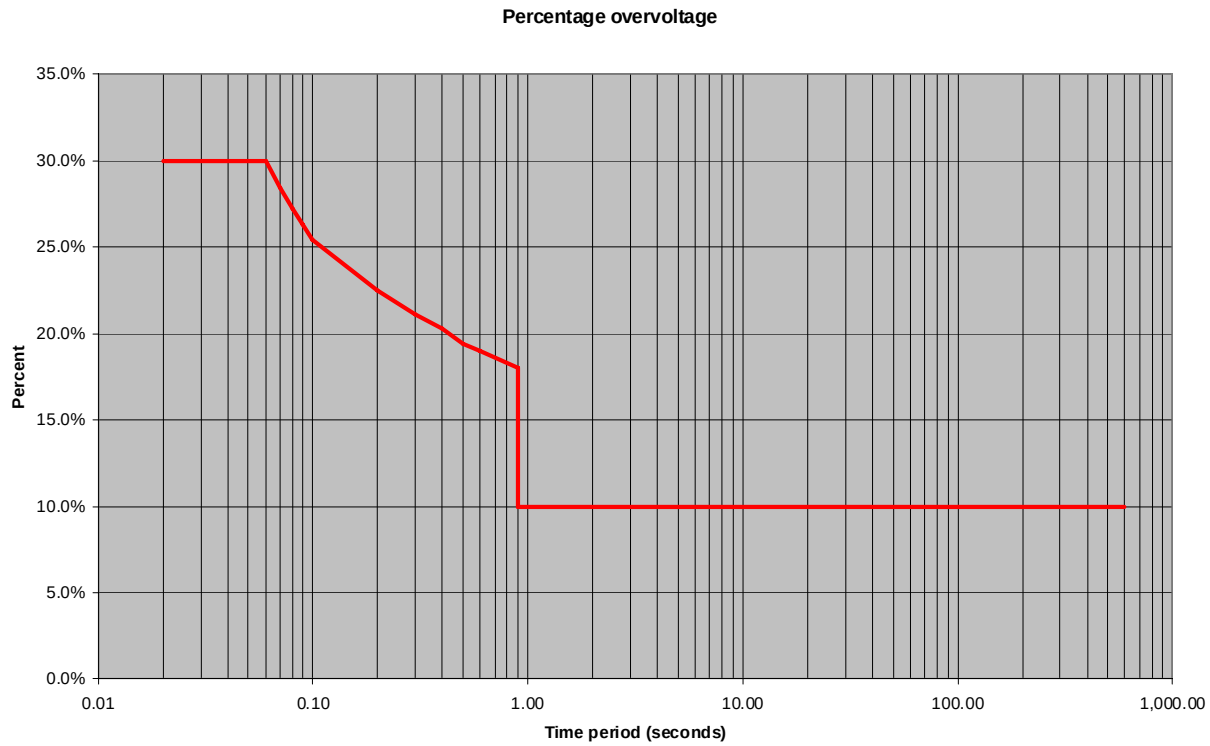
Except as a consequence of a *contingency event*, the *voltage* of *supply* at a *connection point* should not vary by more than 10 percent above or below its normal voltage, provided that the *reactive power* flow and the *power factor* at the *connection point* is within the corresponding limits set out in the *connection agreement*.

As a consequence of a *credible contingency event*, the *voltage* of *supply* at a *connection point* should not rise above its normal voltage by more than a given percentage of normal voltage for longer than the corresponding period shown in Figure S5.1a.1 for that percentage.

As a consequence of a *contingency event*, the *voltage* of *supply* at a *connection point* could fall to zero for any period.

For the purposes of this *system standard*, "normal voltage" means, in relation to a *connection point*, its nominal *voltage* or such other *voltage* up to 10 percent higher or lower than the nominal *voltage*, as approved by *NEMMCO*, for that *connection point* at the request of the *Network Service Provider* who provides *connection* to the *power system*.

Figure S5.1a.1:



The nominal *voltages* selected for new *facilities* and the intended operating *voltage* ranges for new and existing *facilities* should, wherever practicable, be *voltages* that are recognized by *Australian Standards* and for which potential *Connection Applicants* can reasonably obtain compatible *facilities*.

For the purpose of this clause, the *voltage* of *supply* is measured as the *RMS phase voltage*.

S5.1a.5 Voltage fluctuations

The *voltage* fluctuation level of *supply* should be less than the "compatibility levels" set out in 1 of *Australian Standard* AS/NZS 61000.3.7:2001. To facilitate the application of this standard *Network Service Providers* must establish “planning levels” for their *networks* as provided for in the *Australian Standard.*

The following principles apply to the use of the shared network:

(a) the sharing between *Network Users* of the capability of *connection assets* to withstand *voltage* fluctuations is to be managed by *Network Service Providers* in accordance with the provisions of clause S5.1.5 of schedule 5.1; and

(b) to the extent practicable, the costs of managing or abating the impact of *voltage* fluctuations in excess of the costs which would result from the

application of an *automatic access standard* are to be borne by those *Network Users* whose *facilities* cause the *voltage* fluctuations.

S5.1a.6 Voltage waveform distortion

Harmonic *voltage* distortion level of *supply* should be less than the "compatibility levels" defined in Table 1 of *Australian Standard* AS/NZS 61000.3.6:2001. To facilitate the application of this standard *Network Service Providers* must establish "planning levels" for their *networks* as provided for in the *Australian Standard.*

The following principles apply to the use of the shared network:

(a) the sharing between *Network Users* of the capability of *connection assets* to absorb or mitigate harmonic *voltage* distortion is to be managed by *Network Service Providers* in accordance with the provisions of clause S5.1.6 of schedule 5.1; and

(b) to the extent practicable, the costs of managing or abating the impact of harmonic distortion in excess of the costs which would result from the application of an *automatic access standard* are to be borne by those *Network Users* whose *facilities* cause the harmonic *voltage* distortion.

S5.1a.7 Voltage unbalance

Except as a consequence of a *contingency event*, the average *voltage* unbalance, measured at a *connection point*, should not vary by more than the amount set out in column 2 of Table S5.1a.1, when determined over a 30-minute averaging period.

As a consequence of a *credible contingency event*, the average *voltage* unbalance, measured at a *connection point*, should not vary by more than the amount set out in column 3 of Table S5.1a.1, when determined over a 30-minute averaging period.

The average *voltage* unbalance, measured at a *connection point*, should not vary by more than the amount set out in column 4 of Table S5.1a.1 for the relevant nominal *supply voltage*, when determined over a 10-minute averaging period.

The average *voltage* unbalance, measured at a *connection point*, should not vary more often than once per hour by more than the amount set out in column 5 of Table S5.1a.1 for the relevant nominal *supply voltage*, when determined over a 1-minute averaging period.

For the purpose of this clause, *voltage* unbalance is measured as negative sequence voltage.

Table S5.1a.1

Nominal supply voltage (kV)	**Maximum negative sequence voltage (% of nominal voltage)**			
Column 1	**Column 2**	**Column 3**	**Column 4**	**Column 5**
	no contingency event	**credible contingency event**	**general**	**once per hour**
	30 minute average	**30 minute average**	**10 minute average**	**1 minute average**
more than 100	0.5	0.7	1.0	2.0
more than 10 but not more than 100	1.3	1.3	2.0	2.5
10 or less	2.0	2.0	2.5	3.0

S5.1a.8 Fault clearance times

(a) Faults anywhere within the *power system* should be cleared sufficiently rapidly that:

(1) the *power system* does not become unstable as a result of faults that are *credible contingency events*;

(2) *inter-regional* or *intra-regional power transfers* are not unduly *constrained*; and

(3) consequential equipment damage is minimised.

(b) The *fault clearance time* of a primary *protection system* for a *short circuit fault* of any *fault type* anywhere:

(1) within a *substation*;

(2) within *connected plant*; or

(3) on at least the half of a power line nearer to the *protection system*,

should not exceed the relevant time in column 2 of Table S5.1a.2 for the nominal *voltage* that applies at the fault location.

(c) The *fault clearance time* of a primary *protection system* for a *short circuit fault* of any *fault type* anywhere on the remote portion of a power line for which the near portion is protected by a primary *protection system* under clause S5.1a8(b) should not exceed the relevant time in column 3 of Table S5.1a.2 for the nominal *voltage* that applies at the fault location.

(d) The *fault clearance time* of a *breaker fail protection system* or similar back-up *protection system* for a *short circuit fault* of any *fault type* should not exceed the relevant time in column 4 of Table S5.1a.2 for the nominal *voltage* that applies at the fault location.

(e) The owner of the faulted element may require shorter *fault clearance times* to minimise *plant* damage.

(f) The allowable *fault clearance times* specified in Table S5.1a.2 apply in accordance with the provisions of clause S5.1.9 to *facilities* constructed or modified on or after the *performance standards commencement date.*

(g) For *facilities* other than those referred to in clause S5.1a.8(f), the applicable allowable *fault clearance times* must be derived by the relevant *Network Service Provider* from the existing capability of each *facility* on the *performance standards commencement date*.

Table S5.1a.2

Nominal voltage at fault location(kV)	**Time(milliseconds)**		
Column 1	**Column 2**	**Column 3**	**Column 4**
400kV and above	80	100	175
at least 250kV but less than 400kV	100	120	250
more than 100kV but less than 250kV	120	220	430
less than or equal 100 kV	As necessary to prevent *plant* damage and meet stability requirements		

Schedule 5.1 - Network Performance Requirements to be Provided or Co-ordinated by Network Service Providers

S5.1.1 Introduction

This schedule describes the planning, design and operating criteria that must be applied by *Network Service Providers* to the *transmission networks* and *distribution networks* which they own, operate or control. It also describes the requirements on *Network Service Providers* to institute consistent processes to determine the appropriate technical requirements to apply for each *connection* enquiry or *application to connect* processed by the *Network Service Provider* with the objective that all *connections* satisfy the requirements of this schedule.

The criteria and the obligations of *Registered Participants* to implement them, fall into two categories, namely:

(a) those required to achieve adequate levels of *network power transfer capability* or quality of *supply* for the common good of all, or a significant number of, *Registered Participants*; and

(b) those required to achieve a specific level of *network service* at an individual *connection point.*

A *Network Service Provider* must:

(1) fully describe the quantity and quality of *network services* which it agrees to provide to a person under a *connection agreement* in terms that apply to the *connection point* as well as to the *transmission or distribution system* as a whole;

(2) ensure that the quantity and quality of those *network services* are not less than could be provided to the relevant person if the *national grid* were planned, designed and operated in accordance with the criteria set out in this clause S5.1.1 and recognising that levels of service will vary depending on location of the *connection point* in the *network*; and

(3) observe and apply the relevant provisions of the *system standards* in accordance with this schedule 5.1.

To the extent that this schedule 5.1 does not contain criteria which are relevant to the description of a particular *network service*, the *Network Service Provider* must describe the *network service* in terms which are fair and reasonable.

This schedule includes provisions for *Network Service Providers* and *Registered Participants* to negotiate the criteria to apply to a *connection* within defined ranges between a lower bound (*minimum access standard*) and an upper bound (*automatic access standard*). All criteria which are intended to apply to a *connection* must be recorded in a *connection agreement*. Where it is intended to apply a *negotiated access standard* in accordance with clause 5.3.4A of the *Rules*, the *Network Service Provider* must first be satisfied that the application of the *negotiated access standard* will not adversely affect other *Registered Participants*.

S5.1.2 Network reliability

S5.1.2.1 Credible contingency events

Network Service Providers must plan, design, maintain and operate their *transmission networks* and *distribution networks* to allow the transfer of power from *generating units* to *Customers* with all *facilities* or equipment associated with the *power system* in service and may be required by a *Registered Participant* under a *connection agreement* to continue to allow the transfer of power with certain facilities or *plant* associated with the *power system* out of service, whether or not accompanied by the occurrence of certain faults (called "*credible contingency events*").

The following *credible contingency events* and practices must be used by *Network Service Providers* for planning and operation of *transmission networks* and *distribution networks* unless otherwise agreed by each *Registered Participant* who would be affected by the selection of *credible contingency events*:

(a) The *credible contingency events* must include the *disconnection* of any single *generating unit* or *transmission line*, with or without the application of a single circuit two-phase-to-ground solid fault on lines operating at or above 220 kV, and a single circuit three-phase solid fault on lines operating below 220 kV. The *Network Service Provider* must assume that the fault will be cleared in primary protection time by the faster of the duplicate protections with installed intertrips available. For existing *transmission lines* operating below 220 kV but above 66 kV a two-phase to earth fault criterion may be used if the modes of operation are such as to minimise the probability of three-phase faults occurring and operational experience shows this to be adequate, and provided that the *Network Service Provider* upgrades performance when the opportunity arises.

(b) For lines at any *voltage* above 66 kV which are not protected by an overhead earth wire and/or lines with tower footing resistances in excess of 10 ohms, the *Network Service Provider* may extend the criterion to include a single circuit three-phase solid fault to cover the increased risk of such a fault occurring. Such lines must be examined individually on their merits by the relevant *Network Service Provider*.

(c) For lines at any *voltage* above 66 kV a *Network Service Provider* must adopt operational practices to minimise the risk of slow fault clearance in case of inadvertent closing on to earths applied to equipment for maintenance purposes. These practices must include but not be limited to:

(1) Not leaving lines equipped with intertrips alive from one end during maintenance; and

(2) *Off-loading* a three terminal (tee connected) line prior to restoration, to ensure switch on to fault *facilities* are operative.

(d) The *Network Service Provider* must ensure that all *protection systems* for lines at a *voltage* above 66 kV, including associated intertripping, are well maintained so as to be available at all times other than for short periods (not greater than eight hours) while the maintenance of a *protection system* is being carried out.

S5.1.2.2 Network service within a region

The following paragraphs of this section set out minimum standards for certain *network services* to be provided to *Registered Participants* by *Network Service Providers* within a *region*. The amount of *network* redundancy provided must be determined by the process set out in clause 5.6.2 of the *Rules* and is expected to reflect the grouping of *generating units*, their expected capacity factors and availability and the size and importance of *Customer* groups.

The standard of service to be provided at each *connection point* must be included in the relevant *connection agreement*, and must include a *power transfer capability* such as that which follows:

(a) In the *satisfactory operating state*, the *power system* must be capable of providing the highest reasonably expected requirement for *power transfer* (with appropriate recognition of diversity between individual peak requirements and the necessity to withstand *credible contingency events*) at any time.

(b) During the most critical single element *outage* the *power transfer* available through the *power system* may be:

(1) zero (single element *supply*);

(2) the defined capacity of a backup *supply*, which, in some cases, may be provided by another *Network Service Provider*;

(3) a nominated proportion of the normal *power transfer capability* (eg 70 percent); or

(4) the normal *power transfer capability* of the *power system* (when required by a *Registered Participant*).

In the case of clauses S5.1.2.2(b)(2) and (3) the available capacity would be exceeded sufficiently infrequently to allow maintenance to be carried out on each *network* element by the *Network Service Provider*. A *connection agreement* may state the expected proportion of time that the normal capability will not be available, and the capability at those times, taking account of specific design, locational and seasonal influences which may affect performance, and the random nature of element *outages*.

A *connection agreement* may also state a conditional *power transfer capability* that allows for both circuits of a double circuit line or two closely parallel circuits to be out of service.

S5.1.2.3 Network service between regions

The *power transfer capability* between *regions* must be determined by the process set out in clauses 5.6.5 and 5.6.6 of the *Rules*.

The following paragraphs of this section set out a framework within which *Network Service Providers* must describe to *NEMMCO* the levels of *network service* that apply for *power transfer* between *regions*. In cases where *power transfer capability* is determined by stability considerations on the *power system* (refer to clause S5.1.8 of this schedule) it is expected that line *outages* within *transmission networks* within a region will weaken the *network* so as to result in reduced *power transfer capability* even in the absence of *outages* of the lines between *regions*.

(a) In the *satisfactory operating state* the *power transfer capability* between *regions* is defined by a multi-term equation for each *connection* between *regions* which takes account of all *power system* operating conditions which can significantly impact on performance. The majority of these operating conditions are the result of *market* operation and are outside the control of the *Network Service Provider*. In the *satisfactory operating state* the *network* must be planned by the *Network Service Provider* and operated by *NEMMCO* to withstand the impact of any *single contingency* with severity less than the *credible contingency events* stated in clause S5.1.2.1.

(b) During critical single element *outages* reduced *power transfer capabilities* will apply. In those cases where *outage* of the remaining element will result in breaking of the *connection* between the *regions NEMMCO* must provide for the effect on *power system frequency* in the separate *transmission systems* following this event when determining the maximum *power transfer*.

S5.1.3 Frequency variations

A *Network Service Provider* must ensure that within the *extreme frequency excursion tolerance limits* all of its *power system* equipment will remain in service unless that equipment is required to be switched to give effect to *load shedding* in accordance with clause S5.1.10, or is required by *NEMMCO* to be switched for operational purposes.

Sustained operation outside the *extreme frequency excursion tolerance limits* need not be taken into account by *Network Service Providers* in the design of *plant* which may be *disconnected* if this is necessary for the protection of that *plant*.

S5.1.4 Magnitude of power frequency voltage

A *Transmission Network Service Provider* must plan and design its *transmission system* and equipment for control of *voltage* such that the minimum steady state *voltage* magnitude, the maximum steady state *voltage* magnitude and variations in *voltage* magnitude are consistent with the levels stipulated in clause S5.1a.4 of the *system standards*.

(a) The *Network Service Provider* must determine the *automatic access standard* for the *voltage* of *supply* at the *connection point* such that the *voltage* may vary in accordance with clause S5.1a.4 of the *system standards*.

(b) The *Network Service Provider* must determine the *minimum access standard* for the *voltage of supply* at the *connection point* such that the *voltage* may vary:

(1) as a consequence of a *credible contingency event* in accordance with clause S5.1a.4; and

(2) otherwise, between 95 percent and 105 percent of the target *voltage*.

(c) For the purposes of clause S5.1.4(b) the target *voltage* must be determined as follows:

(1) if the *connection point* is connected to a *transmission line* (but not through a *transformer*), the *Network Service Provider* must determine the target *voltage* in consultation with *NEMMCO* taking into account the capability of existing *facilities* that are subject to that *supply voltage*; and

(2) otherwise, *Network Users* that share the same *supply voltage* must jointly determine the target *voltage* which may be specified to vary with aggregate *loading level*;

provided that at all times the *supply voltage* remains between 90 percent and 110 percent of the normal voltage determined in accordance with clause S5.1a.4 except as a consequence of a *contingency event.*

(d) For the purposes of this clause, the *voltage* of *supply* is measured as the *RMS phase voltage.*

Where the independent control of *voltage* at the *connection point* is possible without adverse impact on *voltage* control at another *connection point*, the *Network Service Provider* must make reasonable endeavors to meet the request. The target *voltage* and any agreement to a target range of *voltage* magnitude must be specified in the relevant *connection agreement*. The agreement may include a different target range in the *satisfactory operating state* and after a *credible contingency event* (and how these target ranges may be required to vary with *loading*).

A *Network Service Provider* must ensure that each *facility* that is part of its *transmission network* or *distribution network* is capable of continuous uninterrupted operation in the event that variations in *voltage* magnitude occur due to faults external to the *facility*. The design of a *facility* should anticipate the likely time duration and magnitude of variations in the power-*frequency* phase *voltages* which may arise dependent on the nature and location of the fault.

S5.1.5 Voltage fluctuations

A *Network Service Provider* must use reasonable endeavours to design and operate its *transmission system* or *distribution system* and include conditions in *connection agreements* in relation to the permissible variation with time of the power *generated* or *load* taken by a *Network User* to ensure that other *Network Users* are supplied with a power-*frequency voltage* which fluctuates to an extent that is less than the levels stipulated in accordance with the provisions of clause S5.1a.5 of the *system standards* and this clause S5.1.5.

In accordance with AS/NZS 61000.3.7:2001 and guidelines published by *Standards Australia* and applying the assumption that *Customers* will comply with their obligations under schedule 5.3, a *Network Service Provider* must determine "Planning Levels" for *connection points* on their *network* in order to maintain *voltage* fluctuation levels for all supply points to customers supplied from their *network* below the "Compatibility Levels" defined in Table 1 of AS/NZS 61000.3.7:2001.

The *Network Service Provider* must allocate emission limits in response to a *connection* enquiry or an *application to connect* and evaluate the acceptability for *connection* of fluctuating sources as follows:

(a) *Automatic access standard:* the *Network Service Provider* must allocate emission limits no more onerous than the lesser of the acceptance levels determined in accordance with either of the stage 1 or the stage 2 evaluation procedures defined in AS/NZS 61000.3.7:2001.

(b) *Minimum access standard:* subject to clause S5.1.5(c), the determination by the *Network Service Provider* of acceptable emission limits must be

undertaken in consultation with the party seeking *connection* using the stage 3 evaluation procedure defined in AS/NZS61000.3.7:2001.

(c) In respect of each new *connection* at a level of performance below the *automatic access standard* the *Network Service Provider* must include provisions in the relevant *connection agreement* requiring the *Network User* if necessary to meet the *system standards* or allow connection of other *Network Users* to either upgrade to the *automatic access standard* or fund the reasonable cost of the works necessary to mitigate their effect of connecting at a standard below the *automatic access standard*.

(d) If for existing customer *connections* the level of *voltage* fluctuation is, or may be, exceeded as a result of a proposed new *connection*, the *Network Service Provider* must, if the cause of that excessive level cannot be remedied by enforcing the provisions of existing *connection agreements*, undertake all reasonable works necessary to meet the technical standards in this schedule or to permit the proposed new *connection* within the requirements stated in this clause.

For other than a new *connection* in accordance with the preceding paragraph, the responsibility of a *Network Service Provider* for excursions in *voltage* fluctuations above the levels defined above is limited to *voltage* fluctuations caused by *network plant* and the pursuit of all reasonable measures available under the *Rules* and its *connection agreements*.

S5.1.6 Voltage harmonic or voltage notching distortion

A *Network Service Provider* must use reasonable endeavours to design and operate its *network* and include conditions in *connection agreements* to ensure that the effective harmonic *voltage* distortion at any point in the *network* will be limited to less than the levels stipulated in accordance with the provisions of clause S5.1a.6 of the *system standards* and this clause S5.1.6.

In accordance with AS/NZS 61000.3.6:2001 and guidelines published by *Standards Australia* and applying the assumption that *Customers* will comply with their obligations under schedule 5.3 *Network Service Providers* must determine "Planning Levels" for *connection points* on their *network* in order to maintain harmonic *voltage* distortion for all supply points to customers supplied from their *network* below the "Compatibility Levels" defined in Table 1 of AS/NZS 61000.3.6:2001.

The *Network Service Provider* must allocate emission limits to a connection enquiry or an *application to connect* and must evaluate the acceptability for *connection* of distorting sources as follows:

(a) *Automatic access standard*: the *Network Service Provider* must allocate emission limits no more onerous than the lesser of the acceptance levels

determined in accordance with either of the stage 1 or the stage 2 evaluation procedures defined in AS/NZS 61000.3.6:2001.

(b) *Minimum access standard*: subject to clause S5.1.6(c), the determination by the *Network Service Provider* of acceptable emission limits must be undertaken in consultation with the party seeking *connection* using the Stage 3 evaluation procedure defined in AS/NZS61000.3.6:2001.

(c) In respect of each new *connection* at a level of performance below the *automatic access standard* the *Network Service Provider* must include provisions in the relevant *connection agreement* requiring the *Network User* if necessary to meet the *system standards* or allow connection of other *Network Users* to either upgrade to the *automatic access standard* or fund the reasonable cost of the works necessary to mitigate their effect of connecting at a standard below the *automatic access standard*.

(d) If for existing customer *connections* the level of harmonic *voltage* distortion is, or may be, exceeded as a result of a proposed new *connection*, the *Network Service Provider* must, if the cause of that excessive level cannot be remedied by enforcing the provisions of existing *connection agreements*, undertake all works necessary to meet the technical standards in this schedule or to permit a proposed new *connection* within the *automatic access standard* defined in clause S5.3.8 and the requirements stated in this clause.

For other than a new *connection* in accordance with the preceding paragraph, the responsibility of a *Network Service Provider* for harmonic *voltage* distortion outside the range defined above is limited to harmonic *voltage* distortion caused by *network plant* and the pursuit of all measures available under the *Rules* and its *connection agreements*.

S5.1.7 Voltage unbalance

(a) A *Transmission Network Service Provider* must balance the effective impedance of the phases of its *network*, and a *Distribution Network Service Provider* must balance the current drawn in each phase at each of its *connection points*, so as to achieve average levels of negative sequence *voltage* at all *connection point*s that are equal to or less than the values set out in Table S5.1a.1 as determined in accordance with the accompanying provisions of clause S5.1a.7 of the *system standards.*

(b) A *Network Service Provider* must include conditions in *connection agreements* to ensure that a *Connection Applicant* will balance the current drawn in each phase at each of its *connection points* so as to achieve:

(1) for those *Network Users* listed in clause S5.3(a): the levels permitted in accordance with clause S5.3.6 of schedule 5.3;

(2) for *Market Network Service Providers*: the levels permitted in accordance with clause S5.3a.9 of schedule 5.3a;

(3) otherwise: the average levels of negative sequence *voltage* at each of its *connection points* that are equal to or less than the values set out in Table S5.1a.1 and the accompanying provisions of clause S5.1a.7 of the *system standards.*

The responsibility of the *Network Service Provider* for *voltage* unbalance outside the ranges defined above is limited to *voltage* unbalance caused by the *network* and the pursuit of all measures available under the *Rules* and its *connection agreements.*

S5.1.8 Stability

In conforming with the requirements of the *system standards*, the following criteria must be used by *Network Service Providers* for both planning and operation:

For stable operation of the *national grid*, both in a *satisfactory operating state* and following any *credible contingency events* described in clause S5.1.2.1:

(a) the *power system* will remain in synchronism;

(b) damping of *power system* oscillations will be adequate; and

(c) *voltage* stability criteria will be satisfied.

Damping of *power system* oscillations must be assessed for planning purposes according to the design criteria which states that *power system damping* is considered adequate if after the most critical *credible contingency event*, simulations calibrated against past performance indicate that the halving time of the least damped electromechanical mode of oscillation is not more than five seconds.

To assess the damping of *power system* oscillations during operation, or when analysing results of tests such as those carried out under clause 5.7.7 of the *Rules*, the *Network Service Provider* must take into account statistical effects. Therefore, the *power system damping* operational performance criterion is that at a given operating point, real-time monitoring or available test results show that there is less than a 10 percent probability that the halving time of the least damped mode of oscillation will exceed ten seconds, and that the average halving time of the least damped mode of oscillation is not more than five seconds.

The *voltage* control criterion is that stable *voltage* control must be maintained following the most severe *credible contingency event*. This requires that an adequate *reactive power* margin must be maintained at every *connection point* in a *network* with respect to the *voltage* stability limit as determined from the

voltage/reactive *load* characteristic at that *connection point*. Selection of the appropriate margin at each *connection point* is at the discretion of the relevant *Network Service Provider*, subject only to the requirement that the margin (expressed as a capacitive *reactive power* (in MVAr)) must not be less than one percent of the maximum fault level (in MVA) at the *connection point*.

In planning a *network* a *Network Service Provider* must consider *non-credible contingency events* such as *busbar* faults which result in tripping of several circuits, uncleared faults, double circuit faults and multiple contingencies which could potentially endanger the stability of the *power system*. In those cases where the consequences to any *network* or to any *Registered Participant* of such events are likely to be severe disruption a *Network Service Provider* and/or a *Registered Participant* must install emergency controls within the *Network Service Provider's* or *Registered Participant's* system or in both, as necessary, to minimise disruption to any *transmission* or *distribution network* and to significantly reduce the probability of cascading failure.

A *Registered Participant* must co-operate with a *Network Service Provider* to achieve stable operation of the *national grid* and must use all reasonable endeavours to negotiate with the *Network Service Provider* regarding the installation of emergency controls as described in the previous paragraph. The cost of installation, maintenance and operation of the emergency controls must be borne by the *Network Service Provider* who is entitled to include this cost when calculating the *Transmission Customer use of system* price.

S5.1.9 Protection systems and fault clearance times

Network Users

(a) A *Network Service Provider* must determine the *automatic access standard* and *minimum access standard* that applies to the protection zone of each *protection system* in relation to the *connection point* and the *plant* to be *connected*, as follows:

(1) The *automatic access standard* for *fault clearance time* for any *fault type* is the lesser of the *system standard* set out in clause S5.1a.8 that applies to the highest nominal *voltage* within the *protection system's* protection zone and the corresponding *minimum access standard* determined under clause S5.1.9(a)(2) or clause S5.1.9(a)(3) as applicable.

(2) The *minimum access standard* for *fault clearance time* of a primary *protection system* is:

(i) for a *fault type* that constitutes a *credible contingency event* in the relevant protection zone, the longest time such that a *short circuit fault* of that *fault type* that is cleared in that time would not cause the *power system* to become unstable when operating

at any level of *inter-regional* or *intra-regional power transfer* that would be permissible (taking into account all other limiting criteria) if the *fault clearance time* for such a *fault* at the *connection point* were the *system standard* set out in clause S5.1a.8 that applies to the nominal *voltage* at the *connection point*; and

(ii) for a *fault type* that does not constitute a *credible contingency event* in the relevant protection zone:

(A) if a two phase to ground fault in that protection zone constitutes a *credible contingency event*, the corresponding *fault clearance time* for a two phase to ground *short circuit fault* in that protection zone as determined under clause S5.1.9(a)(2)(i); and

(B) otherwise, the shortest of the *fault clearance times* for a two phase to ground *short circuit fault* in each adjoining protection zone (excluding *transformer* protection zones and dead zones) as determined under clause S5.1.9(a)(2)(i) or clause S5.1.9(e).

(3) The *minimum access standard* for *fault clearance time* of a *breaker fail protection system* or similar back-up *protection system* is the longest time such that a *short circuit fault* of any *fault type* that is cleared in that time would not damage any part of the *power system* (other than the faulted element) while the fault current is flowing or being interrupted.

(b) The negotiation of access standards in relation to this clause S5.1.9(a) must involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*.

Transmission systems and distribution systems

(c) Subject to clauses S5.1.9(k) and S5.1.9(l), a *Network Service Provider* must provide sufficient primary *protection systems* and back-up *protection systems* (including *breaker fail protection systems*) to ensure that a fault of any *fault type* anywhere on its *transmission system* or *distribution system* is automatically *disconnected* in accordance with clause S5.1.9(e) or clause S5.1.9(f).

(d) If the *fault clearance time* determined under clause S5.1.9(e) of a primary *protection system* for a two phase to ground *short circuit fault* is less than 10 seconds, the primary *protection system* must have sufficient redundancy to ensure that it can clear *short circuit faults* of any *fault type* within the relevant *fault clearance time* with any single protection element (including any communications facility upon which the *protection system* depends) out of service.

(e) The *fault clearance time* of a primary *protection system* of a *Network Service Provider* must not exceed:

(1) for any *fault type* that constitutes a *credible contingency event* in the relevant protection zone, the longest time such that a *short circuit fault* of that *fault type* that is cleared in that time would not cause the *power system* to become unstable when operating at any level of *inter-regional* or *intra-regional power transfer* that would be permissible (taking into account all other limiting criteria) if the *fault clearance time* for such a fault in that protection zone were the relevant *system standard* set out in clause S5.1a.8; and

(2) for any *fault type* that does not constitute a *credible contingency event* in the relevant protection zone:

(i) if a two phase to ground fault in that protection zone is a *credible contingency event*, the corresponding *fault clearance time* for a two phase to ground fault in that protection zone as determined under clause S5.1.9(e)(1); and

(ii) otherwise, the shortest of the *fault clearance times* for a two phase to ground fault in each adjoining protection zone (excluding *transformer* protection zones and dead zones) as determined under clauses S5.1.9(a)(2)(i), S5.1.9(e)(1)or S5.1.9(e)(2)(i).

(f) The *fault clearance time* of each *breaker fail protection system* or similar back-up *protection system* of a *Network Service Provider* must be such that a *short circuit fault* of any *fault type* that is cleared in that time would not damage any part of the *power system* (other than the faulted element) while the fault current is flowing or being interrupted.

(g) A *Network Service Provider* must demonstrate to *NEMMCO* that each *fault clearance time* for a primary *protection system* that is longer than the relevant *system standard* set out in clause S5.1a.8 and is less than 10 seconds would not cause or require an *inter-regional* or *intra-regional power transfer capability* to be reduced.

(h) A *Network Service Provider* must include in each *connection agreement* entered into after the *performance standards commencement date*:

(1) the *fault clearance times* for each *fault type* of each of its *protection systems* that could reasonably be expected to interrupt *supply* to or from the relevant *connection point*; and

(2) an agreement to not increase those *fault clearance times* without the prior written agreement of the other party.

(i) *Network Service Providers* must coordinate and cooperate with *Network Users* to implement *breaker fail* protection for circuit breakers provided to isolate the *Network User's facility* from the *Network Service Provider's facilities*.

(j) Where practicable and economic to achieve, new network investment should meet the *system standard* for *fault clearance times* as specified in clause S5.1a.8 for two phase to ground *short circuit faults*.

(k) A primary *protection system* may clear faults other than *short circuit faults* slower than the relevant *fault clearance time*, provided that such faults would be cleared sufficiently promptly to not adversely impact on *power system security* compared with its operation for the corresponding *short circuit fault.* In the case of a fault within equipment at a station, the corresponding *short circuit fault* is to be taken as a two phase to ground *short circuit fault* at the external connections of the equipment.

(l) *Protection systems* may rely on *breaker fail protection systems* or other back-up *protection systems* to completely clear faults of any *fault type* that:

(1) occur within a *substation* between a protection zone and a circuit breaker adjacent to that protection zone that is required to open to clear the fault (a "dead zone"); and

(2) remain connected through a power line or *transformer* after operation of a primary *protection system*,

provided that the relevant *Network Service Provider* assesses that the likelihood of a fault occurring within the dead zone is not greater than the likelihood of a fault occurring on *busbars*.

(m) For the purposes of this clause S5.1.9, a *credible contingency event* includes any event that clause S5.1.2.1 requires a *Network Service Provider* to consider as a *credible contingency event*.

(n) The provisions of clause S5.1.9(d) apply to *facilities* constructed or modified on or after the *performance standards commencement date*.

(o) For *facilities* other than those referred to in clause S5.1.9(n), the requirement for primary *protection system* redundancy must be derived by the *Network Service Provider* from the existing capability of each *facility* on the *performance standards commencement date*.

S5.1.10 Load and network control facilities

S5.1.10.1 General

Each *Network Service Provider* in consultation with *NEMMCO* must ensure that:

(a) sufficient *load* is under the control of underfrequency relays where required to ensure that in the event of the sudden, unplanned simultaneous occurrence of multiple *contingency events*, the *power system frequency* does not move outside the *extreme frequency excursion tolerance limits*;

(b) where determined to be necessary, sufficient *load* is under the control of undervoltage relays to minimize or reduce the risk of voltage collapse on the occurrence of multiple *contingency events*; and

(c) there is sufficient *load* under manual or automatic control either locally or from remotely located *control centres* to allow the *load shedding procedures* to be implemented on instruction from *NEMMCO* to enable *NEMMCO* to maintain *power system security*.

A *Network Service Provider* may require *load shedding* arrangements to be installed to cater for abnormal operating conditions.

Arrangements for *load shedding* must be agreed between *Transmission Network Service Providers* and *connected Distribution Network Service Providers* and may include the opening of circuits in either a *transmission* or *distribution network*.

The *Transmission Network Service Provider* must specify, in the *connection agreement*, control and monitoring requirements to be provided by a *Distribution Network Service Provider* for *load shedding facilities*.

S5.1.10.2 Distribution Network Service Providers

A *Distribution Network Service Provider* must:

(a) provide, install, operate and maintain *facilities* for *load shedding* in respect of any *connection point* at which the maximum *load* exceeds 10MW in accordance with clause 4.3.5 of the *Rules*;

(b) in accordance with the provisions of the relevant *connection agreement*, co-operate with the *Transmission Network Service Provider*s in conducting periodic functional testing of the *facilities*, which must not require *load* to be *disconnected*;

(c) apply underfrequency settings to relays as determined by *NEMMCO* in consultation with the *Network Service Provider*; and

(d) apply undervoltage settings to relays as notified by the *Transmission Network Service Provider* in accordance with clause S5.1.10.3(b).

S5.1.10.3 Transmission Network Service Providers

Transmission Network Service Providers must:

(a) conduct periodic functional tests of the *load shedding facilities*; and

(b) notify *Distribution Network Service Providers* regarding the settings of undervoltage *load* shed relays as determined by *NEMMCO* in consultation with the *Transmission Network Service Provider*.

S5.1.11 Automatic reclosure of transmission or distribution lines

Where *automatic reclose equipment* is provided on *transmission lines* or *distribution lines*, check or blocking *facilities* must be applied to the *automatic reclose equipment* in those circumstances where there is any possibility of the two ends of the *transmission line* or *distribution line* being *energised* from sources that are not in synchronism.

S5.1.12 Rating of transmission lines and equipment

For operational purposes each *Network Service Provider* must, on reasonable request, advise *NEMMCO* of the maximum current that may be permitted to flow (under conditions nominated by *NEMMCO*) through each *transmission line, distribution line* or other item of equipment that forms part of its *transmission system* or *distribution system*.

This maximum current is called a "*current rating*" of the *transmission line*, *distribution line* or item of equipment notwithstanding that it may be determined by equipment associated with its *connection* to the *power system* (including switchgear, droppers, current *transformers* and *protection systems*).

NEMMCO may request for a *transmission line, distribution line* or other item of equipment:

(a) a continuous *current rating*, being the level of current that is permitted to flow in that item of equipment for an indefinite period; and

(b) one or more short term *current ratings* for a period of time nominated by *NEMMCO* after consultation with the *Network Service Provider*, being the level of current that is permitted to flow in that item of equipment for that period of time if the current had been less than the corresponding continuous *current rating* for a reasonable prior period taking into account the thermal properties of the item of equipment.

The *Network Service Provider* may be required by *NEMMCO* to advise different *current ratings* to be applied under nominated conditions including, without limitation:

(a) ambient weather conditions;

(b) seasons and/or times of *day*;

(c) ratios of the current during an emergency to the current prior to the emergency (taking into account pre-contingent loading history where applicable); and

(d) period of loading at the nominated level.

A *Transmission Network Service Provider* is entitled to advise *NEMMCO* of short term *current ratings* which may apply for nominated periods of time to the relevant *transmission line* or item of equipment provided that these ratings do not materially affect the safety of the *transmission line* or item of equipment, or the safety of persons. Short-term ratings for *transmission lines* or items of equipment may be implemented by a methodology or algorithm in a format agreed with *NEMMCO*.

S5.1.13 Information to be provided

A *Network Service Provider* must, in response to a *connection* enquiry or an *application to connect* made in accordance with clause 5.3.2 of the *Rules*, provide the *connection applicant* electrical design information relevant to the nominal point of *connection* in accordance with a relevant requirement of schedules 5.2, 5.3 or 5.3a.

S5.1.14 [Deleted]

Schedule 5.2 - Conditions for Connection of Generators

S5.2.1 Outline of requirements

(a1) The equipment associated with each *generating unit* must be designed to withstand without damage the range of operating conditions which may arise consistent with the *system standards.*

(a2) *Generators* must comply with the *performance standards* and any attached terms or conditions of agreement agreed with the *Network Service Provider* or *NEMMCO* in accordance with a relevant provision of schedules 5.1 or 5.1a.

(a) This schedule sets out details of additional requirements and conditions which (subject to clause 5.2 of the *Rules*) *Generators* must satisfy as a condition of *connection* of a *generating unit* to the *power system.* It does not apply to *generating units* in so far as the person who owns, controls or operates them is exempt from registration as a *Generator* in respect of those *generating units* in accordance with clause 2.2.1(c) of the *Rules* and which are *connected* or intended for use in a manner which the *Network Service Provider* considers is unlikely to cause a material degradation in the quality of supply to other *Network Users.*

(b) This schedule also sets out the requirements and conditions, which (subject to clause 5.2.5 of the *Rules*) are obligations of *Generators* to:

(1) co-operate with the relevant *Network Service Provider* on technical matters when making a new *connection*; and

(2) provide information to the *Network Service Provider* or *NEMMCO.*

(c) This schedule does not set out arrangements by which a *Generator* may enter into an agreement or contract with *NEMMCO* to:

(1) provide additional services that are necessary to maintain *power system security*; or

(2) provide additional services to facilitate management of the *market*.

(d) This schedule provides for *automatic access standards* and the determination of *negotiated access standards* derived from *minimum access standards* which, once determined, must be recorded together with the *automatic access standards* in a *connection agreement* and registered with *NEMMCO* as *performance standards.*

S5.2.2 Application of Settings

A *Generator* must only apply settings to a *control system* or a *protection system* that are necessary to comply with performance requirements of this schedule 5.2 if the settings have been approved in writing by the relevant *Network Service Provider* and, if the requirement is one that would involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*, also by *NEMMCO*. A *Generator* must not allow its *generating unit* to *supply* electricity to the *power system* without such prior approval.

If a *Generator* seeks approval from the *Network Service Provider* to apply or change a setting, approval must not be withheld unless the *Network Service Provider* or, if the requirement is one that would involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*, *NEMMCO*, reasonably determines that the changed setting would cause the *generating unit* to not comply with the relevant *performance standard* or cause an *inter-regional* or *intra-regional power transfer capability* to be reduced.

If the *Network Service Provider* or, if the requirement is one that would involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*, *NEMMCO*, reasonably determines that a setting of a *generating unit's control system* or *protection system* needs to change to comply with the relevant *performance standard* or to maintain or restore an *inter-regional* or *intra-regional power transfer capability*, the *Network Service Provider* or *NEMMCO* (as applicable) must consult with the relevant *Generator*, and the *Network Service Provider* may request in writing that a setting be applied in accordance with the determination.

The *Network Service Provider* may also request a test to verify the performance of the relevant *plant* with the new setting. The *Network Service Provider* must provide *NEMMCO* with a copy of its request to a *Generator* to apply a setting or to conduct a test.

A *Generator* who receives such a request must arrange for the notified setting to be applied as requested and for a test to be conducted as requested. After the test, the *Generator* must, on request, provide both *NEMMCO* and the *Network Service Provider* with a report of a requested test, including evidence of its success or failure. Such a report of a test is *confidential information*.

A *Generator* must not change a setting requested by the *Network Service Provider* without its prior written agreement. If the *Network Service Provider* requires a *Generator* to change a setting within 18 months of a previous request, the *Network Service Provider* must pay the *Generator* its reasonable costs of changing the setting and conducting the tests as requested.

S5.2.3 Technical matters to be co-ordinated

A *Generator* and the relevant *Network Service Provider* must use all reasonable endeavours to agree upon relevant technical matters in respect of each new or altered *connection* of a *generating unit* to a *network* including:

(a) design at the *connection point*;

(b) physical layout adjacent to the *connection point*;

(c) primary protection and backup protection (clause S5.2.5);

(d) control characteristics (clause S5.2.5);

(e) communications and alarms (clause S5.2.6);

(f) insulation co-ordination and lightning protection;

(g) fault levels and *fault clearance times*;

(h) switching and *isolation facilities*;

(i) interlocking arrangements; and

(j) *metering installations* as described in Chapter 7 of the *Rules*.

S5.2.4 Provision of information

(a) The *Generator* must promptly on request provide all data of the kinds specified in schedule 5.5 reasonably required by *NEMMCO* or the *Network Service Provider*.

(b) Three months before first *synchronisation* a *Generator* must, in respect of each proposed *scheduled generating unit*, provide *NEMMCO* and the relevant *Network Service Provider* and any relevant *Distribution Network Service Provider* with the following information about the *generating unit's control systems* for *frequency* control and *voltage* control:

(1) a set of functional block diagrams, including all functions between feedback signals and *generating unit* output;

(2) the parameters of each functional block, including all settings, gains, time constants, delays, deadbands and limits; and

(3) the characteristics of non-linear elements,

sufficient for *NEMMCO* and the relevant *Network Service Provider* to perform short and long-term simulation studies.

The information provided must be updated within 3 months after commissioning tests or other tests undertaken in accordance with clause 5.7.3 of the *Rules* are completed. The *connection agreement* must record the process for subsequently changing this information. Conformance with the requirements described in this clause is the responsibility of the *Generator* and is subject to the provisions of clause 5.7.3(f) of the *Rules* for each *generating unit.*

(c) For the purposes of clause 5.3.2(d) of the *Rules*, the technical information that a *Network Service Provider* must, if requested, provide to a *Connection Applicant* in respect of the proposed *connection* for a *generating unit* includes:

(1) the highest expected single phase and three phase fault levels at the *connection point* with the *generating unit* not *synchronised*;

(2) the clearing times of the existing *protection systems* that would clear a fault at the location at which the new *connection* would be connected into the existing *transmission system* or *distribution system*;

(3) the expected limits of *voltage* fluctuation, harmonic *voltage* distortion and *voltage* unbalance at the *connection point* with the *generating unit* not *synchronised*;

(4) technical information relevant to the *connection point* with the *generating unit* not *synchronised* including equivalent source impedance information, sufficient to estimate fault levels, *voltage* fluctuations, harmonic *voltage* distortion and *voltage* unbalance; and

(5) any other information or data not being *confidential information* relating to the performance of the *Network Service Provider's facilities* that is reasonably necessary for the *Connection Applicant* to prepare an *application to connect*;

except where the *Connection Applicant* agrees the *Network Service Provider* may provide alternative or less detailed technical information in satisfaction of this clause S5.2.4(c).

S5.2.5 Technical requirements

[Deleted]

S5.2.5.1 Reactive power capability

For the purpose of this clause S5.2.5.1:

'rated active power output' means the 'Rated MW (Generated)' (as defined in schedule 5.5.1) for the relevant *synchronous generating unit*; and

'nominal voltage' means the 'Nominal *voltage* at *connection* to *Network*' (as defined in schedule 5.5.1) at the *connection point* for the relevant *synchronous generating unit*.

(a) *Automatic access standard*: Each *synchronous generating unit*, while operating at any level of *active power* output, must be capable of:

(1) supplying at its *connection point* an amount of *reactive power* of at least the amount equal to the product of the *rated active power output* of the *generating unit* at *nominal voltage* and 0.395; and

(2) absorbing at its *connection point* an amount of *reactive power* of at least the amount that would be absorbed equal to the product of the *rated active power output* of the *generating unit* at *nominal voltage* and 0.395.

(b) *Minimum access standard*: No requirement to supply or absorb *reactive power* at the *connection point*.

(c) The *Generator* and the *Network Service Provider* may, in accordance with clause 5.3.4A of the *Rules*, negotiate a *reactive power capability* sufficient to ensure all relevant *system standards* are met under system normal and contingency operating conditions.

(d) The *Generator* may reach a commercial arrangement with the *Network Service Provider* or a *Registered Participant* for the provision of *reactive power capability* sufficient to ensure the *Generator's* obligation under this clause is met.

(e) The access standards for consumption by a *Generator* are to be determined in accordance with clause S5.3.5 of schedule 5.3 as if the *Generator* were a *Market Customer*.

S5.2.5.2 Quality of electricity generated

(a) *Automatic access standard*:

(1) The *plant standard* in accordance with clause S5.2.5.2(c); or

(2) Each *generating unit* must *generate* a constant *voltage* level, and when not *generating* draw electricity, with:

(i) *voltage* fluctuation equal to or less than the limits determined by the *Network Service Provider* in accordance with clause S5.1.5(a); and

(ii) harmonic *voltage* distortion equal to or less than the emission limits determined by the *Network Service Provider* in accordance with clause S5.1.6(a); and

(iii) *voltage* unbalance equal to or less than the limits allocated by the *Network Service Provider* in accordance with clause S5.1.7.

(b) *Minimum access standard*: Each *generating unit* must *generate* a constant *voltage* level with balanced phase *voltage*s and harmonic *voltage* distortion equal to or less than the emission limits determined by the relevant *Network Service Provider* in accordance with clauses S5.1.5(b) and S5.1.6(b) and clause S5.1a.7 of the *system standards*.

(c) *Plant standard*: When operating *unsynchronised*, each *synchronous generating unit* must *generate* a constant *voltage* level with balanced phase *voltage*s and harmonic *voltage* distortion equal to or less than permitted in accordance with *Australian Standard AS* 1359 "General Requirements for Rotating Electrical Machines".

S5.2.5.3 Generating unit response to disturbances in the power system

(a) Each *generating unit* must be capable of continuous uninterrupted operation during the occurrence of:

(1) *Power system frequency* within the *frequency operating standards* limits and bands for periods not longer than the corresponding times specified in the *frequency operating standards* for the relevant limit or band.

(2) The range of *voltage* variation conditions permitted by clause S5.1a.4 of the *system standards*.

(3) The *voltage* variation conditions corresponding to either:

(i) the *automatic access standard* determined in accordance with clause S5.2.5.3(b); or

(ii) the *negotiated access standard* derived from the *minimum access standard* in accordance with clause S5.2.5.3(c) and agreed between the *Generator* and the *Network Service Provider*.

(b) *Automatic access standard*: The *voltage* dip caused by a *transmission system* fault which causes *voltage* at the *connection point* to drop to zero for up to 0.175 seconds in any one phase or combination of phases, followed by a period of ten seconds where *voltage* may vary in the range 80-110 percent of the nominal *voltage*, and a subsequent period of three minutes in which

the *voltage* may vary within the range 90-110 percent of the nominal *voltage*.

(c) *Minimum access standard*: The *voltage* dip caused by a *transmission system* fault which causes *voltage* at the *connection point* to drop to the *voltage* magnitude calculated by the *Network Service Provider* and advised to the *Generator* for a period of time derived from column 2 of Table S5.1a.2 corresponding to the nominal *voltage* of *transmission* at a location nearest the *connection point* in any one phase or combination of phases.

(d) The negotiation of access standards in relation to this clause S5.2.5.3 must involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*.

S5.2.5.4 Partial load rejection

(a) *Automatic access standard*: Each *generating unit* must be capable of continuous uninterrupted operation during and following a *loading level* reduction directly imposed from the *power system* in less than 10 seconds from a fully or partially loaded condition provided that the *loading level* reduction is less than 30 percent of the *generating unit's nameplate rating* and the *loading level* remains above *minimum load*.

(b) *Minimum access standard*: Each *generating unit* must be capable of continuous uninterrupted operation during and following a *loading level* reduction directly imposed from the *power system* in less than 10 seconds from a fully or partially loaded condition provided that the *load* reduction is less than 5 percent of the *generating unit's nameplate rating* and the *loading level* remains above *minimum load.*

(c) If, in accordance with clause 5.3.4A of the *Rules*, the *Generator* and the *Network Service Provider* determine a *negotiated access standard* is to apply, the *Network Service Provider* must consult *NEMMCO* to ensure that the *negotiated access standard* does not materially adversely affect *system security*.

(d) The actual partial load rejection performance must be recorded in the *connection agreement.*

(e) For the purposes of this clause *minimum load* means the *generating unit* output level corresponding to the value described as PMIN in schedule 5.5.1.

S5.2.5.5 [Deleted]

S5.2.5.6 [Deleted]

S5.2.5.7 [Deleted]

S5.2.5.8 Protection of generating units from power system disturbances

(a) The *minimum access standard* is:

(1) Subject to clause S5.2.5.8(a)(2), if a *Connection Applicant* requires that its *generating unit* be automatically *disconnected* from the *power system* in response to abnormal conditions arising from the *power system*, the relevant *protection system* or *control system* must not *disconnect* the *generating unit* for conditions under which it must continuously operate or must withstand under a provision of the *Rules*.

(2) Each *scheduled generating unit connected* to a *transmission system* must have *facilities* to automatically and rapidly reduce its *generation* by at least half if the *frequency* at the *connection point* exceeds a level nominated by *NEMMCO* that is not less that the upper limit of the *operational frequency tolerance band*.

(b) There is no *automatic access standard* for this technical requirement.

(c) For the purposes of this clause, abnormal conditions include:

(1) *frequency* outside the *extreme frequency excursion tolerance limits*;

(2) sustained and uncontrollable stator current beyond the *generating unit's* "Rated Stator Current" (as described in schedule 5.5.1);

(3) stator *voltage* above the *generating unit's* stator *voltage* maximum rating or sustained below the lower limit for stable operation;

(4) *voltage* to *frequency* ratio beyond the *generating unit's* magnetic flux based *voltage* to *frequency* rating;

(5) sustained *voltage* fluctuations at the *connection point* beyond the level determined under clause S5.1.5(a);

(6) sustained harmonic *voltage* distortion at the *connection point* beyond the level determined under clause S5.1.6(a);

(7) sustained negative phase sequence *voltage* at the *connection point* beyond the level determined under clause S5.1.7(a); and

(8) any similar condition agreed between the *Generator* and the relevant *Network Service Provider* after consultation with *NEMMCO*.

(d) The negotiation of access standards in relation to this clause S5.2.5.8 must involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*.

The *Network Service Provider* is not liable for any loss or damage incurred by the *Generator* or any other person as a consequence of a fault on either the *power system*, or within the *Generator*'s *facility*.

S5.2.5.9 Protection systems that impact on power system security

The requirements of this clause apply only to protection measures which may be necessary to maintain *power system security*. Protection solely for *Generator* risks is at the *Generator's* discretion.

(a) The *automatic access standard* is:

(1) Primary *protection systems* must be provided to *disconnect* from the *power system* any faulted element within the protection zones that include the *connection point*, the *generating unit* stator winding or any *plant connected* between them, within the applicable *fault clearance time* determined under clause S5.1.9(a)(1), but subject to clauses S5.1.9(k) and S5.1.9(l).

(2) Each primary *protection system* must have sufficient redundancy to ensure that a faulted element within its protection zone is *disconnected* from the *power system* within the applicable *fault clearance time* with any single protection element (including any communications facility upon which that *protection system* depends) out of service.

(3) *Breaker fail protection systems* must be provided to clear faults that are not cleared by the circuit breakers controlled by the primary *protection system*, within the applicable *fault clearance time* determined under clause S5.1.9(a)(1).

(b) The *minimum access standard* is:

(1) *Protection systems* must be provided to *disconnect* from the *power system* any faulted element within the protection zones that include the *connection point*, the *generating unit* stator winding and any *plant* between them, within the applicable *fault clearance time* determined under clause S5.1.9(a)(2), but subject to clauses S5.1.9(k) and S5.1.9(l).

(2) If a *fault clearance time* determined under clause S5.1.9(a)(2) for a protection zone is less than 10 seconds, a *breaker fail protection system* must be provided to clear from the *power system* any fault within that protection zone that is not cleared by the circuit breakers controlled by the primary *protection system*, within the applicable *fault clearance time* determined under clause S5.1.9(a)(3).

(c) The *Network Service Provider* and the *Generator* must cooperate in the design and implementation of *protection systems* to comply with this clause, including cooperation with regard to:

(1) the use of *current transformer* and *voltage transformer* secondary circuits (or equivalent) of one party by the *protection system* of the other;

(2) tripping of one party's circuit breakers by a *protection system* of the other party; and

(3) co-ordination of *protection system* settings to ensure inter-operation.

S5.2.5.10 Asynchronous operation of synchronous generating units

(a) The *automatic access standard* is: Each *synchronous generating unit* must have a *protection system* to promptly *disconnect* it in order to prevent pole slipping.

(b) The *minimum access standard* is: Each *generating unit* must not cause a *voltage* disturbance due to pole slipping of more than the maximum level specified in Table 7 of *Australian Standard* AS/NZS 61000.3.7:2001.

(c) The actual settings of protection installed on a *generating unit* to satisfy the requirements of clause S5.2.5.10(a) must be approved by the *Network Service Provider*.

S5.2.5.11 Frequency control

General:

(a) For the purpose of this clause:

"*maximum operating level*" means, in relation to a *generating unit*, the greater of its *nameplate rating* and its value for "PMAX" as described in schedule 5.5.1;

"*minimum operating level*" means, in relation to a *generating unit*, the greater of zero and its value for "PMIN" as described in schedule 5.5.1;

"*system frequency*" means the electrical frequency of the *transmission system* or *distribution system* to which the *generating unit* is *connected*;

"*pre-disturbance level*" means, in relation to a *generating unit* and a *frequency* disturbance, the *generating unit's* level of output just before the *system frequency* first exceeds the upper or lower limit of the *normal operating frequency band* during the *frequency* disturbance.

Automatic access standard:

(b) A *Generator* must ensure that in respect of each of its *scheduled generating units*:

(1) its *active power* transfer to the *power system* does not increase in response to a rise in *system frequency*;

(2) its *active power* transfer to the *power system* does not decrease in response to a fall in *system frequency*; and

(3) any oscillatory behaviour in respect of its *active power* transfer to the *power system* (other than authorised power system stabiliser action) is damped with a damping ratio of more than 0.4.

(c) A *Generator* must ensure that each of its *scheduled generating units* is capable of automatically reducing its output:

(1) whenever the *system frequency* exceeds the upper limit of the *normal operating frequency band*;

(2) by an amount that is at least the smallest of:

(i) twenty percent of its *maximum operating level* times the percentage *frequency* difference between *system frequency* and the upper limit of the *normal operating frequency band*;

(ii) ten percent of its *maximum operating level*; and

(iii) subject to the *frequency* recovering gradually, the difference between the *generating unit's pre-disturbance level* and *minimum operating level*, but zero if the difference is negative.

(d) A *Generator* must ensure that each of its *scheduled generating units* is capable of automatically increasing its output:

(1) whenever the *system frequency* falls below the lower limit of the *normal operating frequency band*;

(2) by the amount that is at least the smallest of:

(i) twenty percent of its *maximum operating level* times the percentage *frequency* difference between the lower limit of the *normal operating frequency band* and *system frequency*;

(ii) five percent of its *maximum operating level*; and

(iii) subject to the *frequency* recovering gradually, one third of the difference between the *generating unit's maximum operating level* and *pre-disturbance level*, but zero if the difference is negative.

Minimum access standard:

(e) A *Generator* must ensure that at each of its *connection points* in relation to its *scheduled generating units*:

(1) the *active power* transfer to the *power system* does not increase in response to a rise in *system frequency*;

(2) the *active power* transfer to the *power system* does not decrease more than 2 percent per Hz in response to a fall in *system frequency*; and

(3) any oscillatory behaviour of *active power* transfer to the *power system* (other than authorised power system stabiliser action) is damped with a damping ratio of more than 0.4.

Negotiated access standards:

(f) If, in accordance with clause 5.3.4A of the *Rules*, the *Generator* and the *Network Service Provider* determine a *negotiated access standard* is to apply, the *Network Service Provider* must ensure that the *negotiated access standard* is equal to the value determined by *NEMMCO* as unlikely to materially adversely affect *system security*.

(g) The negotiation of access standards in relation to this clause S5.2.5.11 must involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*.

S5.2.5.12 Stability

(a) *Automatic access standard*: A *generating unit* must have plant capabilities and *control systems*, including, but not limited to inertia, short-circuit ratio and power system stabilisers, sufficient to:

(1) not cause any *inter-regional* or *intra-regional power transfer capability* based on:

(i) transient stability;

(ii) oscillatory stability; or

(iii) *voltage* stability,

to be reduced below the level that would apply if the *generating unit* were *disconnected*;

(2) not cause instability that would adversely impact on other *Registered Participants*.

(b) *Minimum access standard*: The *generating unit* must have plant capabilities and *control systems*, including, but not limited to inertia, short-circuit ratio and power system stabilisers, sufficient to not reduce any *inter-regional* or *intra-regional power transfer capability* to import into the *generating unit's region* by more than its *loading level* whenever it is *synchronised*.

(c) The relevant requirements for short-circuit ratio in IEC 60034-3 are a *plant standard* in relation to clause S5.2.5.12(a)(1)(i).

(d) The negotiation of access standards in relation to this clause S5.2.5.12 must involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*.

S5.2.5.13 Excitation control system

A *Generator* must ensure that each *synchronous generating unit is* fitted with an *excitation control system*. Each *excitation control system* must provide continuous *voltage* regulation to within 0.5 percent of the selected setpoint value at all operating points within generator capability.

A *Generator* must ensure that the *excitation control system* of a *synchronous generating unit* is also capable of:

(a) controlling *generating unit* excitation to maintain the short-time average *generating unit* stator *voltage* at highest rated power output level which must be at least 5 percent above the nominal stator *voltage*;

(b) maintaining adequate *generating unit* stability under all operating conditions including providing *power system* stabilising action if fitted with a *power system* stabiliser;

(c) providing a ceiling excitation *voltage* at least 1.6 times the excitation *voltage* required to achieve maximum continuous rating at nominal *voltage*; and

(d) unless otherwise agreed by the *Network Service Provider* providing reactive current compensation settable for boost or droop.

Where fitted in accordance with clause S5.2.5.12(a), a *power system* stabiliser circuit must modulate *generating unit* field *voltage* in response to changes in power output and/or shaft speed and/or any other equivalent input signal approved by the *Network Service Provider*. The stabilising circuit must be responsive and adjustable over a *frequency* range which must include *frequencies* within a bandwidth from 0.1 Hz to 2.5 Hz.

The *Network Service Provider* must ensure that the structure and setting or modification of a parameter setting of any component of a *synchronous generating unit excitation control system* is undertaken in accordance with clause S5.2.2.

Excitation limiters must be provided by the *Generator* on each *synchronous generating unit* for under excitation and over excitation and may be provided for *voltage* to *frequency* ratio. Each *generating unit* must be capable of stable operation for indefinite periods while under the control of any excitation limiter. The *Generator* must ensure that excitation limiters do not detract from the performance of any stabilising circuits and that they have settings applied which are co-ordinated with all *protection systems*.

Automatic access standard: A *generating unit* must be adequately damped and is not permitted to remain in oscillation with respect to the remainder of the *power system* with a frequency of oscillation more than 2.5 Hz or less than 0.1 Hz.

Minimum access standard: A *generating unit* must be adequately damped and is not permitted to remain in oscillation with respect to the remainder of the *power system* with a frequency of oscillation more than 5 Hz or less than 0.1 Hz.

Negotiated access standard: If, in accordance with clause 5.3.4A of the *Rules*, the *Generator* and the *Network Service Provider* determine a *negotiated access standard* is to apply, the *Network Service Provider* must ensure that the *negotiated access standard* is equal to the value determined by *NEMMCO* as unlikely to materially adversely affect *system security*.

The negotiation of access standards in relation to this clause S5.2.5.13 must involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*.

Table S5.2.1 sets out a minimum performance requirement that must be achieved by the *Generator* for *synchronous generating unit*:

Performance Item	**Units**	**Minimum requirement**	**Notes**
Sensitivity: A sustained 0.5 percent error between the *voltage* reference and the sensed *voltage* will produce an excitation change of not less than 1.0 per unit.	gain	200 minimum	1
Field voltage rise time: Time for field *voltage* to rise from rated *voltage* to minimum excitation ceiling *voltage* required by clause S5.2.5.13(c) following the application of a short duration impulse to the *voltage* reference	s	.5 maximum	2
Settling time with the *generating unit* unsynchronised following a disturbance equivalent to a 5 percent step change in the sensed *generating unit* terminal *voltage*.	s	2.5 maximum	

Performance Item	Units	Minimum requirement	Notes
Settling time with the *generating unit synchronised* following a disturbance equivalent to a 5 percent step change in the sensed *generating unit* terminal *voltage*. Must be met at all operating points within the *generating unit* capability.	s	5 maximum	
Settling time following any disturbance which causes an excitation limiter to operate	s	7.5 maximum	

Table S5.2.1: Excitation System Performance Requirements

Notes:

1. One per unit is that field *voltage* required to produce nominal *voltage* on the airgap line of the *generating unit* open circuit characteristic (Refer IEEE Standard 115-1983 - Test Procedures for Synchronous Machines).

2. Rated field *voltage* is that *voltage* required to give nominal *generating unit* terminal *voltage* when the *generating unit* is operating at its maximum continuous rating. Rise time is defined as the time taken for the field *voltage* to rise from 10 percent to 90 percent of the increment value.

S5.2.6 Monitoring and control requirements

S5.2.6.1 Remote monitoring

(a) *Automatic access standard*:

(1) Each *scheduled generating unit* must have *remote monitoring equipment* to transmit to *NEMMCO's control centres* in real time, the quantities that *NEMMCO* reasonably requires to discharge its *market* and *power system security* functions as set out in Chapters 3 and 4 of the *Rules* respectively.

(2) The quantities may include such data as current, *voltage*, *active power* and *reactive power* in respect of *generating unit* stators, auxiliary supply and power conversion systems.

(b) *Minimum access standard*:

(1) Each *scheduled generating unit* connected to a *transmission system* must have *remote monitoring equipment* to transmit to *NEMMCO's control centres* in real time:

(A) *generating unit active power* output; and

(B) *generating unit reactive power* output.

(2) Each *scheduled generating unit* connected to a *distribution system* must have *remote monitoring equipment* to transmit to *NEMMCO's control centres* in real time either *generating unit active power* output or *active power* delivered to the *distribution system*.

(c) The negotiation of access standards in relation to this clause S5.2.6.1 must involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*.

S5.2.6.2 [Deleted]

S5.2.6.3 Communications equipment

A *Generator* must provide electricity *supplies* for *remote monitoring equipment* and *remote control equipment* installed in relation to its *generating unit*s capable of keeping such equipment available for at least three hours following total loss of *supply* at the *connection point* for the relevant *generating unit*.

A *Generator* must provide communications paths (with appropriate redundancy) from the *remote monitoring equipment* or *remote control equipment* installed at any of its *generating unit*s to a communications interface in a location reasonably acceptable to the *Network Service Provider* at the relevant *power station*. Communications systems between this communications interface and the *control centre* are the responsibility of the *Network Service Provider* unless otherwise agreed by the *Generator* and the *Network Service Provider*.

Telecommunications between *Network Service Providers* and *Generators* for *operational communications* must be established in accordance with the requirements set down below.

(a) Primary Speech Facility

The relevant *Network Service Provider* must provide and maintain equipment by means of which routine and emergency control telephone calls may be made between the *Generator's* responsible Engineer/Operator and *NEMMCO*.

The *facilities* to be provided, including the interface requirement between the *Network Service Provider's* equipment and the *Generator's* equipment, must be specified by the *Network Service Provider*.

The costs of the equipment must be recovered by the *Network Service Provider* only through the charge for *connection*.

(b) Back-up Speech Facility

Where the *Network Service Provider* or *NEMMCO* reasonably determines that a back-up speech *facility* to the primary *facility* is required, the *Network Service Provider* must provide and maintain a separate telephone link or radio installation on a cost-recovery basis only through the charge for *connection*.

The *Network Service Provider* is responsible for radio system planning and for obtaining all necessary radio licenses.

S5.2.6.4 [Deleted]

S5.2.6.5 [Deleted]

S5.2.7 [Deleted]

S5.2.8 Power station auxiliary transformers

In cases where a *Generator's power station* takes its auxiliary supplies through a *transformer* via a separate *connection point*, the *Generator* must comply with the conditions for *Customers* (schedule 5.3) in respect of that *connection point*.

S5.2.9 Fault Level

(a) *Automatic access standard*: A *Generator* must ensure that each *generating unit* can limit its contribution to the fault current on the *transmission network* or *distribution network* to the level specified for that *generating unit* by the *Network Service Provider*.

(b) *Minimum access standard*: There is no minimum requirement.

(c) Negotiated access standard: If, in accordance with clause 5.3.4A of the *Rules*, the *Generator* and the *Network Service Provider* determine a *negotiated access standard* is to apply on terms and conditions to be agreed between the parties, the *Network Service Provider* must consider alternative *network* configurations in the determination of the applicable fault current level and must prefer those options which maintain an equivalent level of service to other *Network Users* and which, in the opinion of the *Generator*, impose the least obligation on the *Generator*.

Schedule 5.3 - Conditions for Connection of Customers

(a) This schedule applies to the following classes of *Network User*:

(1) a *First-Tier Customer* in respect of its *first-tier load*;

(2) a *Second-Tier Customer* in respect of its *second-tier load*;

(3) a *Market Customer* in respect of its *market load*;

(4) a *Non-Registered Customer* in respect of *supply* it takes from a *network*; and

(5) a *Distribution Network Service Provider* in respect of its *distribution network.*

(b) For the purposes of this schedule 5.3 the term "*Network Service Provider"* must be interpreted to mean the *Network Service Provider* with whom the *Connection Applicant* has sought, or is seeking, a *connection* in accordance with clause 5.3.2 of the *Rules*.

(c) All *Network Users* must comply with the requirements for the establishment of performance standards in accordance with provisions contained in schedule 5.1a for *system standards* or schedule 5.1 for *Network Service Providers* and this schedule 5.3 for *Customers*.

(d) If the *Connection Applicant* is a *Registered Participant* in relation to the proposed *connection*, the *Network Service Provider* may include as terms and conditions of the *connection agreement* any provision of this schedule that is expressed as an obligation on a *Network User*. If the *Connection Applicant* is not a *Registered Participant* in relation to the proposed *connection*, the *Network Service Provider* must include as terms and conditions of the *connection agreement*:

(1) each provision of this schedule that is expressed as an obligation on a *Network User*; and

(2) each agreed *performance standard* and an obligation to comply with it.

(e) The purpose of this schedule is to:

(1) describe the information that must be exchanged for the *connection* enquiry and *application to connect* processes described in clause 5.3 of the *Rules*;

(2) establish the *automatic access standards* and *minimum access standards* that will apply to the process of negotiating access standards under clause 5.3.4A of the *Rules*; and

(3) establish obligations to apply prudent design standards for the *plant* to be *connected.*

S5.3.1 Information

(a) Before a *Network User connects* any new or additional equipment to a *network*, the *Network User* must submit the following kinds of information to the *Network Service Provider*:

(1) a single line diagram with the protection details;

(2) *metering system* design details for any metering equipment being provided by the *Network User*;

(3) a general arrangement locating all the equipment on the site;

(4) a general arrangement for each new or altered *substation* showing all exits and the position of all electrical equipment;

(5) type test certificates for all new switchgear and *transformers*, including measurement *transformers* to be used for *metering* purposes in accordance with Chapter 7 of the *Rules*;

(6) earthing details;

(7) the proposed methods of earthing cables and other equipment to comply with the regulations of the relevant *participating jurisdiction*;

(8) *plant* and earth grid test certificates from approved test authorities;

(9) a secondary injection and trip test certificate on all circuit breakers;

(10) certification that all new equipment has been inspected before being *connected* to the *supply*; and

(11) operational arrangements.

(b) For the purposes of clause 5.3.2(d) of the *Rules*, the technical information that a *Network Service Provider* must, if requested, provide to a *Connection Applicant* in respect of the proposed *connection* includes:

(1) the highest expected single phase and three phase fault levels at the *connection point* without the proposed *connection*;

(2) the clearing times of the existing *protection systems* that would clear a fault at the location at which the new *connection* would be connected into the existing *transmission system* or *distribution system*;

(3) the expected limits of *voltage* fluctuation, harmonic *voltage* distortion and *voltage* unbalance at the *connection point* without the proposed *connection*;

(4) technical information relevant to the *connection point* without the proposed *connection* including equivalent source impedance information, sufficient to estimate fault levels, *voltage* fluctuations, harmonic *voltage* distortion and *voltage* unbalance; and

(5) any other information or data not being *confidential information* relating to the performance of the *Network Service Provider's facilities* that is reasonably necessary for the *Connection Applicant* to prepare an *application to connect*;

except where the *Connection Applicant* agrees the *Network Service Provider* may provide alternative or less detailed technical information in satisfaction of this clause S5.3.1.(b).

S5.3.2 Design standards

A *Network User* must ensure that:

(a) the electrical *plant* in its *facility* complies with the relevant *Australian Standards* as applicable at the time of first installation of that electrical *plant* in the *facility*;

(b) circuit breakers provided to isolate the *Network User's facilities* from the *Network Service Provider's facilities* are capable of breaking, without damage or restrike, fault currents nominated by the *Network Service Provider* in the relevant *connection agreement*; and

(c) new equipment including circuit breakers provided to isolate the *Network User's facilities* from the *Network Service Provider's facilities* is capable of withstanding, without damage, power *frequency voltage*s and impulse levels nominated by the *Network Service Provider* to apply at the *connection point* in accordance with the relevant provisions of the *system standards* and recorded in the relevant *connection agreement*.

S5.3.3 Protection systems and settings

A *Network User* must ensure that all *connections* to the *network* are protected by protection devices which effectively and safely *disconnect* any faulty circuit automatically within a time period specified by the *Network Service Provider* in accordance with the following provisions:

(a) The *automatic access standard* is:

(1) Primary *protection systems* must be provided to *disconnect* any faulted element from the *power system* within the applicable *fault clearance time* determined under clause S5.1.9(a)(1), but subject to clauses S5.1.9(k) and S5.1.9(l).

(2) Each primary *protection system* must have sufficient redundancy to ensure that a faulted element within its protection zone is *disconnected* from the *power system* within the applicable *fault clearance time* with any single protection element (including any communications facility upon which that *protection system* depends) out of service.

(3) *Breaker fail protection systems* must be provided to clear faults that are not cleared by the circuit breakers controlled by the primary *protection system*, within the applicable *fault clearance time* determined under clause S5.1.9(a)(1).

(b) The *minimum access standard* is:

(1) Primary *protection systems* must be provided to *disconnect* from the *power system* any faulted element within their respective protection zones within the applicable *fault clearance time* determined under clause S5.1.9(a)(2), but subject to clauses S5.1.9(k) and S5.1.9(l).

(2) If a *fault clearance time* determined under clause S5.1.9(a)(2) for a protection zone is less than 10 seconds, a *breaker fail protection system* must be provided to clear from the *power system* any fault within that protection zone that is not cleared by the circuit breakers controlled by the primary *protection system*, within the applicable *fault clearance time* determined under clause S5.1.9(a)(3).

(c) The *Network Service Provider* and the *Network User* must cooperate in the design and implementation of *protection systems* to comply with this clause, including cooperation with regard to:

(1) the use of *current transformer* and *voltage transformer* secondary circuits (or equivalent) of one party by the *protection system* of the other;

(2) tripping of one party's circuit breakers by a *protection system* of the other party; and

(3) co-ordination of *protection system* settings to ensure inter-operation.

Before the *Network User's* installation is *connected* to the *Network Service Provider's transmission or distribution system* the *Network User's protection system* must be tested and the *Network User* must submit the appropriate test certificate to the *Network Service Provider*.

The application of settings of the protection scheme must be undertaken in accordance with clause S5.3.4.

S5.3.4 Settings of protection and control systems

A *Network User* must only apply settings to a *control system* or a *protection system* that are necessary to comply with performance requirements of this schedule 5.3 if the settings have been approved in writing by the *Network Service Provider* and, if the requirement is one that would involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*, also by *NEMMCO*. A *Network User* must not allow its *plant* to take *supply* of electricity from the *power system* without such prior approval.

If a *Network User* seeks approval from the *Network Service Provider* to apply or change a setting, approval must not be withheld unless the *Network Service Provider* or, if the requirement is one that would involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*, *NEMMCO*, reasonably determines that the changed setting would cause the *plant* to not comply with the relevant *performance standard* or cause an *inter-regional* or *intra-regional power transfer capability* to be reduced.

If the *Network Service Provider* or, if the requirement is one that would involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*, *NEMMCO*, reasonably determines that a setting of a *control system* or *protection system* of the *plant* needs to change to comply with the relevant *performance standard* or to maintain or restore an *inter-regional* or *intra-regional power transfer capability*, the *Network Service Provider* or *NEMMCO* (as applicable) must consult with the *Network User*, and the *Network Service Provider* may request in writing that a setting be applied in accordance with the determination.

The *Network Service Provider* may also request a test to verify the performance of the relevant *plant* with the new setting.

A *Network User* who receives such a request must arrange for the notified setting to be applied as requested and for a test to be conducted as requested. After the test, the *Network User* must, on request, provide both *NEMMCO* and the *Network Service Provider* with a report of a requested test, including evidence of its success or failure. Such a report of a test is *confidential information*.

A *Network User* must not change a setting requested by the *Network Service Provider* without its prior written agreement. If the *Network Service Provider* requires a *Network User* to change a setting within 18 months of a previous request, the *Network Service Provider* must pay the *Network User* its reasonable costs of changing the setting and conducting the tests as requested.

S5.3.5 Power factor requirements

Automatic access standard: For *loads* equal to or greater than 30 percent of the *maximum demand* at the *connection point* the *power factor*s for *Network Users* and for *distribution networks connected* to another *transmission network* or *distribution network* are shown in Table S5.3.1:

Table S5.3.1

Permissible Range	
Supply Voltage (nominal)	**Power Factor Range**
> 400 kV	0.98 lagging to unity
250 kV - 400 kV	0.96 lagging to unity
50 kV - 250 kV	0.95 lagging to unity
1 kV < 50 kV	0.90 lagging to 0.90 leading

For *load* less than 30 percent of the *maximum demand* at the *connection point* a *Network Service Provider* may accept a *power factor* outside the range stipulated in Table S5.3.1 provided this does not cause the *system standards* to be violated.

Minimum access standard: A *Network Service Provider* may permit a lower lagging or leading *power factor* where the *Network Service Provider* is advised by *NEMMCO* that this will not detrimentally affect *power system security* or reduce *intra-regional* or *inter-regional power transfer capability.*

General:

If the *power factor* falls outside the relevant *performance standard* over any critical *loading* period nominated by the *Network Service Provider*, the *Network User* must, where required by the *Network Service Provider* in order to maintain satisfactory *voltage* levels at the *connection point* or to restore *intra-regional* or *inter-regional power transfer capability*, take action to ensure that the *power factor* falls within range as soon as reasonably practicable. This may be achieved by installing additional *reactive plant* or reaching a commercial agreement with the *Network Service Provider* to install, operate and maintain equivalent *reactive plant* as part of the *connection assets* or by alternative commercial arrangements with another party.

A *Registered Participant* who installs *shunt capacitors* to comply with *power factor* requirements must comply with the *Network Service Provider's* reasonable requirements to ensure that the design does not severely attenuate audio *frequency* signals used for *load* control or operations, or adversely impact on harmonic *voltage* levels at the *connection point.*

S5.3.6 Balancing of load currents

A *Network Service Provider* may require a *connected Registered Participant's load* to be balanced across all phases in order to maintain the negative sequence *voltage* at each *connection point* at less than or equal to the limits set out in Table S5.1a.1 of the *system standards* for the applicable nominal *supply voltage* level.

Automatic access standard: A *Network User* must ensure that:

(a) for *connections* at 30 kV or higher *voltage*, the current in any phase is not greater than 102 percent or less than 98 percent of the average of the currents in the three phases; and

(b) for *connections* at *voltages* less than 30 kV, that the current in any phase is not greater than 105 percent or less than 95 percent of the average of the currents in the three phases.

Minimum access standard: Where agreed with the relevant *Network Service Provider* and subject to any specific conditions imposed, a *Network User* may cause current unbalance greater than that specified in the *automatic access standard* provided the *Network User* does not cause the limits specified in clause S5.1a.7 to be exceeded at any point in the *network*.

General:

The limit to *load* current unbalance must be included in the *connection agreement* and is subject to verification of compliance by the *Network Service Provider*.

Where these requirements cannot be met the *Registered Participant* may enter into a commercial arrangement with the *Network Service Provider* for the installation of equipment to correct the phase unbalance. Such equipment must be considered as part of the *connection assets* for the *Registered Participant*.

The limit to *load* current unbalance must be included in the *connection agreement* and is subject to verification of compliance by the *Network Service Provider*.

S5.3.7 Voltage fluctuations

(a) *Automatic access standard*: The *voltage* fluctuations caused by variations in *loading level* at the *connection point*, including those arising from *energisation*, de-energisation or other operation of *plant*, must not exceed the limits determined under clause S5.1.5(a).

(b) *Minimum access standard*: The *voltage* fluctuations caused by variations in *loading level* at the *connection point*, including those arising from *energisation*, de-energisation or other operation of *plant*, must not exceed the limits determined under clause S5.1.5(b).

The *voltage* fluctuation emission limits and any specified conditions must be included in the *connection agreement*, and are subject to verification of compliance by the *Network Service Provider*.

S5.3.8 Harmonics and voltage notching

(a) *Automatic access standard*: The harmonic *voltage* distortion caused by non-linearity, commutation of power electronic equipment, harmonic resonance and other effects within the *plant*, must not exceed the limits determined under clause S5.1.6(a).

(b) *Minimum access standard*: The harmonic *voltage* distortion caused by non-linearity, commutation of power electronic equipment, harmonic resonance and other effects within the *plant*, must not exceed the limits determined under clause S5.1.6(b).

The harmonic *voltage* distortion emission limits and any special conditions must be included in the *connection agreement*, and is subject to verification of compliance by the *Network Service Provider*.

S5.3.9 Design requirements for Network Users' substations

A *Network User* must comply with the following requirements applicable to the design, station layout and choice of equipment for a *substation*:

(a) safety provisions must comply with requirements applicable to the *participating jurisdiction* notified by the *Network Service Provider*;

(b) where required by the *Network Service Provider*, appropriate interfaces and accommodation must be incorporated for communication *facilities*, remote monitoring and control and protection of *plant* which is to be installed in the *substation*;

(c) a *substation* must be capable of continuous uninterrupted operation with the levels of *voltage*, harmonics, unbalance and *voltage* fluctuation specified in the *system standards* as modified in accordance with the relevant provisions of schedule 5.1;

(d) earthing of primary *plant* in the *substation* must be in accordance with the Electricity Supply Association of Australia Safe Earthing Guide and must reduce step and touch potentials to safe levels;

(e) *synchronisation facilities* or reclose blocking must be provided if a *generating unit* is *connected* through the *substation*;

(f) secure electricity supplies of adequate capacity must be provided for *plant* performing communication, monitoring, control and protection functions;

(g) *plant* must be tested to ensure that the *substation* complies with the approved design and specifications as included in a *connection agreement*;

(h) the protection equipment required would normally include protection schemes for individual items of *plant*, back-up arrangements, auxiliary DC supplies and instrumentation *transformers*; and

(i) insulation levels of *plant* in the *substation* must co-ordinate with the insulation levels of the *network* to which the *substation* is *connected* as nominated in the *connection agreement*.

S5.3.10 Load shedding facilities

Network Users who are *Market Customers* and who have expected peak demands in excess of 10MW must provide automatic *interruptible load* in accordance with clause 4.3.5 of the *Rules*.

Load shedding procedures may be applied by *NEMMCO* in accordance with the provisions of clause 4.3.2 of the *Rules* for the shedding of all *loads* including *sensitive loads.*

Schedule 5.3a - Conditions for connection of Market Network Services

This schedule sets out obligations of *Market Network Service Providers* who *connect* to either a *transmission network* or a *distribution network*. It represents the requirements to be met for access to a *network*. Particular provisions may be varied by the *Network Service Provider* under the provisions of the *Rules* for the application of *minimum access standards* and *automatic access standards.*

This schedule includes specific provisions for the determination of *automatic access standards* and *negotiated access standards* derived from *minimum access standards* which, once determined, must be recorded together with the *automatic access standards* in a *connection agreement* and registered with *NEMMCO* as *performance standards.*

In this schedule, the term "*Network Service Provider*" applies only to the *Network Service Provider* with whom the *Market Network Service Provider* has lodged, or is considering lodging, an *application to connect*.

(a) The schedule includes, in respect of each *market network service*, provisions regarding the capability to:

(1) automatically control the transfer of real power at the *connection point* for any given set of *system* conditions within the limits permitted under the *Rules*;

(2) respond to control requirements under expected normal and abnormal conditions;

(3) comply with general requirements to meet quality of *supply* obligations in accordance with clauses S5.3a.9, S5.3a.10 and S5.3a.11 and to maintain security of *supply* to other *Registered Participants*; and

(4) automatically *disconnect* itself when necessary to prevent any damage to the *market network service facilities* or threat to *power system security*.

(b) This schedule also sets out the requirements and conditions, which (subject to clause 5.2.3 of the *Rules*) are obligations of *Market Network Service Providers* to:

(1) co-operate with the relevant *Network Service Provider* on technical matters when making a new *connection*;

(2) provide information to the *Network Service Provider* or *NEMMCO;* and

(3) observe and apply the relevant provisions of the *system standards* contained in schedule 5.1a in relation to the planning, design and operation of its *market network service facilities*.

(c) This schedule does not set out arrangements by which a *Market Network Service Provider* may enter into an agreement or contract with *NEMMCO* to:

(1) provide additional services that are necessary to maintain *power system security*; or

(2) provide additional service to facilitate management of the *market*.

S5.3a.1 Provision of Information

(a) Before a *Market Network Service Provider connects* any new or additional equipment to a *network*, the *Market Network Service Provider* must submit the following kinds of information to the *Network Service Provider*:

(1) a single line diagram with the protection details;

(2) *metering system* design details for any metering equipment being provided by the *Market Network Service Provider*;

(3) a general arrangement locating all relevant equipment on the site;

(4) a general arrangement for each new or altered *substation* showing all exits and the position of all electrical equipment;

(5) type test certificates for all new switchgear and *transformers*, including measurement *transformers* to be used for *metering* purposes in accordance with Chapter 7 of the *Rules*;

(6) earthing details;

(7) the proposed methods of earthing cables and other equipment to comply with the regulations of the relevant *participating jurisdiction*;

(8) *plant* and earth grid test certificates from approved test authorities;

(9) a secondary injection and trip test certificate on all circuit breakers;

(10) certification that all new equipment has been inspected before being *connected* to the *supply*; and

(11) operational arrangements.

(b) For the purposes of clause 5.3.2(d) of the *Rules*, the technical information that a *Network Service Provider* must, if requested, provide to a *Connection*

Applicant in respect of the proposed *connection* of a *market network service facility* includes:

(1) the highest expected single phase and three phase fault levels at the *connection point* without the proposed *connection*;

(2) the clearing times of the existing *protection systems* that would clear a fault at the location at which the new *connection* would be connected into the existing *transmission system* or *distribution system*;

(3) the expected limits of *voltage* fluctuation, harmonic *voltage* distortion and *voltage* unbalance at the *connection point* without the proposed *connection*;

(4) technical information relevant to the *connection point* without the proposed *connection* including equivalent source impedance information, sufficient to estimate fault levels, *voltage* fluctuations, harmonic *voltage* distortion and *voltage* unbalance; and

(5) any other information or data not being *confidential information* relating to the performance of the *Network Service Provider's facilities* that is reasonably necessary for the *Connection Applicant* to prepare an *application to connect*;

except where the *Connection Applicant* agrees the *Network Service Provider* may provide alternative or less detailed technical information in satisfaction of this clause S5.3a.1(b).

S5.3a.2 Application of settings

A *Market Network Service Provider* must only apply settings to a *control system* or a *protection system* that are necessary to comply with performance requirements of this schedule 5.3a if the settings have been approved in writing by the *Network Service Provider* and, if the requirement is one that would involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*, also by *NEMMCO*. A *Market Network Service Provider* must not allow its *market network service facilities* to take electricity from the *power system* without such prior approval.

If a *Market Network Service Provider* seeks approval from the *Network Service Provider* to apply or change a setting, approval must not be withheld unless the *Network Service Provider* or, if the requirement is one that would involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*, *NEMMCO*, reasonably determines that the changed setting would cause the *market network service facilities* to not comply with the relevant *performance standard* or cause an *inter-regional* or *intra-regional power transfer capability* to be reduced.

If the *Network Service Provider* or, if the requirement is one that would involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*, *NEMMCO*, reasonably

determines that a setting of a *market network service facility's control system* or *protection system* needs to change to comply with the relevant *performance standard* or to maintain or restore an *inter-regional* or *intra-regional power transfer capability*, the *Network Service Provider* or *NEMMCO* (as applicable) must consult with the *Market Network Service Provider*, and may request in writing that a setting be applied in accordance with the determination.

The *Network Service Provider* may also request a test to verify the performance of the relevant *plant* with the new setting. The *Network Service Provider* must provide *NEMMCO* with a copy of its request to a *Market Network Service Provider* to apply a setting or to conduct a test.

A *Market Network Service Provider* who receives such a request must arrange for the notified setting to be applied as requested and for a test to be conducted as requested. After the test, the *Market Network Service Provider* must, on request, provide both *NEMMCO* and the *Network Service Provider* with a report of a requested test, including evidence of its success or failure. Such a report of a test is *confidential information*.

A *Market Network Service Provider* must not change a setting requested by the *Network Service Provider* without its prior written agreement. If the *Network Service Provider* requires a *Market Network Service Provider* to change a setting within 18 months of a previous request, the *Network Service Provider* must pay the *Market Network Service Provider* its reasonable costs of changing the setting and conducting the tests as requested.

S5.3a.3 Technical matters to be co-ordinated

A *Market Network Service Provider* and the relevant *Network Service Provider* must use all reasonable endeavours to agree upon the following matters in respect of each new or altered *connection* of a *market network service facility* to a *network*:

(a) design at the *connection point*;

(b) physical layout adjacent to the *connection point*;

(c) primary protection and backup protection (clause S5.3a.6);

(d) control characteristics (clause 5.3a.4);

(e) communications and alarms (clause 5.3a.4);

(f) insulation co-ordination and lightning protection;

(g) fault levels and *fault clearance times*;

(h) switching and *isolation facilities*;

(i) interlocking arrangements; and

(j) *metering installations* as described in Chapter 7 of the *Rules*.

S5.3a.4 Monitoring and control requirements

S5.3a.4.1 Remote Monitoring

(a) *Automatic access standard*:

(1) Each *market network service facility* must have *remote monitoring equipment* to transmit to *NEMMCO's control centres* in real time, the quantities that *NEMMCO* reasonably requires to discharge its *market* and *power system security* functions as set out in Chapters 3 and 4 of the *Rules* respectively.

(2) The quantities may include such data as current, *voltage*, *active power*, *reactive power*, operational limits and critical temperatures in respect of *connection points* and power conversion systems.

(b) *Minimum access standard*:

(1) Each *market network service facility* must have *remote monitoring equipment* to transmit to *NEMMCO's control centres* in real time:

(A) *connection point active power* flow, *reactive power* flow and *voltage*;

(B) *active power*, *reactive power* and *voltage* for AC power lines, *transformers* and *busbars*, and power and *voltage* (or alternatively current) for DC power lines; and

(C) the status of circuit breakers.

(c) The negotiation of access standards in relation to this clause S5.3a.4.1 must involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*.

S5.3a.4.2 [Deleted]

S5.3a.4.3 Communications equipment

A *Market Network Service Provider* must provide electricity *supplies* for *remote monitoring equipment* and *remote control equipment* installed in relation to its *market network service facilities* capable of keeping such equipment available for at least three hours following total loss of *supply* at the *connection point* for the relevant *market network service facility*.

A *Market Network Service Provider* must provide communications paths (with appropriate redundancy) from the *remote monitoring equipment* or *remote control equipment* installed at any of its *market network service facilities* to a communications interface in a location reasonably acceptable to the *Network Service Provider* at the relevant *connection point.* Communications systems between this communications interface and the *control centre* are the responsibility of the *Network Service Provider* unless otherwise agreed by the *Market Network Service Provider* and the *Network Service Provider*.

Telecommunications between *Network Service Providers* and *Market Network Service Providers* for *operational communications* must be established in accordance with the requirements set down below.

(a) Primary Speech Facility

The relevant *Network Service Provider* must provide and maintain equipment by means of which routine and emergency control telephone calls may be established between the *Market Network Service Provider's* responsible Engineer/Operator and *NEMMCO*.

The *facilities* to be provided, including the interface requirement between the *Network Service Provider's* equipment and the *Market Network Service Provider's* equipment, must be specified by the *Network Service Provider*.

The costs of the equipment must be recovered by the *Network Service Provider* only through the charge for *connection.*

(b) Back-up Speech Facility

Where the *Network Service Provider* or *NEMMCO* reasonably determines that a back-up speech *facility* to the primary *facility* is required, the *Network Service Provider* must provide and maintain a separate telephone link or radio installation on a cost-recovery basis only through the charge for *connection.*

The *Network Service Provider* is responsible for radio system planning and for obtaining all necessary radio licences.

S5.3a.5 Design standards

A *Market Network Service Provider* must ensure that:

(a) the electrical *plant* in its *facility* complies with the relevant *Australian Standards* as applicable at the time of first installation of that electrical *plant* in the *facility*;

(b) circuit breakers provided to isolate the *Market Network Service Provider's facilities* from the *Network Service Provider's facilities* are capable of breaking, without damage or restrike, fault currents nominated by the *Network Service Provider* in the relevant *connection agreement*; and

(c) all new equipment including circuit breakers provided to isolate the *Market Network Service Provider's facilities* from the *Network Service Provider's facilities* is capable of withstanding, without damage, power *frequency voltages* and impulse levels nominated by the *Network Service Provider* in accordance with the relevant provisions of the *system standards* and recorded in the relevant *connection agreement*.

S5.3a.6 Protection systems and settings

A *Market Network Service Provider* must ensure that all *connections* to the *network* are protected by protection devices which effectively and safely *disconnect* any faulty circuit automatically within a time period specified by the *Network Service Provider* in accordance with the following provisions:

(a) The *automatic access standard* is:

(1) Primary *protection systems* must be provided to *disconnect* any faulted element from the *power system* within the applicable *fault clearance time* determined under clause S5.1.9(a)(1), but subject to clauses S5.1.9(k) and S5.1.9(l).

(2) Each primary *protection system* must have sufficient redundancy to ensure that a faulted element within its protection zone is *disconnected* from the *power system* within the applicable *fault clearance time* with any single protection element (including any communications facility upon which that *protection system* depends) out of service.

(3) *Breaker fail protection systems* must be provided to clear faults that are not cleared by the circuit breakers controlled by the primary *protection system*, within the applicable *fault clearance time* determined under clause S5.1.9(a)(1).

(b) The *minimum access standard* is:

(1) Primary *protection systems* must be provided to *disconnect* from the *power system* any faulted element within their respective protection zones within the applicable *fault clearance time* determined under clause S5.1.9(a)(2), but subject to clauses S5.1.9(k) and S5.1.9(l).

(2) If a *fault clearance time* determined under clause S5.1.9(a)(2) for a protection zone is less than 10 seconds, a *breaker fail protection system* must be provided to clear from the *power system* any fault within that protection zone that is not cleared by the circuit breakers

controlled by the primary *protection system*, within the applicable *fault clearance time* determined under clause S5.1.9(a)(3).

(c) The *Network Service Provider* and the *Market Network Service Provider* must cooperate in the design and implementation of *protection systems* to comply with this clause, including cooperation with regard to:

(1) the use of *current transformer* and *voltage transformer* secondary circuits (or equivalent) of one party by the *protection system* of the other;

(2) tripping of one party's circuit breakers by a *protection system* of the other party; and

(3) co-ordination of *protection system* settings to ensure inter-operation.

The *Market Network Service Provider* must ensure that the protection settings of its protective equipment grade with the *Network Service Provider's transmission system* or *distribution system* protection settings. Similarly the grading requirements of fuses must be co-ordinated with the *Network Service Provider*. The *Market Network Service Provider* must provide details of the protection scheme implemented by the *Market Network Service Provider* to the *Network Service Provider* and must liaise with the *Network Service Provider* when determining gradings and settings.

The application of settings of the protection scheme must be undertaken in accordance with clause S5.3a.2.

Before the *Market Network Service Provider's* installation is *connected* to the *Network Service Provider's transmission or distribution system* the *Market Network Service Provider's protection system* must be tested and the *Market Network Service Provider* must submit the appropriate test certificate to the *Network Service Provider*.

S5.3a.7 [Deleted]

S5.3a.8 Reactive power capability

Subject to the access standards stated in this clause S5.3a.8, if additional *reactive support* is required as a result of the *connection* or operation of the *network elements* which provide a *market network service* then the requisite *reactive support* must be supplied or paid for by the *Market Network Service Provider*.

Additional reactive support is required if, at rated power output as measured at the *connection point* of the *market network service* the *market network service* has a lagging power factor of less than 0.9 or a leading power factor of less than 0.95.

Automatic access standard: For power export, at rated power output and target *network voltage* as determined in accordance with clause S5.1a.4 of the *system standards* when measured at the *connection point* of the *market network service*, the *market network service* must be capable of operation in the range from a lagging power factor of 0.9 to a leading power factor of 0.95. For power import, the power factor must satisfy the requirements of clause S5.3.5 of schedule 5.3.

Minimum access standard: With the agreement of *NEMMCO* and the *Network Service Provider*, a power factor capability less than that defined by the *automatic access standard* may be provided if the requirements of the *system standards* are satisfied under all operating conditions of the *market network service*.

S5.3a.9 Balancing of load currents

A *Network Service Provider* may require a *Market Network Service Provider's power transfer* to be balanced at a *connection point* in order to maintain the negative sequence *voltage* at each connection point at less than or equal to the limits set out in Table S5.1a.1 of the *system standards* for the applicable nominal *supply voltage* level.

Automatic access standard: A *Market Network Service Provider* must ensure that for *connections* at 11kV or higher *voltage*, the current in any phase drawn by its equipment from the *Network Service Provider's network* is not greater than 102 percent or less than 98 percent of the average of the currents in the three phases.

Minimum access standard: Where agreed with the relevant *Network Service Provider* and subject to any specific conditions imposed, a *Market Network Service Provider* may cause current unbalance greater than that specified in the *automatic access standard* provided the *Market Network Service Provider* does not cause the limits specified in clause S5.1a.7 of the *system standards* to be exceeded at any point in the *network*.

Where these requirements cannot be met the *Market Network Service Provider* may enter into a commercial arrangement with the *Network Service Provider* for the installation of equipment to correct the phase unbalance. Such equipment must be considered as part of the *connection assets* for the *Market Network Service Provider*.

The limit to *power transfer* current unbalance must be included in the *connection agreement* and is subject to verification of compliance by the *Network Service Provider*.

S5.3a.10 Voltage fluctuations

(a) *Automatic access standard*: The *voltage* fluctuations caused by variations in *loading level* at the *connection point*, including those arising from

energisation, de-energisation or other operation of *plant*, must not exceed the limits determined under clause S5.1.5(a).

(b) *Minimum access standard*: The *voltage* fluctuations caused by variations in *loading level* at the *connection point*, including those arising from *energisation*, de-energisation or other operation of *plant*, must not exceed the limits determined under clause S5.1.5(b).

The *voltage* fluctuation emission limits and any specified conditions must be included in the *connection agreement*, and are subject to verification of compliance by the *Network Service Provider*.

S5.3a.11 Harmonics and voltage notching

(a) *Automatic access standard*: The harmonic *voltage* distortion caused by non-linearity, commutation of power electronic equipment, harmonic resonance and other effects within the *plant*, must not exceed the limits determined under clause S5.1.6(a).

(b) *Minimum access standard*: The harmonic *voltage* distortion caused by non-linearity, commutation of power electronic equipment, harmonic resonance and other effects within the *plant*, must not exceed the limits determined under clause S5.1.6(b).

A *Market Network Service Provider* must ensure that all of its *plant connected* to a *transmission network* or *distribution network* is capable of withstanding the effects of harmonic levels produced by that *plant* plus those imposed from the *network*.

The harmonic *voltage* distortion emission limits and any special conditions must be included in the *connection agreement*, and are subject to verification of compliance by the *Network Service Provider*.

S5.3a.12 Design requirements for Market Network Service Providers' substations

A *Market Network Service Provider* must comply with the following requirements applicable to the design, station layout and choice of equipment for a *substation*:

(a) safety provisions must comply with requirements applicable to the *participating jurisdiction* notified by the *Network Service Provider*;

(b) where required by the *Network Service Provider*, appropriate interfaces and accommodation must be incorporated for communication *facilities*, remote monitoring and control and protection of *plant* which is to be installed in the *substation*;

(c) a *substation* must be capable of continuous uninterrupted operation with the levels of *voltage*, harmonics, unbalance and *voltage* fluctuation specified in the *system standards* as modified in accordance with the relevant provisions of schedule 5.1;

(d) earthing of primary *plant* in the *substation* must be in accordance with the Electricity Supply Association of Australia Safe Earthing Guide and must reduce step and touch potentials to safe levels;

(e) *synchronisation facilities* or reclose blocking must be provided if necessary;

(f) secure electricity supplies of adequate capacity must be provided for *plant* performing communication, monitoring, control and protection functions;

(g) *plant* must be tested to ensure that the *substation* complies with the approved design and specifications as included in a *connection agreement*;

(h) the protection equipment required would normally include protection schemes for individual items of *plant*, back-up arrangements, auxiliary DC supplies and instrumentation *transformers*; and

(i) insulation levels of *plant* in the *substation* must co-ordinate with the insulation levels of the *network* to which the *substation* is *connected* as nominated in the *connection agreement*.

S5.3a.13 Market network service response to disturbances in the power system

(a) Each *market network service* must be capable of continuous uninterrupted operation during the occurrence of:

(1) *power system frequency* within the *frequency operating standards*; or

(2) the range of *voltage* variation conditions permitted by the *system standards*.

(b) The equipment associated with each *market network service* must be designed to withstand without damage or reduction in life expectancy the harmonic distortion and *voltage* unbalance conditions determined to apply in accordance with the provisions of schedule 5.1, clauses S5.1.6 and S5.1.7, respectively, at the *connection point*.

S5.3a.14 Protection of market network services from power system disturbances

(a) *Minimum access standard*: If a *Connection Applicant* requires that its *market network service facility* be automatically *disconnected* from the *power system* in response to abnormal conditions arising from the *power*

system, the relevant *protection system* or *control system* must not *disconnect* the *facility* for conditions under which it must continuously operate or must withstand under a provision of the *Rules*.

(b) There is no *automatic access standard* for this technical requirement.

(c) For the purposes of this clause S5.3a.14, the abnormal conditions include:

(1) *frequency* outside the *extreme frequency excursion tolerance limits*;

(2) sustained and uncontrollable DC current beyond a short term current rating for the period assigned to that rating;

(3) DC *voltage* above the *voltage* maximum rating or sustained below any lower limit for stable operation;

(4) *voltage* to *frequency* ratio beyond *a transformer* magnetic flux based *voltage* to *frequency* rating;

(5) sustained *voltage* fluctuations at the *connection point* beyond the level determined under clause S5.1.5(a);

(6) sustained harmonic *voltage* distortion at the *connection point* beyond the level determined under clause S5.1.6(a);

(7) sustained negative phase sequence *voltage* at the *connection point* beyond the level determined under clause S5.1.7(a); and

(8) any similar condition agreed between the *Market Network Service Provider* and *NEMMCO* after consultation with each relevant *Network Service Provider*.

(d) The negotiation of access standards in relation to this clause S5.3a.14 must involve *NEMMCO* under clause 5.3.4A(b) of the *Rules*.

(e) The *Network Service Provider* is not liable for any loss or damage incurred by the *Market Network Service Provider* or any other person as a consequence of a fault on either the *power system*, or within the *Market Network Service Provider's facility*.

Schedule 5.4 - Information to be Provided with Preliminary Enquiry

The following items of information are required to be submitted with a preliminary enquiry for *connection* or modification of an existing *connection*:

(a) Type of *plant* - (eg. gas turbine *generating unit*; rolling mill, etc.).

(b) Preferred site location - (listing any alternatives in order of preference as well).

(c) Maximum power *generation* or demand of whole *plant* - (maximum MW and/or MVA, or average over 15 minutes or similar).

(d) Expected *energy* production or consumption (MWh per month).

(e) *Plant* type and configuration - (eg. number and type of *generating units* or number of separate production lines).

(f) Nature of any disturbing *load* (size of disturbing component MW/MVAr, duty cycle, nature of power electronic *plant* which may produce harmonic distortion).

(g) Technology of proposed *generating unit* (e.g. *synchronous generating unit*, induction generator, photovoltaic array, etc).

(h) When *plant* is to be in service - (eg. estimated date for each *generating unit*).

(i) Name and address of enquirer, and, if relevant, of the party for whom the enquirer is acting.

(j) Other information may be requested by the *Network Service Provider*, such as amount and timing of power required during construction or any auxiliary power requirements.

Schedule 5.5 - Technical Details to Support Application for Connection and Connection Agreement

S5.5.1 Various sections of the *Rules* require that *Registered Participants* submit technical data to the *Network Service Provider*. This schedule lists the range of data which may be required. The actual data required will be advised by the *Network Service Provider*, and will form part of the technical specification in the *connection agreement*. These data will also be made available to *NEMMCO* and to other *Network Service Provider*s by the *Network Service Provider* at the appropriate time.

S5.5.2 Data is coded in categories, according to the stage at which it is available in the build-up of data during the process of forming a *connection* or obtaining access to a *network*, with data acquired at each stage being carried forward, or enhanced in subsequent stages, eg. by testing.

Preliminary system planning data

This data is required for submission with the *application to connect*, to allow the *Network Service Provider* to prepare an offer of terms for a *connection agreement* and to assess the requirement for, and effect of, *network augmentation* or *extension* options. Such data is normally limited to the items denoted as Standard Planning Data (S) in the technical data schedules 5.5.1 to 5.5.5.

The *Network Service Provider* may, in cases where there is reasonable doubt as to the viability of a proposal, require the submission of other data before making an offer to *connect* or to amend a *connection agreement*.

Registered system planning data

This is the class of data which will be included in the *connection agreement* signed by both parties. It consists of the preliminary system planning data plus those items denoted in the attached schedules as Detailed Planning Data (D). The latter must be submitted by the *Registered Participant* in time for inclusion in the *connection agreement*.

Registered data

Registered Data consists of data validated and agreed between the *Network Service Provider* and the *Registered Participant*, such data being:

(a) prior to actual *connection* and provision of access, data derived from manufacturers' data, detailed design calculations, works or site tests etc. (R1); and

(b) after connection, data derived from on-system testing (R2).

All of the data will, from this stage, be categorised and referred to as Registered Data; but for convenience the schedules omit placing a higher ranked code next to items which are expected to already be valid at an earlier stage.

S5.5.3 Data will be subject to review at reasonable intervals to ensure its continued accuracy and relevance. The *Network Service Provider* must initiate this review. A *Registered Participant* may *change* any data item at a time other than when that item would normally be reviewed or updated by submission to the *Network Service Provider* of the revised data, together with authentication documents, eg. test reports.

The *Network Service Provider* must supply data relating to its system to other *Network Service Provider*s for planning purposes and to other *Registered Participants* and *NEMMCO* as specified in the various sections of the *Rules*, including through the *statement of opportunities*.

S5.5.4 Schedules 5.5.1 to 5.5.5 cover the following data areas:

(a) schedule 5.5.1 - *Generating Unit* Design Data. This comprises *generating unit* fixed design parameters.

(b) schedule 5.5.2 - *Generating Unit* Setting Data. This comprises settings which can be varied by agreement or by direction of the *Network Service Provider* or *NEMMCO*.

(c) schedule 5.5.3 - Network Plant Technical Data. This comprises fixed electrical parameters.

(d) schedule 5.5.4 - Plant and Apparatus Setting Data. This comprises settings which can be varied by agreement or by direction of the *Network Service Provider* or *NEMMCO*.

(e) schedule 5.5.5 - *Load* Characteristics. This comprises the estimated parameters of *load* groups in respect of, for example, harmonic content and response to *frequency* and *voltage* variations.

The schedules applicable to each class of *Registered Participant* are as follows:

(1) *Generators* schedules 5.5.1 and 5.5.2

(2) *Customers and Network Service Providers* schedules 5.5.3 and 5.5.4

(3) *Customers* Schedule 5.5.5

S5.5.5 A *Generator* that *connects* a *generating unit*, that is not a *synchronous generating unit*, must be given exemption from complying with those parts of schedules 5.5.1 and 5.5.2 that are determined by the *Network Service Provider* to be not relevant to such *generating units*, but must comply with

those parts of schedules 5.5.3, 5.5.4, and 5.5.5 that are relevant to such *generating units*, as determined by the *Network Service Provider*.

S5.5.6 A *Generator* that *connects* a *synchronous generating unit* equal to or smaller than 30MW or a number of *synchronous generating units* totalling less than 30MW to a *connection point* to a *distribution network* will usually be required to submit less registered system planning data and less registered data than is indicated in schedule 5.5.1. In general these data will be limited to confirmation of the preliminary system planning data, marked (S), but other data must be supplied if required by the *Network Service Provider* or *NEMMCO*.

Codes:

S = Standard Planning Data

D = Detailed Planning Data

R = Registered Data (R1 pre-*connection*, R2 post-*connection*)

Schedule 5.5.1 Generating unit design data

Power Station Technical Data:

Symbol	Data Description	Units	Data Category
	Connection Point to *Network*	Text, diagram	S, D
	Nominal *voltage* at *connection* to *Network*	kV	S
	Total Station Net Maximum Capacity (NMC)	MW (*sent out*)	S, D, R2

At Connection Point:

Symbol	Data Description	Units	Data Category
	Maximum 3 phase short circuit infeed calculated by method of AS 3851 (1991)		
	· Symmetrical	kA	S, D
	· Asymmetrical	kA	D
	Minimum zero sequence impedance	% on 100 MVA base	D
	Minimum negative sequence impedance	% on 100 MVA base	D

Individual Generating Unit Data:

Symbol	Data Description	Units	Data Category
MBASE	Rated MVA	MVA	S, D, R1
PSO	Rated MW (*Sent Out*)	MW (*sent out*)	S, D, R1
PMAX	Rated MW (*Generated*)	MW (Gen)	D
VT	Nominal Terminal *Voltage*	kV	D, R1
PAUX	Auxiliary *load* at PMAX	MW	S, D, R2
Qmax	Rated Reactive Output at PMAX	MVAr (*sent out*)	S, D, R1
PMIN	*Minimum Load* (ML)	MW (*sent out*)	S, D, R2
H	Turbo *Generator* Inertia Constant	MWs/rated MVA	D, R1
GSCR	Short Circuit Ratio		D, R1
ISTATOR	Rated Stator Current	A	D, R1
IROTOR	Rated Rotor Current at rated MVA and *Power Factor*, rated terminal volts and rated speed	A	D,R1
VROTOR	Rotor *Voltage* at which IROTOR is achieved	V	D, R1
VCEIL	Rotor *Voltage* capable of being *supplied* for five seconds at rated terminal volts and rated speed	V	D, R1

Generating Unit Resistance:

Symbol	Data Description	Units	Data Category
RA	Stator Resistance	% on MBASE	S, D, R1, R2

Generating Unit Reactance (unsaturated):

Symbol	Data Description	Units	Data Category
XD	Direct Axis Synchronous Reactance	% on MBASE	S, D, R1, R2
XDD	Direct Axis Transient Reactance	% on MBASE	S, D, R1, R2
XDDD	Direct Axis Sub-Transient Reactance	% on MBASE	S, D, R1, R2
XQ	Quadrature Axis Synch Reactance	% on MBASE	D, R1, R2
XQQ	Quadrature Axis Transient Reactance	% on MBASE	D, R1, R2

Symbol	Data Description	Units	Data Category
XQQQ	Quadrature Axis Sub-Transient Reactance	% on MBASE	D,R1, R2
XL	Stator Leakage Reactance	% on MBASE	D, R1, R2
XO	Zero Sequence Reactance	% on MBASE	D, R1
XZ	Negative Sequence Reactance	% on MBASE	D, R1
XP	Potier Reactance	% on MBASE	D, R1

Generating Unit Time Constants (unsaturated):

Symbol	Data Description	Units	Data Category
TDO	Direct Axis Open Circuit Transient	Seconds	S, D, R1, R2
TDDO	Direct Axis Open Circuit Sub-Transient	Seconds	S, D, R1, R2
TKD	Direct Axis Damper Leakage	Seconds	D, R1, R2
TQO	Quad Axis Open Circuit Transient	Seconds	D, R1, R2
TQQO	Quad Axis Open Circuit Sub-Transient	Seconds	D, R1, R2

Charts:

Symbol	Data Description	Units	Data Category
GCD	Capability Chart	Graphical data	D, R1, R2
GOCC	Open Circuit Characteristic	Graphical data	R1
GSCC	Short Circuit Characteristic	Graphical data	R1
GZPC	Zero *power factor* curve	Graphical data	R1

Generating Unit Transformer:

Symbol	Data Description	Units	Data Category
GTW	Number of windings	Text	S, D
GTRn	Rated MVA of each winding	MVA	S, D, R1
GTTRn	Principal tap rated *voltage*s	kV/kV	S, D, R1
GTZ1n	Positive Sequence Impedance (each wdg)	(a + jb) % on 100 MVA base	S, D, R1
GTZ2n	Negative Sequence Impedance (each wdg)	(a + jb) % on 100 MVA base	S, D, R1
GTZOn	Zero Sequence Impedance (each wdg)	(a + jb) % on 100 MVA base	S, D, R1

Symbol	Data Description	Units	Data Category
	Tapped Winding	Text, diagram	S, D, R1
GTAPR	Tap Change Range	kV - kV	S, D
GTAPS	Tap Change Step Size	%	D
	Tap Changer Type, On/Off load	On/Off	D
	Tap Change Cycle Time	Seconds	D
GTVG	Vector Group	Diagram	S, D
	Earthing Arrangement	Text, diagram	S, D
	Saturation curve	Diagram	R1

Generating Unit Reactive Capability (At machine terminals):

Symbol	Data Description	Units	Data Category
	Lagging *Reactive Power* at PMAX	MVAr export	S, D, R2
	Lagging *Reactive Power* at ML	MVAr export	S, D, R2
	Lagging Reactive Short Time capability at rated MW, terminal *voltage* and speed	MVAr (for time)	D, R1, R2
	Leading *Reactive Power* at rated MW	MVAr import	S,D, R2

Generating Unit Excitation System:

Symbol	Data Description	Units	Data Category
	DC Gain of Excitation Control Loop	V/V	D, R1
	Rated Field *Voltage* at rated MVA and *Power Factor* and rated terminal volts and speed	V	S, D, R1
	Maximum Field *Voltage*	V	S, D, R1
	Minimum Field *Voltage*	V	D, R1
	Maximum rate of change of Field *Voltage*:	Rising V/s	D, R1
	Maximum rate of change of Field *Voltage*:	Falling V/s	D, R1

Generating Unit and exciter Saturation:

Symbol	Data Description	Units	Data Category
	Characteristics 50 - 120% V	Diagram	D, R1
	Dynamic Characteristics of Over	Text/	
	Excitation Limiter	Block diagram	D, R2
	Dynamic Characteristics of Under	Text/	
	Excitation Limiter	Block diagram	D, R2

Generating Unit Load Controller:

Symbol	Data Description	Units	Data Category
	Maximum Droop	%	S, D, R1
	Normal Droop	%	D, R1
	Minimum Droop	%	D, R1
	Maximum *Frequency* Dead band	Hz	D, R1
	Normal *Frequency* Deadband	Hz	D, R1
	Minimum *Frequency* Deadband	Hz	D, R1
	MW Deadband	MW	D, R1

Generating Unit Response Capability:

Symbol	Data Description	Units	Data Category
	Sustained response to *frequency* change	MW/Hz	D, R2
	Non-sustained response to *frequency* change	MW/Hz	D, R2
	Load Rejection Capability	MW	S, D, R2

Governor:

Symbol	Data Description	Units	Data Category
	Details of the *governor system* described in block diagram form showing transfer functions of individual elements and measurement units.	Diagram	D,R2

Mechanical Shaft Model: - (Multiple-Stage Steam Turbine Generators only)

Symbol	Data Description	Units	Data Category
	Dynamic model of turbine/ generator shaft system in lumped element form showing component inertia, damping and shaft stiffness.	Diagram	D
	Natural damping of shaft torsional oscillation modes.(for each mode)		
	- Modal *frequency*	Hz	D
	- Logarithmic decrement	Nepers/Sec	D

(Multiple-Stage Steam Turbines only)

Symbol	Data Description		Units	Data Category
	Fraction of power produced by each stage:			
	Symbols	KHP KIP KLP1 KLP2	Per unit of Pmax	D
	Stage and reheat time constants:			
	Symbols	THP TRH TIP TLP1 TLP2	Seconds	D

Schedule 5.5.2 Generating unit setting data

Data Description	Units	Data
Protection Data:		
Settings of the following protections:		
Loss of field	Text	D
Under excitation	Text, diagram	D
Over excitation	Text, diagram	D
Differential	Text	D

Data Description	Units	Data
Control Data:		
Details of excitation loop described in block diagram form showing transfer functions of individual elements and measurement units.	Diagram	D, R2
Settings of the following controls:		
Over excitation limiter	Text, diagram	D
Under excitation limiter	Text, diagram	D
Stator current limiter (if fitted)	Text, diagram	D
Manual restrictive limiter (if fitted)	Text	D
Load drop compensation/VAr sharing (if fitted)	Text, function	D
V/f limiter (if fitted)	Text, diagram	D

Schedule 5.5.3 Network and plant technical data of equipment at or near connection point

Data Description	Units	Data Category
Voltage Rating		
Nominal v*oltage*	kV	S, D
Highest *voltage*	kV	D
Insulation Co-ordination		
Rated lightning impulse withstand *voltage*	kVp	D
Rated short duration power *frequency* withstand *voltage*	kV	D
Rated Currents		
Circuit maximum current	kA	S, D
Rated Short Time Withstand Current	kA for seconds	D
Ambient conditions under which above current applies	Text	S,D

Data Description	Units	Data Category
Earthing		
System Earthing Method	Text	S, D
Earth grid rated current	kA for seconds	D
Insulation Pollution Performance		
Minimum total creepage	mm	D
Pollution level	Level of *IEC* 815	D
Controls		
Remote control and data transmission arrangements	Text	D
Metering Provided by Customer		
Measurement *transformer* ratios:		D
Current transformers	A/A	D
Voltage transformers	V/kV	D
Measurement *Transformer* Test Certification details	Text	R1
Network Configuration		
Operation Diagrams showing the electrical circuits of the existing and proposed main *facilities* within the *Registered Participant's* ownership including *busbar* arrangements, phasing arrangements, earthing arrangements, switching *facilities* and operating *voltage*s.	Single line Diagrams	S, D, R1
Network Impedance		
For each item of *plant*: details of the positive, negative and zero sequence series and shunt impedance, including mutual coupling between physically adjacent elements.	% on 100 MVA base	S, D, R1

Data Description	Units	Data Category
Short Circuit Infeed to the Network		
Maximum generator 3-phase short circuit infeed including infeeds from *generating units connected* to the *Registered Participant's system*, calculated by method of AS 3851 (1991).	kA symmetrical	S, D, R1
The total infeed at the instant of fault (including contribution of induction motors).	kA	D, R1
Minimum zero sequence impedance of *Registered Participant's network* at *connection point*.	% on 100 MVA base	D, R1
Minimum negative sequence impedance of *Registered Participant's network* at *connection point*.	% on 100 MVA base	D, R1
Load Transfer Capability:		
Where a *load*, or group of *loads*, may be fed from alternative *connection points*:		
Load normally taken from *connection point* X	MW	D, R1
Load normally taken from *connection point* Y	MW	D, R1
Arrangements for transfer under planned or fault *outage* conditions	Text	D
Circuits Connecting Embedded Generating Units to the Network:		
For all g*enerating units*, all connecting lines/cables, *transformers* etc.		
Series Resistance	% on 100 MVA base	D, R
Series Reactance	% on 100 MVA base	D, R
Shunt Susceptance	% on 100 MVA base	D, R
Normal and short-time emergency ratings	MVA	D,R
Technical Details of g*enerating units* as per schedules 5.5.1, 5.5.2		

Data Description	Units	Data Category
Transformers* at *connection points:		
Saturation curve	Diagram	R
Equipment associated with DC Links		
Number of poles	MVA	D,R
Converters per station	Quantity	D,R
Reactive Power consumption of converters	MCAr	D,R
Location and Rating of A.C. Filters	MVAr	D,R
Location and Rating of Shunt Capacitors	MVAr	D,R
Location and Rating of Smoothing *Reactor*	MVAr	D,R
Location and Rating of DC Filter	MVAr	D,R

Schedule 5.5.4 Network Plant and Apparatus Setting Data

Data Description	Units	Data Category
Protection Data for Protection relevant to Connection Point:		
Reach of all protections on *transmission lines*, or cables	ohms or % on 100 MVA base	S, D
Number of protections on each item	Text	S, D
Total fault clearing times for near and remote faults	ms	S, D, R1
Line reclosure sequence details	Text	S, D, R1
Tap Change Control Data:		
Time delay settings of all *transformer* tap changers.	Seconds	D, R1
Reactive Compensation:		
Location and Rating of individual *shunt reactors*	MVAr	D, R1
Location and Rating of individual *shunt capacitor* banks	MVAr	D, R1
Capacitor bank capacitance	microfarads	D

Data Description	Units	Data Category
Inductance of switching *reactor* (if fitted)	millihenries	D
Resistance of capacitor plus *reactor*	Ohms	D
Details of special controls (e.g. Point-on-wave switching)	Text	D
For each shunt reactor or capacitor bank:		
Method of switching	Text	S
Details of automatic control logic such that operating characteristics can be determined	Text	D, R1
FACTS Installation:		
Data sufficient to enable static and dynamic performance of the installation to be modelled	Text, diagrams control settings	S, D, R1
Transmission line flow control device	Text,	D
Details of the operation of the control device under normal operation conditions (including startup and shutdown of the line) and during a fault (close up and remote)	diagrams	
Models for the control device and transmission line appropriate for load flow, small signal stability and transient stability analysis	Text, diagrams	D
Capability of the line flow control device	KA, MVA, MW	D
Details of the rate of change of flow capability of the control device	Text	D
Details of the capability of the control device to provide frequency and voltage control	Text	D
Description of possible failure modes of control device	Text	D
Details of performance of the control device under disturbance conditions including changes in AC frequency, variations in AC system voltages and Ac system waveform distortion.	Text	D
For DC control devices, contribution to the AC system short circuit level	KA, MVA	D

Schedule 5.5.5 Load Characteristics at Connection Point

Data Description	Units	Data Category
For all Types of Load		
Type of *Load* eg controlled rectifiers or large motor drives	Text	S
For Fluctuating Loads		
Cyclic variation of *active power* over period	Graph MW/time	S
Cyclic variation of *reactive power* over period	Graph MVAr/time	S
Maximum rate of change of *active power*	MW/s	S
Maximum rate of change of *reactive power*	MVAr/s	S
Shortest Repetitive time interval between fluctuations in active and *reactive power* reviewed annually	s	S
Largest Step Change:		
In *active power*	MW	S
In *reactive power*	MVAr	S

Schedule 5.6 - Terms and Conditions of Connection agreements

The *connection agreements* must contain the specific conditions that have been agreed to for *connection* and access to the *transmission* or *distribution network*, including but not limited to:

(a) details of the *connection point* including the *distribution network coupling points* where appropriate;

(b) *metering* arrangements and adjustments for losses where the point of *metering* is significantly different to the *connection point*;

(c) authorised demand which may be taken or supplied at the *connection point* (under specified conditions);

(c1) details of each *performance standard* agreed between the *Network Service Provider* and the *Registered Participant* and all related conditions of agreement resulting from the application of any of the provisions for access contained in schedule 5.1 for *Network Service Providers* or schedule 5.2 for *Generators* or schedule 5.3 for *Customers* or schedule 5.3a for *Market Network Service Providers*;

(d) *connection service* charges;

(e) payment conditions;

(f) duration and termination conditions of the *connection agreement*;

(g) terms, conditions and *constraints* that have been agreed to for *connection* to the *network* to protect the legitimate interest of the *Network Service Provider*s including rights to *disconnect* the *Registered Participant* for breach of commercial undertakings;

(h) details of any agreed standards of *reliability* of *transmission service* or *distribution service* at the *connection point*s or within the *network*;

(i) testing intervals for *protection systems* associated with the *connection point*;

(j) agreed protocols for maintenance co-ordination;

(k) where an expected *load*, to be connected to a *network*, has a *peak load* requirement in excess 10 MW, the provision, installation, operation and maintenance of automatic *load* shedding facilities for 60 percent of the *load* at anytime; and

(l) terms and conditions of access to the *metering installation* for the *Metering Provider*.

The *connection agreements* may include other technical, commercial and legal conditions governing works required for the *connection* or *extension* to the *network* which the parties have negotiated and agreed to. The circumstances under which the terms of the *connection agreement* would require renegotiation may also be included.

Schedule 5.7 - Annual Forecast Information for Planning Purposes

This schedule sets out the information in respect of each *connection point* that must be provided to the relevant *Network Service Provider* by each *Registered Participant* that has a *connection point* to a *transmission network* of that *Network Service Provider*.

Data Description	Units	Time Scale	Data Category
At each *connection point* to a *transmission network*, a forecast of:			
Annual Maximum *Active power* - Winter	MW	years 1-10	Annual
Coincident *Reactive Power* - Winter	MVAr	years 1-10	Annual
Annual Maximum *Active power* - Summer	MW	years 1-10	Annual
Coincident *Reactive Power* - Summer	MVAr	years 1-10	Annual
Forecast *load* diversity between each *connection point* to the *network* (winter and summer)	%	years 1-5	Annual
Load Profiles:			
The following forecast daily *profile*s of *connection point* half-hourly average active and reactive *loads* are required, net of all *generating plant*:			
Day of the peak summer and winter MW *peak load* at *connection point*	MW and MVAr	years 1-5	Annual
Day of *network* peak summer and winter MW *load* (as specified)	MW and MVAr	years 1-5	Annual

Data Description	Units	Time Scale	Data Category
Each July, October, January, April under average conditions representing:			
(a) weekdays	MW and MVAr	years 1-5	Annual
(b) Saturdays	MW and MVAr	years 1-5	Annual
(c) Sundays/holidays	MW and MVAr	years 1-5	Annual
Day of the *network* minimum demand (as specified)	MW and MVAr	years 1-5	Annual
Undispatched *generation*:			
For each *connection point* to the *network* the following information is required:			
No. of g*enerating unit*s	No.	years 1-5	Annual
Capacity of each *generating unit*	MW (*sent out*)	years 1-5	Annual
Daily/Seasonal Operating characteristics	Text	years 1-5	Annual
Expected output at time of peak *network* Winter *load* (as specified)	MW	years 1-5	Annual
Expected output at time of peak *network* Summer *load* (as specified)	MW	years 1-5	Annual

CHAPTER 6

6. Transmission and Distribution Pricing

Part A - Introduction

6.1 General

6.1.1 Summary of key principles and core objectives of network pricing

(a) Without limiting the application of any other provision of the *Rules*, this clause 6.1.1 summarises the key principles and core objectives which are intended to apply to the *transmission* and *distribution* pricing arrangements in this Chapter.

(b) The key principles underlying the *transmission* and *distribution* pricing arrangements in this Chapter are intended to:

(1) promote competition in the provision of *transmission services* and *distribution services* wherever practicable;

(2) facilitate a commercial environment which is transparent and stable, and which does not discriminate between users of *transmission services* and *distribution services*; and

(3) regulate the non-competitive market for *transmission services* and *distribution services* in a way which seeks the same outcomes as those achieved in competitive markets.

(c) The core objectives intended to be achieved by the application of the *transmission* and *distribution* pricing arrangements in this Chapter are:

(1) efficiency in the use, operation, and maintenance of, and investment in, *transmission* and *distribution systems*, and in the location of *generation* and demand;

(2) upstream and downstream competition;

(3) price stability; and

(4) equity.

6.1.2 Purpose

This Chapter sets out the pricing methods applying to *connection* to and use of *transmission* and *distribution networks* as follows:

(a) the regulatory arrangements for *transmission service* pricing are set out in Part B;

(b) the determination of prices for *connection* to and use of a *transmission network* is set out in Part C;

(c) the regulatory principles for *distribution service* pricing are set out in Part D;

(d) the principles on which prices for *distribution services* are to be determined are set out in Part E;

(e) *transmission service* pricing for *interconnectors* is outlined in Part F, except that this clause 6.1.2(e) and Part F do not apply to *interconnectors* used to provide *market network services*; and

(f) the regulatory arrangements for the development of, and compliance with, ring-fencing guidelines for *Network Service Providers* are set out in Part G.

6.1.3 Network pricing implementation

In addition to the method of pricing *transmission services* and *distribution services*, this Chapter also covers the following related matters:

(a) prudential requirements for receipt of *transmission services* or *distribution services*, which are set out in clauses 6.6 and 6.15;

(b) billing and settlements procedures associated with *transmission services* and *distribution services*, which are set out in clauses 6.7 and 6.16;

(c) specifications relating to *transmission service* pricing software, which are set out in clause 6.8; and

(d) the collection of data which is necessary for the determination of *transmission service* and *distribution service* prices, which is dealt with in clauses 6.9 and 6.18.

6.1.4 Application of Chapter to Market Network Services

(a) This Chapter does not govern the principles or rules for the calculation of prices a *Market Network Service Provider* may charge for its services.

(b) This Chapter does not govern the principles or rules for the calculation of prices for *network services* provided by a *Network Service Provider* to:

(1) a *Market Network Service Provider*; or

(2) another *Network Service Provider* for electricity delivered to a *Market Network Service Provider* through the *network* of the other *Network Service Provider* (except for any such electricity which is ultimately consumed within the other *Network Service Provider's network*).

(c) Charges for the *network services* referred to in clause 6.1.4(b) are governed by the provisions of clause 5.5A only.

Part B - Regulation of Transmission Revenue Requirement

6.2 General Principles Governing Regulation of Transmission Revenue

The *Rules* do not limit the methodologies that may be applied by the *AER* in exercising its regulatory powers under them, except that those methodologies must be consistent with the requirements of the *National Electricity Law* and with the objectives, principles, and broad forms and mechanisms described in clauses 6.2.2 to 6.2.4 inclusive.

6.2.1 National regulatory arrangements

(a) **[Deleted]**

(b) The *AER* is, in accordance with this Chapter, responsible for the regulation of *transmission service* pricing for *transmission systems* that form part of the *national grid.*

(c) **[Deleted]**

(d) Subject to the agreement of the *AER* and the relevant *Jurisdictional Regulator*, those parts of a *transmission network* operating at nominal *voltages* between 66 kV and 220 kV that:

(1) do not operate in parallel to; and

(2) do not provide support to,

the higher *voltage transmission network* may be deemed by the relevant *Transmission Network Service Provider* to be subject to the regulatory arrangements for *distribution service* pricing set out in Parts D and E of this Chapter.

(e) **[Deleted]**

(f) **[Deleted]**

6.2.2 Objectives of the transmission revenue regulatory regime to be administered by the AER

The *transmission* revenue regulatory regime to be administered by the *AER* under Part B of this Chapter must seek to achieve the following outcomes:

(a) an efficient and cost-effective regulatory environment;

(b) an incentive-based regulatory regime which:

(1) provides an equitable allocation between *Transmission Network Users* and *Transmission Network Service Providers* of efficiency gains reasonably expected by the *AER* to be achievable by the *Transmission Network Service Providers*; and

(2) provides for, on a prospective basis, a sustainable commercial revenue stream which includes a fair and reasonable rate of return to *Transmission Network Service Providers* on efficient investment, given efficient operating and maintenance practices of the *Transmission Network Service Providers*;

(c) prevention of monopoly rent extraction by *Transmission Network Service Providers*;

(d) an environment which fosters an efficient level of investment within the *transmission* sector, and upstream and downstream of the *transmission* sector;

(e) an environment which fosters efficient operating and maintenance practices within the *transmission* sector;

(f) an environment which fosters efficient use of existing infrastructure;

(g) reasonable recognition of pre-existing policies of governments regarding *transmission* asset values, revenue paths and prices;

(h) promotion of competition in upstream and downstream markets and promotion of competition in the provision of *transmission services* where economically feasible;

(i) reasonable regulatory accountability through transparency and public disclosure of regulatory processes and the basis of regulatory decisions;

(j) reasonable certainty and consistency over time of the outcomes of regulatory processes, recognising the adaptive capacities of *Registered Participants* in the provision and use of *transmission system* assets; and

(k) reasonable and well defined regulatory discretion which permits an acceptable balancing of the interests of *Transmission Network Service Providers* and *Transmission Network Users* and the long term interests of consumers of electricity.

6.2.3 Principles for regulation of transmission aggregate revenue

The regime under which the revenues of *Transmission Network Service Providers* are to be regulated must be administered by the *AER* in accordance with the following principles:

(a) Concerns over monopoly pricing in respect of *transmission services* will, wherever possible and practicable, be addressed through the introduction of competition in the provision of *transmission services*.

(b) Subject to clause 6.2.3(c), where pro-competitive and structural reforms alone are not a practicable or adequate means of addressing the problems of monopoly pricing in respect of *transmission services* or protecting the interests of *Transmission Network Users*, the form of economic regulation to be applied must be *revenue capping*.

(c) The *AER* is responsible for determining whether sufficient competition exists to warrant the application of a regulatory approach which is more "light-handed" than *revenue capping* and, if so, the form of that regulation.

(d) The regulatory regime to be administered by the *AER* must be consistent with the objectives outlined in clause 6.2.2 and must also have regard to the need to:

(1) provide *Transmission Network Service Providers* with incentives and reasonable opportunities to increase efficiency;

(2) create an environment in which *generation*, energy storage, demand side options and *network augmentation* options are given due and reasonable consideration;

(3) take account of and be consistent with the allocation of risk where this has been agreed between *Transmission Network Service Providers* and *Transmission Network Users*;

(4) provide a fair and reasonable risk-adjusted cash flow rate of return to *Transmission Network Service Providers* on efficient investment given efficient operating and maintenance practices on the part of the *Transmission Network Service Providers* where:

(i) assets created at any time under a *take or pay contract* are valued in a manner consistent with the provisions of that contract;

(ii) **[Deleted]**

(iii) subject to clause 6.2.3(d)(4)(i), assets (also known as "sunk assets") in existence and generally in service on 1 July 1999 are valued at the value determined by the *Jurisdictional Regulator* or consistent with the regulatory asset base established in the *participating jurisdiction* provided that the value of these existing assets must not exceed the *deprival value* of the assets;

(iv) subject to clauses 6.2.3(d)(4)(i) and (ii), the valuation of assets brought into service after 1 July 1999 ("new assets"), any subsequent revaluation of any new assets and any subsequent revaluation of assets existing and generally in service on 1 July 1999 is to be undertaken on a basis to be determined by the *AER* and in determining the basis of asset valuation to be used, the *AER* must have regard to:

(A) the principle that *deprival value* should be the preferred approach to valuing *network* assets; and

(B) **[Deleted]**

(C) such other matters reasonably required to ensure consistency with the objectives specified in clause 6.2.2; and

(v) benchmark returns established by the *AER* are consistent with the method of valuation of new assets and revaluation, if any, of existing assets and consistent with the achievement of a commercial economic return on efficient investment; and

(5) provide reasonable certainty and consistency over time of the outcomes of regulatory processes having regard for:

(i) the need to balance the interests of *Transmission Network Users* and *Transmission Network Service Providers*;

(ii) the capital intensive nature of the *transmission* sector, the relatively long lives of *transmission* assets, and the large and relatively infrequent *augmentation* of *transmission networks*;

(iii) the need to minimise the economic cost of regulatory actions and uncertainty; and

(iv) relevant previous regulatory decisions made by authorised persons including:

(A) the initial revenue setting and asset valuation decisions made by *participating jurisdictions* in the context of industry reform pursuant to the Competition Principles Agreement;

(B) decisions made by ministers under Commonwealth, State or Territory legislation;

(C) decisions made by *Jurisdictional Regulators*; and

(D) decisions made by the *ACCC* or *AER* and any regulatory intentions previously expressed.

6.2.4 Form and mechanism of economic regulation

(a) Subject to clause 6.2.3(c), the economic regulation applied to *transmission services* must be of the CPI minus X form, or some incentive-based variant of the CPI minus X form, and may take into account the performance of the relevant *Transmission Network Service Provider* under any *prescribed transmission service* standards imposed by the *Rules* or by any regulatory regime administered by the *AER*, provided it is consistent with the objectives and principles outlined in clauses 6.2.2 and 6.2.3.

(b) In applying the form of economic regulation specified in clause 6.2.4(a), the *AER* must set a *revenue cap* to apply to each *Transmission Network Service Provider* for the *regulatory control period*, which must be a period of not less than 5 years. A description of the process and timetable for re-setting the *revenue cap* must be published by the *AER* at a time which provides all affected parties with adequate notice to prepare for, participate in, and respond to that process, prior to the commencement of the *regulatory control period* to which that *revenue cap* is to apply. The *revenue cap* re-setting process must provide all affected parties with a reasonable opportunity to prepare for, participate in, and respond to that process.

(c) In setting a separate *revenue cap* to be applied to each *Transmission Network Service Provider* in accordance with clause 6.2.4(b), the *AER* must take into account the revenue requirements of each *Transmission Network Service Provider* during the *regulatory control period*, having regard for:

(1) the demand growth which the *Transmission Network Service Provider* is expected to service;

(2) any service standards imposed by the *Rules* which are applicable to the *Transmission Network Service Provider*, and any other standards imposed on the *Transmission Network Service Provider* by the *AER* in accordance with the *Rules* or by agreement between the *Transmission Network Service Provider* and the relevant *Transmission Network Users*;

(3) the *AER's* reasonable judgment of the potential for efficiency gains to be realised by the *Transmission Network Service Provider* in expected operating, maintenance and capital costs, taking into account the expected demand growth and service standards referred to in clauses 6.2.4(c)(1) and (2);

(4) the *weighted average cost of capital* of the *Transmission Network Service Provider* applicable to the relevant *transmission service*,

having regard to the risk adjusted cash flow rate of return required by investors in commercial enterprises facing similar business risks to those faced by the *Transmission Network Service Provider* in the provision of that *transmission service;*

(5) the provision of a fair and reasonable risk-adjusted cash flow rate of return on efficient investment including sunk assets subject to the provisions of clause 6.2.3(d)(4);

(6) any State, Territory and Commonwealth taxes (or State or Territory equivalent of Commonwealth taxes) paid by the *Transmission Network Service Provider* in connection with the provision of *transmission services*;

(7) payments to any *Generators* providing *network* support services in accordance with clause 5.6.2;

(8) the on-going commercial viability of the *transmission* industry;

(8a) the amount of any reduction in a *Transmission Customer's Customer TUOS general charges* and/or *common service charges* recovered from other *Transmission Customers* under clause 6.5.8(c)(2) in the preceding *regulatory control period* that the *AER* may take into account in accordance with clause 6.5.8(e); and

(9) any other relevant financial indicators.

(d) Notwithstanding clause 6.2.4(b), the *AER* may revoke a *revenue cap* determination during a *regulatory control period* only where it appears to the *AER* that:

(1) the *revenue cap* was set on the basis of false or materially misleading information provided to the *AER*;

(2) there was a material error in the setting of the *revenue cap* and the prior written consent of parties affected by any proposed subsequent re-opening of the *revenue cap* has been obtained by the *AER*; or

(3) there is a substantial change in ownership of *network* assets within the business of the *Transmission Network Service Provider* which, in the opinion of the *AER*, may lead to a material change in the revenue requirement of the *Transmission Network Service Provider* following that change in ownership.

(e) If the *AER* revokes a *revenue cap* determination under clause 6.2.4(d), then the *AER* may make a new *revenue cap* determination in substitution for the revoked *revenue cap* determination to apply for the remainder of the

regulatory control period for which the revoked *revenue cap* determination was to apply.

(f) *Revenue caps* set by the *AER* are to apply only to those services which, in the opinion of the *AER*, are not reasonably expected to be offered on a contestable basis.

6.2.5 Information disclosure by Transmission Network Service Providers

(a) A *Transmission Network Service Provider* must submit certified annual financial statements to the *AER* (in a form and by a date to be determined by the *AER*) which provide a true and fair statement of the financial and operating performance of the *Transmission Network Service Provider* in a reporting period.

(a1) The certified annual financial statements submitted by the *Transmission Network Service Provider* under clause 6.2.5(a) must include:

(1) such information as the *AER* may reasonably require to prepare and publish annual performance statistics in relation to the service standards published by the *Transmission Network Service Provider* under clause 6.5.7(b);

(2) information on the amount of each instance, during the relevant reporting period, of a reduction under clause 6.5.8(b) in the prices payable by a *Transmission Network User* for the relevant *prescribed transmission services* provided by the *Transmission Network Service Provider*, including reductions in a *Transmission Customer's Customer TUOS general charges* and/or *common service charges*;

(3) information on each instance, during the relevant reporting period, of a reduction in the *Customer TUOS general charges* and/or *common service charges* that were recovered from other *Transmission Customers* through their *Customer TUOS general charges* and/or *common service charges* (as appropriate) under clause 6.5.8(c); and

(4) information to substantiate any claim by the *Transmission Network Service Provider* that the information provided to the *AER* with respect to reductions in the prices payable by a *Transmission Network User* for the relevant *prescribed transmission services* under clause 6.2.5(a1)(2) or (3) is confidential information.

(b) The certified annual financial statements submitted by the *Transmission Network Service Provider* to the *AER* may be used by the *AER* to:

(1) monitor the compliance of the *Transmission Network Service Provider* with the *revenue cap*;

(2) assess the allocation of costs between services which are subject to regulation under the *revenue cap* and services or activities which are not subject to regulation under the *revenue cap*, and identify any cross-subsidy between these different types of services or activities;

(3) collate data regarding the financial, economic and operational performance of the *Transmission Network Service Provider* to be used as input to the *AER's* decision-making regarding the setting of *revenue caps* or other regulatory controls to apply in future *regulatory control periods*;

(4) prepare and publish annual performance statistics in relation to the service standards published by the *Transmission Network Service Provider* under clause 6.5.7(b);

(5) publish aggregate information on the amount of any reductions, during the relevant reporting period, in the prices payable by a *Transmission Network User* for the relevant *prescribed transmission services* provided by the *Transmission Network Service Provider*, including any reductions under clause 6.5.8 in *Customer TUOS general charges* and/or *common service charges*, and the percentage of the reductions in the *Customer TUOS general charges* and/or *common service charges* (if any) that were recovered from other *Transmission Customers* through their *Customer TUOS general charges* and/or *common service charges*, respectively, under clause 6.5.8(c).

(c) In addition to the certified annual financial statements referred to in clause 6.2.5(a), the *AER* may require a *Transmission Network Service Provider* to provide any other information the *AER* reasonably requires to perform its regulatory functions in a manner and by a date it considers to be consistent with the requirements of clauses 6.2.2, 6.2.3 and 6.2.4.

(d) The *AER* may request or undertake verification and/or independent audit of any information sought by it, or provided to it, under this clause 6.2.5.

(e) Information provided to the *AER* by a *Transmission Network Service Provider* pursuant to this clause 6.2.5 must be treated as confidential by the *AER* and must not be publicly released without the prior written consent of the *Transmission Network Service Provider* which provided that information unless the procedures set out in clauses 6.2.6(b)-(e) have been followed.

6.2.6 Information disclosure by the AER

(a) In making a *revenue cap* determination or any other decision under this clause 6.2, the *AER* must publish full and reasonable details of the basis and rationale of the decision including but not limited to the following:

(1) reasonable details of qualitative and quantitative methodologies applied including any calculations and formulae;

(2) the values adopted by the *AER* for each of the input variables in any calculations and formulae, including a full description of the rationale for adoption of those values;

(3) reasonable details of other assumptions made by the *AER* in the conduct of all material qualitative and quantitative analyses undertaken in relation to the setting of the *revenue cap* or any related matter; and

(4) full reasons for all material judgments and qualitative decisions made and options considered and all discretions exercised which have a material bearing on the outcome of the *AER's* overall decision.

(b) The *AER* in discharging its functions under the *Rules* may publicly release information or the contents of documents provided to it by a *Transmission Network Service Provider* for the purposes of performing its functions under the *Rules* in circumstances where the *Transmission Network Service Provider* has declined to give written consent to its release in accordance with 6.2.5(e) if the *AER*:

(1) is of the opinion that:

(A) the disclosure of the information or the contents of the documents would not cause detriment to the *Transmission Network Service Provider* who supplied it; or

(B) although the disclosure of the information or the contents of the documents would cause detriment to the *Transmission Network Service Provider* who supplied it, the public benefit in disclosing it outweighs that detriment; and

(2) is of the opinion, in relation to any other person who has provided the *Transmission Network Service Provider* with information or documents that form part of the information or documents provided by the *Transmission Network Service Provider* to the *AER*, that:

(A) the disclosure of the information or contents of the documents would not cause detriment to that person; or

(B) although the disclosure of the information or contents of the documents would cause detriment to that person, the public benefit in disclosing it outweighs the detriment,

and the procedures set out in clauses 6.2.6(c)-(d) have been followed.

(c) The *AER* must not publicly release any information or the contents of any documents under clause 6.2.6(b) until the expiration of 28 days from the date of receipt of a written notice sent by the *AER* to:

(1) the *Transmission Network Service Provider* who supplied the information or documents; or

(2) any person whom the *AER* is aware supplied the *Transmission Network Service Provider* with information or documents that form part of the information or documents provided to the *AER* by the *Transmission Network Service Provider*,

as the case may be, of the *AER*'s intention to disclose.

(d) The notice referred to in clause 6.2.6(c) must:

(1) state that the *AER* wishes to disclose the information or contents of the documents, specifying the nature of the intended disclosure and setting out detailed reasons why the *AER* wishes to make the disclosure;

(2) state that the *AER* is of the opinion required by clause 6.2.6(b) and setting out detailed reasons why it is of that opinion; and

(3) state that the *AER*'s decision to disclose the information or contents of the document can be reviewed under the *ADJR Act*.

(e) Where as a result of a review, under the *ADJR Act*, of its decision to publicly release information or documents the *AER* is not allowed to

publicly release particular information or documents provided to it for the purpose of performing its functions under the *Rules*, the *AER* may nonetheless use the information or document for the purposes of performing its functions under the *Rules.*

(f) Nothing in clauses 6.2.6(c) and (d) is intended to affect a *Registered Participant's* rights to seek a review under general principles of administrative law of the *AER's* decision to publicly release any information or the contents of any documents under clause 6.2.6(b).

Part C - Transmission Pricing

This part of the *Rules* describes the pricing requirements applying to *transmission networks* and their associated *connection assets*, and must be interpreted in accordance with the pricing principles set out in clause 6.1.1 and schedule 6.7.

The diagram at the end of clause 6.3.1 illustrates the relationship between various classes of *transmission service* and the method of cost recovery and pricing.

6.3 Step 1 - Allocation of Aggregate Annual Revenue Requirement

The *aggregate annual revenue requirement* of a *Transmission Network Service Provider* for year *t* is an amount not exceeding the *maximum allowed revenue* for provision of *prescribed transmission services* for year *t* as determined by the *AER* in accordance with clause 6.2.4.

The *aggregate annual revenue requirement* of a *Transmission Network Service Provider* must be divided between classes of *transmission service* to provide an amount being the *aggregate annual revenue requirement* for year *t* for each class of *transmission service* provided by the *Transmission Network Service Provider*.

6.3.1 Determining annual revenue requirement for classes of transmission service

(a) The classes of *transmission services* are:

(1) *entry service* which includes those services provided to serve a *Generator* or group of *Generators* at a single *connection point*;

(2) *exit service* which includes those services provided to serve a *Transmission Customer* or group of *Transmission Customers* at a single *connection point*;

(3) *transmission use of system service*; and

(4) *common services* which are services that maintain *power system security* and benefit all *Transmission Customers* and which cannot reasonably be allocated on a location basis.

(b) The delineation between the assets which provide:

(1) *entry service*;

(2) *exit service*;

(3) *transmission use of system service*; and

(4) *common service*,

is set out in schedule 6.2.

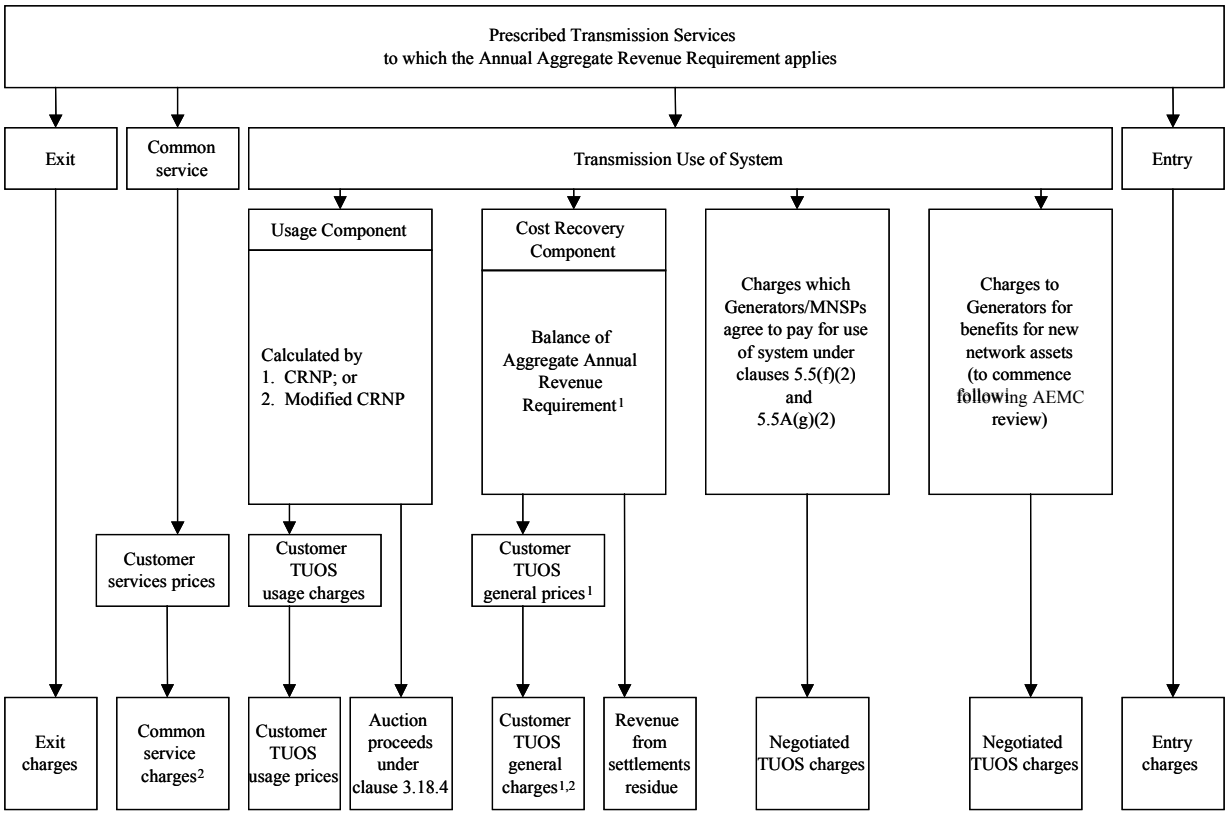
(c) *Transmission Network Service Providers* must classify each element and cost of their *transmission service*:

(1) into one of the classes of *transmission services* more fully described in schedule 6.2; or

(2) as operating and maintenance costs, including but not limited to insurance, in respect of the provision of any of these *transmission services*.

Illustration of Relationship Between Various Classes of

Transmission Service, and Method of Cost Recovery and Pricing



[1] Customer TUOS general prices and customer TUOS general charges also recover any over or under -recovery of the sum of aggregate annual revenue requirement for previous years from prescribed transmiss ion services revenue.

[2] Common service charges and customer TUOS general charges may in clude common service charges and customer TUOS general charges reduced in accordance with clause 6.5.8.

6.3.2 Multiple Transmission Network Service Providers within a region

(a) *Transmission services* within a *region* (including *connection*) may be provided by more than one *Transmission Network Service Provider*.

(b) If *transmission services* within a *region* are provided by more than one *Transmission Network Service Provider*, the *Transmission Network Service Providers* which provide such *transmission services* within that *region* must appoint one *Network Service Provider* (also called a "*Co-ordinating Network Service Provider*") who is responsible for the allocation of all relevant *aggregate annual revenue requirements* within that region in accordance with clause 6.4.

(c) Appointment of a *Co-ordinating Network Service Provider* does not preclude any other *Transmission Network Service Provider* from undertaking the process to also determine the allocation in accordance with clause 6.4.

(d) Each *Transmission Network Service Provider* must determine the *aggregate annual revenue requirement* for its own *transmission system* assets which are used to provide *transmission services* within each *region*.

(e) To make the allocation in clause 6.4 the appointed *Co-ordinating Network Service Provider* must use the total *aggregate annual revenue requirement* of all *Transmission Network Service Providers* providing *transmission services* within the *region*.

(f) The *Co-ordinating Network Service Provider* is responsible for the allocation under clause 6.4 in relation to *Transmission Network Users'* and *Transmission Network Service Providers' connection points* to *transmission networks* located within the *region* for which the *Co-ordinating Network Service Provider* is responsible under clause 6.3.2(b).

(g) The *Co-ordinating Network Service Provider* must allocate costs under clause 6.4.3B(c) for all *connection points* with *Transmission Customers connected* to a *transmission network* located within the *region* for which the *Co-ordinating Network Service Provider* is responsible under clause 6.3.2(b) using either the *cost reflective network pricing* method or the modified *cost reflective network pricing* method.

6.3.3 Single Transmission Network Service Provider within a region

If *transmission services* within a *region* are provided by only one *Transmission Network Service Provider*, that *Transmission Network Service Provider* is the *Network Service Provider* responsible for allocation of the *aggregate annual revenue requirement* for the *transmission systems* in that *region* and that *Network*

Service Provider must liaise with the *Network Service Provider* similarly responsible in any other *interconnected regions.*

6.3.4 Allocation over several regions

(a) The *Network Service Providers* responsible for the allocation under clause 6.4 within a *region* may agree with one or more other such *Network Service Providers* for *interconnected regions* to undertake the allocations in clause 6.4 as one allocation over all of those *regions*.

(b) To make an allocation over several *regions*, the total *aggregate annual revenue requirement* of all *Transmission Network Service Providers* providing *transmission services* within those *regions* must be used.

(c) To allocate costs under clause 6.4.3B(c) over several *regions*, either the *cost reflective network pricing* method or the modified *cost reflective network pricing* method must be used for all *connection points* with *Transmission Customers connected* to a *transmission network* located within those *regions*.

6.4 Step 2 - Allocation of Transmission Costs

This clause sets out the procedure to be used for allocation of the *aggregate annual revenue requirement* amongst all assets of the *Transmission Network Service Provider* utilised in the provision of *transmission services* which will then provide a figure estimating the cost of providing those *transmission services*. This process is called "cost allocation".

6.4.1 Cost allocation to individual transmission system assets

(a) Any asset which is required by the *Transmission Network Service Provider* to deliver the *transmission services* to a standard described in schedule 5.1 must be classified as one or more of the following in accordance with schedule 6.2:

(1) *entry service* asset;

(2) *exit service* asset;

(3) use of *transmission use of system service* asset; and

(4) *common service* asset.

(b) A *Transmission Network Service Provider's aggregate annual revenue requirement* for each of the classes of *transmission service* described in clause 6.3.1(a)(1)-(4) must be allocated among the assets classified in the corresponding class of assets described in clause 6.4.1(a).

(c) The allocation in clause 6.4.1(b) to each asset in the class is:

$$ARR_{ij} = \frac{AARR_j \times ORC_{ij}}{\sum_{no.of\ elements\ in\ class\ j} ORC_{ij}}$$

where:

ARR_{ij} is the *annual revenue requirement* for the asset in the particular class.

$AARR_j$ is the *aggregate annual revenue requirement* for the class of *transmission service.*

ORC_{ij} is the optimised replacement cost (undepreciated value) of the specified asset/s;

i is the individual asset; and

j is the class of asset as defined in clause 6.4.1(a). (ie: j = 1, 2, 3 or 4),

and the amount so allocated to an asset is the *annual revenue requirement* for that asset.

6.4.2 Cost allocation for connection service to Transmission Customers and Generators

Where there is no contract containing provisions relating to the allocation of *connection service* costs, *connection service* costs for *connection points* with *Transmission Customers* and *Generators* must be determined as follows:

(a) the cost for *entry services (entry costs)* for each *connection point* is determined by adding the amount of the *annual revenue requirement* for all individual assets classified as *entry service* assets which provide *entry service* for the *connection point* and allocating this cost to *Generators connected* at the *connection point*;

(b) the cost for *exit services (exit costs)* for each *connection point* is determined by adding the amount of the *annual revenue requirement* for all individual assets classified as *exit service* assets which provide *exit service* for the *connection point* and allocating this cost to *Transmission Network Users connected* at the *connection point*; and

(c) where an individual asset provides both *entry service* and *exit service* the *Transmission Network Service Provider* must negotiate an equitable cost allocation method with the *Transmission Network Users* involved.

6.4.3 Allocation of transmission network use of system costs to Transmission Customers and Generators

The allocation of the *aggregate annual revenue requirement* amongst all assets of the *Transmission Network Service Provider* utilised in the provision of *transmission use of system services* is to be recovered through:

(a) charges for *Generator transmission use of system service* costs;

(b) charges for *Customer transmission use of system service* costs; and

(c) revenue from *auction* proceeds distributed under clause 3.18.4.

6.4.3A Allocation of Generator transmission use of system service costs

The proportion of the *aggregate annual revenue requirement* to be recovered through charges for *Generator transmission use of system service* costs must be allocated as follows:

(a) for *negotiated use of system service* costs, as agreed with the relevant *Generators* in accordance with clause 5.5(f)(2);

(b) for use of a *new transmission network investment*, in accordance with schedule 6.8; and

(c) for use of a *new distribution network investment*, in accordance with schedule 6.8.

6.4.3B Determination of usage component of Customer transmission use of system service costs

(a) The proportion of the *aggregate annual revenue requirement* to be recovered through charges for *transmission use of system services* following deduction of the proportion to be recovered through charges for *Generator transmission use of system service* costs is to be recovered through charges for *Customer transmission use of system service* costs and revenue from *auction* proceeds distributed under clause 3.18.4.

(b) A proportion of the *aggregate annual revenue requirement* for *Customer transmission use of system services* must be allocated by the *Transmission Network Service Provider* in accordance with clause 6.4.3B(c) to each *connection point* with a *Transmission Customer connected* to its *transmission network*, other than to *connection points* with *Market Network Service Providers* (as *Market Network Service Providers* pay *negotiated use of system charges* under clause 5.5A(g)(2)), which amount will be used to determine the *Customer TUOS usage prices* and *Customer TUOS usage charges* for those *connection points* under clause 6.5.4. This allocation is to be determined for each of these *connection points* for each *financial year*

and the *survey period* for this allocation must be the most recent full *financial year* for which operating data is available.

(c) A *Transmission Network Service Provider* must allocate a proportion of the *aggregate annual revenue requirement* for *Customer transmission use of system services* to each and every *connection point* with a *Transmission Customer connected* to its *transmission network*, using either:

(1) the *cost reflective network pricing* method set out in schedule 6.4, unless the *AER* has approved the use of a modified *cost reflective network pricing* method; or

(2) a modified *cost reflective network pricing* method, based on the description of the modified *cost reflective network pricing* in schedule 6.4, provided that the *AER* has approved the use of a modified *cost reflective network pricing* method.

(d) A *Transmission Network Service Provider* must take into account the estimated revenue from *auction* proceeds, distributed to it under clause 3.18.4 and attributed to a *network* asset in accordance with clause 6.19(c), in allocating costs to a *connection point* under clause 6.4.3B(c).

6.4.3C Determination of costs to be recovered through Customer TUOS general charges

(a) A *Transmission Network Service Provider* must determine for each *financial year*, in accordance with this clause 6.4.3C, the balance of, or surplus over, the *Transmission Network Service Provider's aggregate annual revenue requirement* for the provision of *transmission use of system services* after:

(i) deduction of the amounts outlined in clause 6.4.3C(b); and

(ii) addition of the amounts referred to in clause 6.4.3C(c),

which amount will be recovered or, in the case of a surplus, rebated through the *Customer TUOS general prices* and *Customer TUOS general charges* determined under clause 6.5.4A for *connection points* with *Transmission Customers* (other than *Market Network Service Providers*) *connected* to the *Transmission Network Service Provider's transmission network*.

(b) The following amounts must be deducted from that portion of the *aggregate annual revenue requirement* to calculate the balance or surplus referred to in clause 6.4.3C(a):

(1) the estimated recovery from *Generator transmission use of system service* charges of costs allocated in accordance with clause 6.4.3A

(including recovery of charges from costs allocated in accordance with clause 6.4.8);

(2) the estimated recovery, if any, from *negotiated use of system service charges* agreed with *Market Network Service Providers* in accordance with clause 5.5A(g)(2);

(3) the estimated recovery from *Customer TUOS usage charges*, which recovery must be estimated by applying the *Customer TUOS usage prices* established for each *connection point* to the *Transmission Network Service Provider's* forecast of the *load* for each *connection point*;

(4) the estimated revenue from *auction* proceeds distributed to the *Transmission Network Service Provider* under clause 3.18.4 and from *settlements residue*;

(5) any amount by which:

(i) the revenue earned from *prescribed services* in previous *financial years* (excluding any revenue earned from *prescribed transmission services* as a result of the provision of those *prescribed transmission services* to a higher standard, and including revenue that would have been earned from *prescribed transmission services* but for the provision of those *prescribed transmission services* to a lower standard, than those described in schedule 5.1 or those published in accordance with clause 6.5.7(b) under clause 6.5.8),

exceeds

(ii) the sum of the *aggregate annual revenue requirement* as defined in clause 6.3 in those *financial years* (excluding the amount of any reduction in *Customer TUOS general charges* or *common service charges* provided by the *Transmission Network Service Provider* under clause 6.5.8(b) in those *financial years* that it was not entitled to recover from other *Transmission Customers* under clause 6.5.8(c)).

This amount must be grossed up by the application of an annual interest rate approved by the *AER* for this purpose prior to its deduction.

(c) The following amounts must be added to that portion of the *aggregate annual revenue requirement* to calculate the balance or surplus referred to in clause 6.4.3C(a):

(1) any amount, by which:

(i) the sum of the *aggregate annual revenue requirement* as defined in clause 6.3 in previous *financial years* (excluding the amount of any reduction in *Customer TUOS general charges* or *common service charges* provided by the *Transmission Network Service Provider* under clause 6.5.8(b) in those *financial years* that it was not entitled to recover from other *Transmission Customers* under clause 6.5.8(c)),

exceeds

(ii) the revenue earned from *prescribed transmission services* in those previous *financial years* (excluding any revenue earned from *prescribed transmission services* as a result of the provision of those *prescribed transmission services* to a higher standard, and including revenue that would have been earned from *prescribed transmission services* but for the provision of those *prescribed transmission services* to a lower standard, than those described in schedule 5.1 or those published in accordance with clause 6.5.7(b) under clause 6.5.8).

This amount must be grossed up by the application of an annual interest rate approved by the *AER* for this purpose prior to its addition; and

(2) the estimated amount, if any, by which the *Transmission Network Service Provider* will recover less than the forecast amounts from *Customer TUOS usage charges* as a result of the cap placed on prices by clause 6.5.5(a); and

(3) the amount, if any, which the *Transmission Network Service Provider* is required to pay *Generators connected* to its *transmission network* as a result of the application of clause 5.6.2(m), or *Market Network Service Providers connected* to its *transmission network* in accordance with clause 5.5A(g)(2), to reflect the *transmission service* cost savings in having the *Generator* or *Market Network Service Provider connected* to its *transmission network*.

6.4.4 Allocation of common service costs

Each *financial year*, a *Transmission Network Service Provider* must use the allocation of the *aggregate annual revenue requirement* amongst all assets of the *Transmission Network Service Provider* utilised in the provision of *common services* to determine the *common service prices* and *common service charges* for *connection points* with *Transmission Customers connected* to its *transmission network* under clause 6.5.6.

6.4.5 Generator and Market Network Service Provider access

Generator access and *market network service provider access* service costs may be recovered from each *Generator* and *Market Network Service Provider*, any other *Registered Participant* and *NEMMCO*, where they have received *generator access* and *market network service provider access* service, to the extent that there is provision for this in the relevant *connection agreement.*

6.4.6 Period of cost allocation for the transmission services

(a) *Transmission Network Service Providers* must carry out the cost allocation for the relevant *transmission services* annually and this is to form the basis for the annual calculation of the prices under clause 6.5 to apply for each *financial year*.

(b) Where a *Transmission Network Service Provider* considers that significant change in the use or configuration of the *transmission network* warrants a review of the allocation, the *Transmission Network Service Provider* may seek approval from the *AER* to recalculate the cost allocation to apply for the remainder of the *regulatory control period.*

6.4.7 Inclusion of new connection assets between price determinations

Transmission Network Service Providers must determine prices for *entry services* and *exit services* for new *connections* or augmentations to existing *connections* by negotiation with the relevant *Transmission Network User* and when determined these prices must be specified in the relevant c*onnection agreement* between them.

6.4.8 Allocation of new transmission network investment costs to Generators

(a) *Generators* may agree as part of their *connection agreements* to pay for *transmission use of system services* provided by *new transmission network investment* in accordance with clause 5.5(f)(2).

(b) Some of the costs of *new transmission network investment* may be recovered by *Transmission Network Service Providers* from *Generators* in accordance with schedule 6.8.

(c) Any payment received from *Generators* within each *region* following such allocation under clauses 6.4.8(a) and (b) will result in the recovery by a *Transmission Network Service Provider* of a portion of its *transmission use of system* costs.

6.5 Step 3 - Transmission Service Prices

The outcome of the cost allocation process specified in clause 6.4 is:

(a) an allocated annual cost referable to one or more of the following cost categories for each *connection point* with a *Transmission Network User connected* to a *transmission network* in the *region* or *regions* over which the cost allocation under clause 6.4 is made (depending on the type of *Transmission Network User* receiving *transmission service* at that *connection point*):

(1) *entry cost*;

(2) *exit cost*;

(3) *negotiated use of system service* cost;

(4) *Generator transmission use of system service* cost; and

(5) usage cost component of *Customer transmission use of system service* cost; and

(b) an aggregate allocated annual cost referable to one or more of the following cost categories for all *connection points* with *Transmission Customers connected* to a *transmission network* in the *region* or *regions* over which the cost allocation under clause 6.4 is made (depending on the type of *Transmission Customer* receiving *transmission service* at that *connection point*):

(1) general cost component of *Customer transmission use of system service* cost; and

(2) *Transmission Customer common service* cost.

These categories of cost must be converted into prices and charges in accordance with clauses 6.5.1 to 6.5.6.

6.5.1 Generator entry charge

The *entry charge* payable by a *Generator* for *entry services* provided to it at a *connection point* is a fixed annual amount equal to the *entry cost* referable to that *connection point* in accordance with clause 6.4.2(a).

6.5.2 Transmission Customer exit charge

The *exit charge* payable by a *Transmission Customer* for *exit services* provided to it at a *connection point* is a fixed annual amount equal to the *exit cost* referable to that *connection point* in accordance with clause 6.4.2(b).

6.5.3 Negotiated use of system and access charge

(a) The *negotiated use of system charge* for *transmission use of system services* provided at a *connection point* of a *Generator* or a *Market Network Service Provider* must be determined using a variable price agreed in accordance with clauses 5.5(f)(2) or 5.5A(g)(2), as applicable, and revenue recovered from such services forms part of the *Transmission Network Service Provider's aggregate annual revenue requirement*.

(b) The *generator access* and *market network service provider access* charges must be determined in accordance with clauses 5.5(f)(4) and 5.5A(g)(3), and revenue recovered from such charges does not form part of the *Transmission Network Service Provider's aggregate annual revenue requirement*.

(c) The *Generator transmission use of system service* costs referred to in clause 6.4.3A(b) are to be recovered through prices calculated in accordance with schedule 6.8.

(d) For the purpose of determining a *transmission use of system service* cost in this context, a *Registered Participant* is treated as a *Generator* in relation to a pumped storage plant.

6.5.4 Customer TUOS usage prices and charges

(a) The *Customer transmission use of system service* costs referred to in clause 6.4.3B are to be recovered by an individual *Transmission Network Service Provider* in the *region* or *regions* over which the cost allocation is made from:

(1) *Customer TUOS usage prices* and *Customer TUOS usage charges* determined by the *Transmission Network Service Provider* for *connection points* with *Transmission Customers connected* to its *transmission network*; and

(2) financial transfers between *Transmission Network Service Providers* in accordance with clause 6.7.4 for those *connection points* with a *Transmission Customer connected* to a *transmission network* with another *Transmission Network Service Provider*.

(b) A *Transmission Network Service Provider* must determine the variable pricing structure for the *Customer TUOS usage prices* to apply to a

connection point with a *Transmission Customer* (other than a *Market Network Service Provider*) *connected* to its *transmission network* at its discretion:

(1) in such a way as to reflect the conditions in the *transmission network* which influence *network* investment; and

(2) having regard to the objective to recover the costs allocated to that *connection point* in accordance with clause 6.4.3B with the *Customer TUOS usage prices*, assuming that the level and pattern of use of the *transmission network* by each *Transmission Customer connected* to a *transmission network* in the *region* or *regions* over which the cost allocation under clause 6.4 is made is the same as in the *survey period*.

(c) The pricing structure for *Customer TUOS usage prices* may include combinations of one or more of the following:

(1) *demand based prices* (eg. $ per maximum kW measured as the average kW over a metered half hour or $ per maximum kVA measured as the average kVA over a metered half hour);

(2) *energy based prices* (eg. ¢ per kWh or ¢ per kVAh); and

(3) fixed charges ($).

(d) The *Customer TUOS usage prices* determined under this clause 6.5.4 for a *connection point* must be applied to actual use of the *transmission system* as measured by a *meter* or to a level of use which is agreed between the *Transmission Network Service Provider* and the *Transmission Customer* to determine the *Customer TUOS usage charges* for that *connection point* for each *billing period* in the *financial year* in which the *Customer TUOS usage prices* apply.

(e) **[Deleted]**

(f) **[Deleted]**

6.5.4A Customer TUOS general prices and charges

(a) The balance of the *aggregate annual revenue requirement*, referred to in clause 6.4.3C, is to be recovered from *Transmission Customers* through *Customer TUOS general charges*, determined using the *Customer TUOS general prices*.

(b) Each *financial year*, the *Transmission Network Service Provider* (or the *Co-ordinating Network Service Provider* referred to in clause 6.3.2, where the *transmission services* within a *region* are provided by more than one *Transmission Network Service Provider*, or the *Transmission Network Service Providers* jointly, where *Network Service Providers* for *interconnected regions* agree to perform a single cost allocation under clause 6.4 over all of those *interconnected regions* in accordance with clause 6.3.4) must determine the following two *Customer TUOS general prices*:

(1) a *Customer TUOS general price* that is a price per unit of historical or actual *metered energy* offtake at a *connection point* ("*energy price*"); and

(2) a *Customer TUOS general price* that is a price per unit of contracted capacity for a *connection point* ("*capacity price*").

(c) Either the *energy price* or the *capacity price* applies to each *connection point* with a *Transmission Customer connected* to a *transmission network* in the *region* or *regions* over which the cost allocation under clause 6.4 was made, except for those *connection points* in relation to which the *Transmission Customer* has negotiated agreed reduced *Customer TUOS general charges* in accordance with clause 6.5.8 and the *Transmission Network Service Provider* is entitled to recover the amount of the reduction from other *Transmission Customers* under clause 6.5.8(c).

(d) The value of the *energy price* and the *capacity price* must be determined so as to satisfy the following conditions:

(1) a *Transmission Customer* with a *load* factor in relation to its *connection point* equal to the median *load* factor for *connection points* with *Transmission Customers connected* to a *transmission network* in the *region* or *regions* is indifferent between the use of the *energy price* and the *capacity price* to determine the *Customer TUOS general price* to apply to its *connection point* in the relevant *financial year*; and

(2) the total estimated revenue from *Customer TUOS general charges* for *connection points* with *Transmission Customers connected* to a *transmission network* in the *region* or *regions*, for the *financial year* in which the *Customer TUOS general prices* are to apply, equals the balance of the *aggregate annual revenue requirement* determined in accordance with clause 6.4.3C(a) for that *region* or those *regions* for that *financial year*.

(e) Each *Transmission Network Service Provider* must determine the *Customer TUOS general charge* for a *connection point* with a *Transmission Customer* (other than a *Market Network Service Provider*) *connected* to its *transmission network* for each *billing period* in a *financial year* in accordance with the following procedure:

(1) for a *connection point* in relation to which the applicable *Customer TUOS general price* for the *financial year* in which the *billing period* occurs, as determined under clauses 6.5.4A(f) and 6.5.4A(g), is the *energy price* for that *financial year*, by:

(i) multiplying the *energy price* for that *financial year* by the *metered energy* offtake at that *connection point* in the same period in the *financial year* which came to an end twelve months prior to the commencement of the *financial year* in which the *Customer TUOS general charge* is to apply, where:

(A) the total *metered energy* offtake at the *connection point*, in the *financial year* which came to an end twelve months prior to the commencement of the *financial year* in which the *Customer TUOS general charge* is to apply, is available; and

(B) the *AER* has not approved the use of *metered energy* offtake in the *financial year* in which the *Customer TUOS general charges* are to apply to determine *Customer TUOS general charges*; or

(ii) multiplying the *energy price* for that *financial year* by the total *metered energy* offtake at that *connection point* in the *billing period*, where either clause 6.5.4A(e)(1)(i)(A) or clause 6.5.4A(e)(1)(i)(B) is not satisfied;

(2) for a *connection point* in relation to which the applicable *Customer TUOS general price* for the *financial year* in which the *billing period* occurs, as determined under clauses 6.5.4A(f) and 6.5.4A(g), is the *capacity price* for that *financial year*, by multiplying the *capacity price* for that *financial year* by the maximum contract demand for the *connection point* in that *financial year*, and then dividing this amount by the number of *billing periods* in the *financial year*; and

(3) for a *connection point* in relation to which the *Transmission Customer* has negotiated agreed reduced *Customer TUOS general charges* in accordance with clause 6.5.8, the *Customer TUOS general charges* will be those agreed reduced charges.

(f) The *Customer TUOS general price* that applies in a *financial year* to a *connection point* with a *Transmission Customer connected* to the *transmission network* must, of the two *Customer TUOS general prices* referred to in clause 6.5.4A(b), be the *Customer TUOS general price* for that *financial year* that results in the lower estimated recovery from *Customer TUOS general charges* for that *connection point* in that *financial year*.

(g) Notwithstanding clause 6.5.4A(f), the *Customer TUOS general price* that applies in a *financial year* to a *connection point* with a *Transmission Customer connected* to the *transmission network* must not be the *capacity price* referred to in clause 6.5.4A(b), unless the *Transmission Customer's connection agreement* or other enforceable instrument governing the terms of *connection* of the *Transmission Customer*:

(1) nominates a fixed *maximum demand* for that *connection point*; and

(2) specifies substantial penalties for exceeding the nominated fixed *maximum demand*.

6.5.5 Cap on rate of change of price

(a) The prices resulting from the cost allocation of the *transmission network* to an individual *connection point* must be limited so that they do not result in a change of more than 2% per annum in the *Customer TUOS usage prices* relative to the average *Customer TUOS usage prices* for the *region* or *regions* over which the cost allocation under clause 6.4 was being made.

(b) **[Deleted]**

(c) Where the limit referred to in clause 6.5.5(a) is exceeded at any *connection point* in a *financial year* the excess must be calculated and added to the balance of the *aggregate annual revenue requirement* for *transmission use of system services* referred to in clause 6.4.3C(a) for that *financial year*, in accordance with clause 6.4.3C(c)(2).

(d) **[Deleted]**

6.5.6 Transmission Customer common service price

(a) The *Transmission Customer common service* costs are to be recovered through *Transmission Customer common service charges*, determined using *Transmission Customer common service prices*, which are payable by *Transmission Customers* (other than *Market Network Service Providers*) for *common services* provided to them for each of their *connection points.*

(b) Each *financial year*, the *Transmission Network Service Provider* (or the *Co-ordinating Network Service Provider* referred to in clause 6.3.2, where the *transmission services* within a *region* are provided by more than one *Transmission Network Service Provider*, or the *Transmission Network Service Providers* jointly, where the *Network Service Providers* for *interconnected regions* agree to perform a single cost allocation under clause 6.4 over all of those *interconnected regions* in accordance with clause 6.3.4) must determine the following two *common service prices*:

(1) a *common service price* that is a price per unit of historical or actual *metered energy* offtake at a *connection point* ("*energy price*"); and

(2) a *common service price* that is a price per unit of contracted capacity for a *connection point* ("*capacity price*").

(c) Either the *energy price* or the *capacity price* applies to each *connection point* with a *Transmission Customer connected* to a *transmission network* in the *region* or *regions* over which the cost allocation under clause 6.4 was made, except for those *connection points* in relation to which the *Transmission Customer* has negotiated agreed reduced *common service charges* in accordance with clause 6.5.8 and the *Transmission Network Service Provider* is entitled to recover the amount of the reduction from other *Transmission Customers* under clause 6.5.8(c).

(d) The value of the *energy price* and the *capacity price* must be determined so as to satisfy the following conditions:

(1) a *Transmission Customer* with a *load* factor in relation to its *connection point* equal to the median *load* factor for *connection points* with *Transmission Customers connected* to a *transmission network* in the *region* or *regions* is indifferent between the use of the *energy price* and the *capacity price* to determine the *common service price* to apply to its *connection point* in the relevant *financial year*; and

(2) the total estimated revenue from *common service charges* for *connection points* with *Transmission Customers connected* to a *transmission network* in the *region* or *regions*, for the *financial year* in which the *common service prices* are to apply, equals the total *aggregate annual revenue requirement* for the provision of *common services* in that *region* or those *regions* for that *financial year*.

(e) Each *Transmission Network Service Provider* must determine the *common service charge* for each *connection point* with a *Transmission Customer connected* to its *transmission network* for each *billing period* in a *financial year* in accordance with the following procedure:

(1) for a *connection point* in relation to which the applicable *common service price* for the *financial year* in which the *billing period* occurs,

as determined under clauses 6.5.6(f) and (g), is the *energy price* for that *financial year*, by:

(i) multiplying the *energy price* for that *financial year* by the *metered energy* offtake at that *connection point* in the same period in the *financial year* which came to an end twelve months prior to the commencement of the *financial year* in which the *common service charge* is to apply, where:

(A) the total *metered energy* offtake at the *connection point*, in the *financial year* which came to an end twelve months prior to the commencement of the *financial year* in which the *common service charges* are to apply, is available; and

(B) the *AER* has not approved the use of *metered energy* offtake, in the *financial year* in which the *common service charges* are to apply, to determine *common service charges*; or

(ii) multiplying the *energy price* for that *financial year* by the total *metered energy* offtake at that *connection point* in the *billing period*, where either clause 6.5.6(e)(1)(i)(A) or clause 6.5.6(e)(1)(i)(B) is not satisfied;

(2) for a *connection point* in relation to which the applicable *common service price* for the *financial year* in which the *billing period* occurs, as determined under clauses 6.5.6(f) and (g), is the *capacity price* for that *financial year*, by multiplying the *capacity price* for that *financial year* by the maximum contract demand for the *connection point* in that *financial year*, and then dividing this amount by the number of *billing periods* in the *financial year*; and

(3) for a *connection point* in relation to which the *Transmission Customer* has negotiated agreed reduced *common service charges* in accordance with clause 6.5.8, the *common service charges* will be those agreed reduced charges.

(f) The *common service price* that applies in a *financial year* to a *connection point* with a *Transmission Customer connected* to the *transmission network* must, of the two *common service prices* referred to in clause 6.5.6(b), be the *common service price* for that *financial year* that results in the lower estimated recovery from *common service charges* for that *connection point* in that *financial year*.

(g) Notwithstanding clause 6.5.6(f), the *common service price* that applies in a *financial year* to a *connection point* with a *Transmission Customer connected* to the *transmission network* must not be the *capacity price* referred to in clause 6.5.6(b), unless the *Transmission Customer's*

connection agreement or other enforceable instrument governing the terms of *connection* of the *Transmission Customer*:

(1) nominates a fixed *maximum demand* for that *connection point*; and

(2) specifies substantial penalties for exceeding the nominated fixed *maximum demand*.

6.5.7 Publication of transmission network prices

Each *Transmission Network Service Provider* must publish:

(a) the *transmission service* prices to apply for the following financial year by 15 May each year for the purposes of determining *distribution* prices as outlined in Part E of this Chapter 6; and

(b) the service standards to which it will adhere for the services to which those *transmission service* prices relate, which service standards must include, and not be inconsistent with, any service standards imposed on the *Transmission Network Service Provider* by any regulatory regime administered by the *AER*.

6.5.8 Agreement as to transmission prices

(a) Subject to this clause 6.5.8, the prices determined in accordance with clauses 6.5.1 to 6.5.6 are the maximum prices which a *Transmission Network Service Provider* is entitled to charge for providing the relevant *prescribed transmission services* to:

(1) the standards described in schedule 5.1; and

(2) the standards published in accordance with clause 6.5.7(b),

notwithstanding any agreement with another person to the contrary.

(b) A *Transmission Network Service Provider* may, but is not required to, agree with a *Transmission Network User* to charge that *Transmission Network User* lower prices than those determined in accordance with clauses 6.5.1 to 6.5.6 and, if the relevant parties have so agreed, the prices payable by that *Transmission Network User* for the provision of the relevant *prescribed transmission services* are those so agreed rather than those determined in accordance with clauses 6.5.1 to 6.5.6.

(c) A Transmission Network Service Provider that agrees to charge a Transmission Customer reduced Customer TUOS general charges or common service charges (the "agreed reduced charges") may recover from other Transmission Customers all or part of the amount of that reduction as part of those other Transmission Customer's Customer TUOS general

charges, in accordance with clause 6.4.3C, or common service charges, in accordance with clause 6.5.6, respectively, provided that the *Transmission Network Service Provider* is satisfied that it can demonstrate that the reduction complies with the *AER's* Guidelines for the Negotiation of Discounted Transmission Charges.

(d) Where for any reason the *Transmission Network Service Provider* does not recover the amount of a reduction it is entitled to recover from other *Transmission Customers* under clause 6.5.8(c) in the *financial year* in which the reduced *Customer TUOS general charges* or reduced *common service charges* (as the case may be) apply, the *Transmission Network Service Provider* may recover the amount of the reduction through the *Customer TUOS general charges* to apply in a subsequent *financial year* in accordance with clause 6.4.3C(b)(5) or (c)(1).

(e) In setting a *revenue cap* to apply to a *Transmission Network Service Provider* for a *regulatory control period* in accordance with clause 6.2.4(b), the *AER* may, in its discretion, reduce the *revenue cap* that would otherwise apply to take into account the amount of any reduction in a *Transmission Customer's Customer TUOS general charges* and/or *common service charges* that was recovered from other *Transmission Customers* under clause 6.5.8(c) in the preceding *regulatory control period*, where the *Transmission Network Service Provider* does not demonstrate to the satisfaction of the *AER* that the reduction in the *Customer TUOS general charges* and/or *common service charges* complied with the *AER's* Guidelines for the Negotiation of Discounted Transmission Charges.

(f) If a *Transmission Network Service Provider* agrees to provide a *Transmission Network User* with *prescribed transmission services* to higher or lower standards than those described in schedule 5.1 or the standards published in accordance with clause 6.5.7(b), then the prices payable by the *Transmission Network User* as a result of the difference between the level prescribed by schedule 5.1 or the standards published in accordance with clause 6.5.7(b) and the agreed higher or lower standard are those agreed between the *Transmission Network Service Provider* and the relevant *Transmission Network User* in accordance with clause 6.5.9, provided that the reductions in prices payable by the *Transmission Network User* for the provision of *prescribed transmission services* to a lower standard are limited to the amount of the *Transmission Network Service Provider's* avoided costs (if any) as a result of the provision of services to that lower standard.

6.5.9 Negotiating Framework for negotiable services

(a) Each *Transmission Network Service Provider* (other than a *Market Network Service Provider*) must establish and publish a framework that complies with the requirements of clause 6.5.9(b) (the "*negotiating framework*")

setting out the minimum requirements to be followed during negotiations with *Transmission Network Users* for *negotiable services*. The *Transmission Network Service Provider* must prepare the *negotiating framework* in accordance with the *Rules consultation procedures*, with the draft report to be prepared under clause 8.9 to include a draft *negotiating framework*.

(b) For the purposes of clause 6.5.9(a), the *negotiating framework* must specify:

(1) a requirement for the *Transmission Network Service Provider* and the *Transmission Network User* to negotiate in good faith for the provision of *negotiable services*;

(2) notwithstanding clause 6.9.2 a requirement for the *Transmission Network Service Provider* to provide all such commercial information as the *Transmission Network User* may reasonably require to enable the *Transmission Network User* to engage in effective negotiation with the *Transmission Network Service Provider* for the provision of *negotiated services*, including the cost information described in clause 6.5.9(b)(3);

(3) a requirement for the *Transmission Network Service Provider* to:

(i) identify, and inform the *Transmission Network User* of, the reasonable costs, and/or the increase or decrease in costs (as appropriate), of providing those *negotiable services*, except where the *negotiable service* is the provision of *prescribed transmission services* at *agreed reduced charges*; and

(ii) demonstrate to the *Transmission Network User* that its charges for providing those *negotiable services* reflect those costs, and/or the cost increment or decrement (as appropriate), except where the *negotiable service* is the provision of *prescribed transmission services* at *agreed reduced charges*;

(4) a requirement for the *Transmission Network User* to provide all such commercial information as the *Transmission Network Service Provider* may reasonably require to enable the *Transmission Network Service Provider* to engage in effective negotiation with the *Transmission Network User* for the provision of *negotiable services*;

(5) a reasonable period of time for commencing, progressing and finalising negotiations with the *Transmission Network User* for the provision of *negotiable services*, and a requirement that each party to the negotiation must use its reasonable endeavours to adhere to those time periods during the negotiation;

(6) a process for dispute resolution which provides for all disputes arising out of or concerning negotiations for *negotiable services* to be dealt with in accordance with clause 8.2 or, where the *Transmission Network User* is not a *Registered Participant*, in accordance with a specified alternative dispute resolution process;

(7) a requirement to publish the outcome of the negotiation to provide *negotiable services*, except that where the *negotiable service* is the provision of *prescribed transmission services* at *agreed reduced charges*, the requirement to publish the outcome of the negotiation is limited to a requirement to publish:

(i) the aggregate amount of reductions in *Customer TUOS general charges* negotiated in a *financial year* and the percentage of the reductions in *Customer TUOS general charges* that are recovered from other *Transmission Customers* through their *Customer TUOS general charges* in that *financial year*; and

(ii) the aggregate amount of reductions in *common service charges* negotiated in a *financial year* and the percentage of the reductions in *common service charges* that are recovered from other *Transmission Customers* through their *common service charges* in that *financial year;*

(8) the arrangements for payment by the *Transmission Network User* of the *Transmission Network Service Provider's* reasonable direct expenses incurred in processing the application to provide the *negotiable services*; and

(9) a requirement that the *Transmission Network Service Provider* determine the potential impact on other *Transmission Network Users* of the negotiated provision of a *prescribed transmission service* to a higher or lower standard than any standard:

(i) described in schedule 5.1; or

(ii) published by the *Transmission Network Service Provider* in accordance with clause 6.5.7(b),

and a requirement that the *Transmission Network Service Provider* most notify and consult with any affected *Transmission Network Users* and ensure that the provision of these *negotiable services* does not result in non-compliance with any service standards or other obligations in relation to other *Transmission Network Users* under the *Rules.*

(c) Each *Transmission Network Service Provider* must comply with the requirements of the *negotiating framework* in accordance with its terms and

each *Transmission Network User* negotiating in relation to a *negotiable service* with a *Transmission Network Service Provider* in accordance with this clause 6.5.9 must comply with the requirements of that *Transmission Network Service Provider's negotiating framework* in accordance with its terms.

(d) For the avoidance of doubt, commercial information which is required to be provided to a *Transmission Network User* in accordance with clause 6.5.9(b)(2):

(1) does not include confidential information provided to the *Transmission Network Service Provider* by another person; and

(2) may be provided subject to a condition that the *Transmission Network User* must not provide any part of that commercial information to any other person without the consent of the *Transmission Network Service Provider* which provided the information to the *Transmission Network User*.

(e) For the avoidance of doubt, commercial information which is required to be provided to a *Transmission Network Service Provider* in accordance with clause 6.5.9(b)(4):

(1) does not include confidential information provided to the *Transmission Network User* by another person; and

(2) may be provided subject to a condition that the *Transmission Network Service Provider* must not provide any part of that commercial information to any other person without the consent of the *Transmission Network User* which provided the information to the *Transmission Network Service Provider*, except that where the *negotiable service* is the provision of *prescribed transmission services* at *agreed reduced charges* the *Transmission Network Service Provider* may (without the *Transmission Network User's* consent) provide such commercial information provided by the *Transmission Network User* to the *AER* for the purpose of demonstrating that the *agreed reduced charges* complied with the *AER's* Guidelines for the Negotiation of Discounted Transmission Charges under clause 6.5.8(c).

6.5.10 [Deleted]

6.6 Transmission Network Service Provider Prudential Requirements

This clause sets out the arrangements by which *Transmission Network Service Providers* may minimise financial risks associated with investment in *network* assets.

6.6.1 Prudential Requirements for network service

(a) A *Transmission Network Service Provider* may require a *Generator*, *Transmission Customer* or another person having a *connection point* on the *transmission network* to establish prudential requirements for *connection service* and/or *transmission use of system service.* These prudential requirements may take the form of, but need not be limited to, capital contributions, pre-payments or financial guarantees.

(b) Prudential requirements for *connection service* and/or *transmission use of system service* are a matter for negotiation between the *Transmission Network Service Provider* and the *Generator, Transmission Customer* or other person having a *connection point* on the *transmission network* and the terms agreed must be set out in the *connection agreement* between the *Transmission Network Service Provider* and the *Generator, Transmission Customer* or other person having a *connection point* on the *transmission network*.

6.6.2 Capital contribution or prepayment for a specific asset

Where the *Transmission Network Service Provider* is required to construct specific assets to provide *connection service* and/or *transmission use of system service* to a *Generator, Transmission Customer* or another person having a *connection point* on the *transmission network*, the *Transmission Network Service Provider* may require that person to make a capital contribution or prepayment for all or part of the cost of the new assets installed and any contribution made must be taken into account in the determination of *transmission service* prices applicable to that person.

6.6.3 Treatment of past capital contributions

(a) The treatment of capital contributions for *connection service* and/or *transmission use of system service* made, prior to 13 December 1998, by *Generators, Transmission Customers* or other persons having a *connection point* on the *transmission network* must be in accordance with any contractual arrangements with the relevant *Transmission Network Service Providers* applicable at that time.

(b) Where contractual arrangements referred to in clause 6.6.3(a) are not in place, the treatment of past capital contributions for *connection service* and/or *transmission use of system service* must be negotiated by the *Transmission Network Service Provider* and the *Generator, Transmission Customer* or other person having a *connection point* on the *transmission network* and, if a dispute arises and cannot be resolved, the matter must be referred to the *AER*.

6.7 Billing and Settlements Process

This clause describes the manner in which *Generators* and *Transmission Customers* are billed for *transmission service* and how payments for *transmission service* are settled.

6.7.1 Billing for transmission services

(a) For each *connection point* on its *transmission networks*, a *Transmission Network Service Provider* must calculate the *transmission service* charges payable by *Generators, Transmission Customers* or other persons with *connection points* on the *transmission network* in accordance with the *transmission service* prices published under clause 6.5.7.

(b) A *Transmission Network Service Provider* must bill *Transmission Network Users* for *transmission service* as follows:

(1) *Generators*:

(i) by applying the *entry charge* as a fixed annual charge to each *Generator*;

(ii) by billing in accordance with the *negotiated use of system* and *generator access charges* determined under clause 6.5.3; and

(iii) by billing in accordance with the prices for services provided to *Generators* by *new transmission network investment* determined under clause 6.4.3A.

(2) *Transmission Customers* and other persons with *connection points* on the *transmission network* must be billed in accordance with the relevant method or methods adopted by the relevant *Transmission Network Service Provider* for determining prices under clause 6.5.

(c) Where the billing for a particular *financial year* is based on quantities which are undefined until after the commencement of the *financial year*, charges must be estimated from the previous year's billing quantities with a reconciliation to be made when the actual billing quantities are known and, where the previous year's billing quantities are unavailable or no longer suitable, nominated quantities may be used as agreed between the parties.

(d) Where *transmission service* charges are to be determined from *metering data*, these charges must be based on kW or kWh obtained from the *metering data* managed by *NEMMCO*.

6.7.2 Minimum information to be provided in network service bills

(a) The following is the minimum information that must be provided with a bill for a *connection point* issued by a *Transmission Network Service Provider* directly to a *Generator, Transmission Customer* or other person with a *connection point* on the *transmission network*:

(1) the *connection point* identifier;

(2) the dates on which the *billing period* starts and ends;

(3) the identifier of the published *transmission service* price from which the *connection point* charges are calculated; and

(4) measured quantities, billed quantities, agreed quantities, prices and amounts charged for each component of the total *transmission service* account.

(b) In addition to the minimum information requirements set out in clause 6.7.2(a), a bill for a *connection point* issued by a *Transmission Network Service Provider* directly to a *Transmission Customer* must separately identify the *Customer TUOS usage charge*, *Customer TUOS general charge* and *common service charge* components of the total amount levied in relation to *transmission use of system services* in the *billing period* for that *connection point*.

(c) A *Transmission Network Service Provider* must also provide a *Transmission Customer* billed by the *Transmission Network Service Provider* in accordance with this clause 6.7 with information on the methodology used to calculate the *Transmission Customer's Customer TUOS usage charges* and *Customer TUOS usage prices*, where the *Transmission Customer* requests this information.

(d) For the avoidance of doubt, information which is required to be provided to a *Transmission Customer* in accordance with clause 6.7.2(c) does not include confidential information provided to the *Transmission Network Service Provider* by another person.

6.7.3 Settlement between Network Service Providers

(a) **[Deleted]**

(b) Each *Network Service Provider* is entitled to receive or is required to make financial transfers determined in accordance with clause 6.7.4, settled as provided in this clause 6.7.

(c) Each *Transmission Network Service Provider* must pay to each *Distribution Network Service Provider* any revenue collected as *transmission service* charges for use of *transmission networks* owned by that *Distribution Network Service Provider* within the *region.*

(d) Each *Transmission Network Service Provider* must pay to each other relevant *Transmission Network Service Provider* the revenue which is estimated to be collected during the following year by the first *Transmission Network Service Provider* as *transmission service* charges for the use of *transmission networks* and *connection assets* owned by those other *Transmission Network Service Providers*.

(e) Payments to be made between *Transmission Network Service Providers* under clause 6.7.3(d) must be determined in accordance with the cost allocation procedures set out in clause 6.4. The *survey period* for this allocation is the most recent full *financial year* for which operating data is available.

(f) All financial transfers payable under this clause 6.7.3:

(1) must be paid in 12 equal monthly instalments; and

(2) are to be settled on the same *day*.

6.7.4 Financial transfers between Transmission Network Service Providers

(a) If the *transmission use of system* cost allocation and price and charge calculation methods specified in clauses 6.4.3, 6.4.3A, 6.4.3B, 6.4.3C, 6.5.4A and 6.5.6 result in the allocation of some of a *Network Service Provider's* costs to a *Transmission Customer* in relation to a *connection point* with another *Network Service Provider* then financial transfers between *Network Service Providers* must be made in accordance with clause 6.7.4(b).

(b) Financial transfers under clause 6.7.4(a) must be determined as a fixed annual amount in accordance with the cost allocation and price and charge calculation processes set out in clauses 6.4.3, 6.4.3A, 6.4.3B, 6.4.3C, 6.5.4A and 6.5.6 and schedule 6.4 and must be billed in accordance with clause 6.7.

(c) If a *new large transmission network asset* is assessed as providing a benefit to *Generators connected* to a *transmission network* in an adjacent *region* as part of the *new transmission network investment* process, charges for those benefits must be made in accordance with schedule 6.8. Charges must not

be allocated to *Generators* outside the *region* for *new small transmission network assets*.

6.7.5 Obligation to pay

A *Transmission Network User* must pay *transmission service* charges properly charged to it and billed in accordance with this clause 6.7, by the date specified in the bill.

6.8 Transmission Network Pricing Software

This clause sets out the responsibility for specifying the pricing algorithm and the procedures for the development and use of *transmission service* pricing software to ensure that pricing outcomes are uniform.

6.8.1 Use of standard software

For the purpose of calculating *transmission use of system* prices for *transmission networks* using *cost reflective network pricing, Transmission Network Service Providers* must use standard software which at all times has the current approval of the *AER*.

6.8.2 Development and approval of software

(a) The *AER* must:

(1) in consultation with *Transmission Network Service Providers* arrange for the development of pricing software in accordance with the *cost reflective network pricing* method specified in schedule 6.4 and at reasonable intervals check compliance with the specifications; and

(2) make such software available at an appropriate charge to any *Registered Participant* which requests it.

(b) The *AER* may approve software which complies with the specifications in schedule 6.4 as pricing software described in clause 6.8.2(a) to be used for calculating *transmission service* prices.

(c) The software developed under this clause and approved by the *AER* from time to time is to be referred to as *registered network pricing software*.

(d) **[Deleted]**

6.9 Data Required for Transmission Network Pricing

This clause sets out the *network* data and forecast data requirements necessary to enable the determination of *transmission network* prices.

6.9.1 Transmission network data from Network Service Providers

(a) The electrical characteristics and the *aggregate annual revenue requirement* of each optimised *network* asset and *connection asset* in *interconnected transmission systems* must be exchanged by *Network Service Providers* to permit the cost allocation and calculation of prices for the *interconnected transmission systems* as defined in clause 6.4.1.

(b) Where a *Co-ordinating Network Service Provider* has been appointed under clause 6.3.2, each *Transmission Network Service Provider* must supply the information set out in clause 6.9.1(d) to the *Co-ordinating Network Service Provider* and other *Network Service Providers* for cost allocation.

(c) The *survey period* is to be selected on the basis of the previous year's *metering data* for a sample of days agreed among the relevant *Network Service Providers* as being indicative of a need to *augment* the *network*, as set out in part 4 of schedule 6.4.

(d) The following data is required to be supplied under clause 6.9.1(b):

(1) electrical parameters for each optimised element of the *network* and the *network* configuration;

(2) hourly *load* data for each exit point for the *survey period*;

(3) hourly *generation* data for each entry point for the *survey period*;

(4) *voltage* control arrangements and *voltage* profile;

(5) the *aggregate annual revenue requirement* in the following classes of service:

(i) *transmission use of system service*; and

(ii) *common service*; and

(6) the *annual revenue requirement* as defined in clause 6.3.1 for each asset providing *transmission use of system service.*

(e) Hourly *load* data is to be derived from *metering data* by aggregating the *energy meter* reading figures in respect of each hour.

6.9.2 Confidentiality of network pricing information

All information used by the *Transmission Network Service Provider* for the purposes of *transmission service* pricing is *confidential information* and must be treated in accordance with clause 8.6.

Part D - Regulation of Network Pricing for Distribution Systems

6.10 General Regulation of Distribution Network Pricing

6.10.1 Jurisdictional regulatory arrangements

(a) The arrangements specified in Part D:

(1) set out the objectives and principles which must be applied by the *Jurisdictional Regulators* in the economic regulation of *distribution service* pricing;

(2) provide for the formulation of national guidelines by which the objectives and principles referred to in clause 6.10.1(a)(1) may be applied; and

(3) recognise the ongoing role of *distribution service* pricing regimes which may exist in a *participating jurisdiction* to which it may be inappropriate to apply national guidelines for *distribution service* pricing.

(b) Subject to any provision relating to cross-border *networks* in Chapter 9, each *participating jurisdiction* must appoint a *Jurisdictional Regulator* to be responsible within its jurisdiction for the regulation of *distribution service* pricing.

(c) With the consent of each *participating jurisdiction*, the *Jurisdictional Regulators* may together formulate and agree national guidelines to apply to national *distribution service* pricing.

(d) The intention of this Part D is that, where appropriate, national guidelines for *distribution service* pricing are to be formulated:

(1) in accordance with clause 6.10.1(e) and the objectives and principles applicable to *distribution service* pricing set out in clauses 6.10.2 and 6.10.3; and

(2) to apply to those aspects of *distribution service* which are common to all *participating jurisdictions*.

(e) Any national guidelines for *distribution service* pricing formulated under clause 6.10.1(c) must be applicable only to matters which:

(1) are not regulated by the regime for *distribution service* pricing existing within any *participating jurisdiction*; or

(2) although regulated in whole or in part by the regime for *distribution service* pricing existing within a *participating jurisdiction*, may

appropriately be regulated in accordance with national guidelines, in which case any *participating jurisdiction* whose regime for *distribution service* pricing already includes regulation of matters to which the proposed national guidelines are to apply may agree to change its regime to the extent of the duplication,

and otherwise, guidelines for *distribution service* pricing applicable within a *participating jurisdiction* are to be formulated and applied by the relevant *Jurisdictional Regulator* in accordance with clause 6.10.1(f).

(f) Subject to any provision relating to cross-border *networks* in Chapter 9, each *Jurisdictional Regulator* may formulate guidelines and rules to apply to *distribution service* pricing within the relevant *participating jurisdiction* and any guidelines so formulated must:

(1) not be inconsistent with the objectives and principles for *distribution service* pricing set out in clauses 6.10.2 and 6.10.3;

(2) not be inconsistent with any national guidelines for *distribution service* pricing formulated by the *Jurisdictional Regulators* under clause 6.10.1(c); and

(3) not purport to regulate matters to which any national guidelines formulated by the *Jurisdictional Regulators* under clause 6.10.1(c) apply.

(g) **[Deleted]**

(h) The arrangements outlined in Parts D and E of this Chapter must be applied by the *Jurisdictional Regulator* in the relevant *participating jurisdiction* subject to:

(1) the objectives and principles for regulation of *distribution service* pricing detailed in clauses 6.10.2 and 6.10.3;

(2) any national guidelines for regulation of *distribution service* pricing detailed in clauses 6.10.2 and 6.10.3; and

(3) any jurisdictional rules, principles or guidelines for the regulation of *distribution service* pricing formulated for the jurisdiction under clause 6.10.1(f).

6.10.2 Objectives of the distribution service pricing regulatory regime to be administered by the Jurisdictional Regulators

The *distribution service* pricing regulatory regime to be administered under Part D of this Chapter must seek to achieve the following outcomes:

(a) an efficient and cost-effective regulatory environment;

(b) an incentive-based regulatory regime which:

(1) provides an equitable allocation between *Distribution Network Users* and *Distribution Network Service Providers* of efficiency gains reasonably expected by the *Jurisdictional Regulators* to be achievable by the *Distribution Network Service Providers*;

(2) provides for, on a prospective basis, a sustainable commercial revenue stream which includes a fair and reasonable rate of return to *Distribution Network Service Providers* on efficient investment, given efficient operating and maintenance practices of the *Distribution Network Service Providers*;

(3) ensures consistency in the regulation of:

(i) *connection* to *distribution networks*; and

(ii) *distribution service* pricing; and

(4) provides for the recovery by *Distribution Network Service Providers* of *Customer TUOS usage charges* from those *Distribution Customers* that have a *metering installation* capable of capturing relevant *transmission system* and *distribution system* usage data, in a way that preserves the location and time signals of the *Customer TUOS usage prices*;

(c) prevention of monopoly rent extraction by *Distribution Network Service Providers*;

(d) an environment which fosters an efficient level of investment within the *distribution* sector, and upstream and downstream of the *distribution* sector;

(e) an environment which fosters efficient operating and maintenance practices within the *distribution* sector;

(f) an environment which fosters efficient use of existing infrastructure;

(g) reasonable recognition of pre-existing policies of governments regarding *distribution* asset values, revenue paths and prices;

(h) promotion of competition in upstream and downstream markets and promotion of competition in the provision of *distribution services* where economically feasible;

(i) reasonable regulatory accountability through transparency and public disclosure of regulatory processes and the basis of regulatory decisions;

(j) reasonable certainty and consistency over time of the outcomes of regulatory processes, recognising the adaptive capacities of *Registered Participants* in the provision and use of *distribution system* assets; and

(k) reasonable and well defined regulatory discretion which permits an acceptable balancing of the interests of *Distribution Network Service Providers* and *Distribution Network Users* and the public interest.

6.10.3 Principles for regulation of distribution service pricing

The regime under which the revenues of *Distribution Network Service Providers* are to be regulated must be administered by each *Jurisdictional Regulator* in accordance with the following principles:

(a) Concerns over monopoly pricing in respect of *distribution services* will, wherever economically efficient and practicable, be addressed through the introduction of competition in the provision of *distribution services*.

(b) Where pro-competitive and structural reforms alone are not a practicable or adequate means of addressing the problems of monopoly pricing in respect of *distribution services* or protecting the interests of *Distribution Network Users,* the form of economic regulation to be applied is described in clause 6.10.5.

(c) The form of economic regulation applied by the *Jurisdictional Regulator* must not be changed during a *regulatory control period*.

(d) Subject to clause 6.10.3(c), if the *Jurisdictional Regulator* proposes to amend the form of economic regulation specified in clause 6.10.5 applied to a *Distribution Network Service Provider,* the *Jurisdictional Regulator* must:

(1) give two years prior notice to the *Distribution Network Service Provider* of the new economic regulation arrangements to apply from the commencement of the next *regulatory control period*; and

(2) publish a description of the process and timetable for amending the form of economic regulation at a time which provides all affected parties with adequate notice to prepare for, participate in, and respond to that process, prior to the commencement of the *regulatory control period* to which that form of economic regulation is to apply.

(e) The regulatory regime to be administered by the *Jurisdictional Regulator* must be consistent with the objectives outlined in clause 6.10.2 and must also have regard to the need to:

(1) provide *Distribution Network Service Providers* with incentives and reasonable opportunities to increase efficiency;

(2) create an environment in which *generation*, energy storage, demand side options and *network augmentation* options are given due and reasonable consideration;

(3) take account of and be consistent with the allocation of risk between *Distribution Network Service Providers* and *Distribution Network Users*;

(4) take account of and be consistent with any obligations of *Registered Participants* in relation to *distribution networks* under Chapter 5;

(5) provide a fair and reasonable risk-adjusted cash flow rate of return to *Distribution Network Service Providers* on efficient investment given efficient operating and maintenance practices on the part of the *Distribution Network Service Providers* where:

(i) assets created at any time under a *take or pay contract* are valued in a manner consistent with the provisions of that contract;

(ii) subject to clause 6.10.3(e)(5)(i), assets (also known as "sunk assets") in existence and generally in service on 1 July 1999 are valued at the value determined by the *Jurisdictional Regulator* or consistent with the regulatory asset base established in the *participating jurisdiction*;

(iii) subject to clause 6.10.3(e)(5)(i), the valuation of assets brought into service after 1 July 1999 ("new assets"), any subsequent revaluation of any new assets and any subsequent revaluation of assets existing and generally in service on 1 July 1999 is to be undertaken on a basis to be determined by the *Jurisdictional Regulator* and in determining the basis of asset valuation to be used, the *Jurisdictional Regulator* must have regard to:

(A) the principle that *deprival value* should be the preferred approach to valuing *network* assets;

(B) **[Deleted]**

(C) such other matters reasonably required to ensure consistency with the objectives specified in clause 6.10.2; and

(iv) benchmark returns established by the *Jurisdictional Regulator* are consistent with the method of valuation of new assets and revaluation, if any, of existing assets and consistent with the achievement of a commercial economic return on efficient investment; and

(6) provide reasonable certainty and consistency over time of the outcomes of regulatory processes having regard for:

(i) the need to balance the interests of *Distribution Network Users* and *Distribution Network Service Providers*;

(ii) the capital intensive nature of the *distribution* sector, the relatively long lives of *distribution* assets, and the variable and frequent *augmentation* of *distribution networks*;

(iii) the need to minimise the economic cost of regulatory actions and uncertainty; and

(iv) relevant previous regulatory decisions made by authorised persons including:

(A) the initial revenue setting and asset valuation decisions made by a government at a time at which that government was a *Distribution Network Service Providers* in the context of industry reform pursuant to the Competition Principles Agreement;

(B) decisions made by *Jurisdictional Regulators* and any regulatory intentions previously expressed; and

(C) decisions made by ministers under jurisdictional legislation.

6.10.4 Economic regulation of distribution services

(a) The *Jurisdictional Regulator* is responsible for determining which, if any, *distribution services* provided by a *Distribution Network Service Provider* in the relevant *participating jurisdiction* should be deemed to be *prescribed distribution services* and accordingly subject to economic regulation in accordance with clause 6.10.5. In making this determination the *Jurisdictional Regulator* must have regard to:

(1) the principles for regulation of *distribution service* pricing described in clause 6.10.3;

(2) the extent of effective competition in the provision of that *distribution service*;

(3) whether sufficient competition exists to warrant the application of a regulatory approach which is more "light handed" than the approach described in clause 6.10.5;

(4) the effectiveness of the form of economic regulation specified under clause 6.10.5 in achieving the efficiency objectives included in clause 6.10.2; and

(5) the form, if any, of that regulation.

(b) *Distribution services* which are not *prescribed distribution services* are deemed to be *excluded distribution services* and, without limiting the discretion of the *Jurisdictional Regulator* under clause 6.10.4(a), *excluded distribution services* are those to which it is appropriate to apply a regulatory approach which is more "light-handed" than the approach described in clause 6.10.5 (and so the costs of and revenue for such services are excluded from the *revenue cap* or *price cap* which applies to *prescribed distribution services*). The *Jurisdictional Regulator* must determine the form of regulation which is to be applied to *excluded distribution services*.

6.10.5 Form and mechanism of economic regulation

In respect of *distribution services* subject to economic regulation pursuant to clause 6.10.4(a):

(a) Economic regulation must be of the prospective CPI minus X form, or some incentive-based variant of the CPI minus X form, and may take into account the performance of the relevant *Distribution Network Service Provider* under any *prescribed distribution service* standards imposed by the *Rules* or by any regulatory regime administered by the *Jurisdictional Regulator*, provided it is consistent with the objectives and principles outlined in clauses 6.10.2 and 6.10.3.

(b) The *Jurisdictional Regulator* must specify the form of economic regulation to be applied to the *Distribution Network Service Provider* to be in the form of:

(1) a *revenue cap*;

(2) a weighted average *price cap*; or

(3) a combination of the above.

(c) The *Jurisdictional Regulator* must apply the form of economic regulation specified in clauses 6.10.5(a) and (b) to each *Distribution Network Service Provider* for the *regulatory control period*, which must be a period of not less than 3 years.

(d) In setting a separate *regulatory cap* to be applied to each *Distribution Network Service Provider* in accordance with clause 6.10.5(b), the *Jurisdictional Regulator* must take into account each *Distribution Network*

Service Provider's revenue requirements during the *regulatory control period*, having regard for:

(1) the demand growth which the *Distribution Network Service Provider* is expected to service using any appropriate measure including but not limited to:

(i) energy consumption by categorisation of *Distribution Customers* or other relevant groups of persons who consume energy;

(ii) demand by categorisation of *Distribution Customers* or other relevant groups of persons who consume energy;

(iii) numbers of *Distribution Customers* by categorisation of *Distribution Customer* or other relevant groups of persons who consume energy; and

(iv) length of the *distribution network*;

(2) any service standards applicable to the *Distribution Network Service Provider* under the *Rules*, and any other standards imposed on the *Distribution Network Service Provider* by any regulatory regime administered by the *Jurisdictional Regulator* or by agreement between the *Distribution Network Service Provider* and the relevant *Distribution Network Users*;

(3) price stability;

(4) the *Jurisdictional Regulator's* reasonable judgment of the potential for efficiency gains to be realised by the *Distribution Network Service Provider* in expected operating, maintenance and capital costs, taking into account the expected demand growth and service standards referred to in clauses 6.10.5(d)(1) and (2);

(5) the *Distribution Network Service Provider's weighted average cost of capital* applicable to the relevant *distribution service*, having regard to the risk adjusted cash flow rate of return required by investors in commercial enterprises facing similar business risks to those faced by the *Distribution Network Service Provider* in the provision of that *distribution service*;

(6) the provision of a fair and reasonable risk-adjusted cash flow rate of return on efficient investment including sunk assets subject to the provisions of clause 6.10.3(e)(5);

(7) the right of the *Distribution Network Service Provider* to recover reasonable costs arising from but not limited to:

(i) any State, Territory and Commonwealth taxes (or State or Territory equivalent of Commonwealth taxes) which it has paid in connection with the provision of *distribution services*;

(ii) charges paid to *Transmission Network Service Providers* and other *Distribution Network Service Providers* arising from the provision of *distribution services*;

(iii) payments made to *Embedded Generators* for demand side management programs and local energy storage *facilities* as a result of the application of clause 5.6.2 where the *Jurisdictional Regulator* determines that this is appropriate;

(8) any correction factors arising from the previous *regulatory control period*;

(9) any reduction or increase in energy losses in the *distribution network*;

(10) the on-going commercial viability of the *distribution* industry; and

(11) any other relevant financial indicators.

(e) Notwithstanding clause 6.10.5(c), the *Jurisdictional Regulator* may revoke a *regulatory cap* determination during a *regulatory control period* only where it appears to the *Jurisdictional Regulator* that:

(1) the *regulatory cap* was set on the basis of false or materially misleading information provided to the *Jurisdictional Regulator*; or

(2) there was a material error in the setting of the *regulatory cap* and the prior written consent of parties affected by any proposed subsequent re-opening of the *regulatory cap* has been obtained by the *Jurisdictional Regulator*.

(f) If the *Jurisdictional Regulator* revokes a *regulatory cap* determination under clause 6.10.5(e), then the *Jurisdictional Regulator* may make a new *regulatory cap* determination in substitution for the revoked determination to apply for the remainder of the *regulatory control period* for which the revoked *regulatory cap* determination was to apply.

(g) Prior to the end of a *regulatory control period*, the *Jurisdictional Regulator* must publish a description of the process and timetable for re-setting the level of *regulatory cap* to apply in the next *regulatory control period* and must provide to all affected parties adequate notice to allow them to prepare for, participate in, and respond to that process.

6.10.6 Monitoring of Distribution Network Service Provider performance and compliance with regulatory determinations

(a) A *Distribution Network Service Provider* must use reasonable endeavours to ensure that it complies with any *regulatory cap* in respect of *distribution services* in any year.

(b) A *Distribution Network Service Provider* must submit certified annual financial statements to the relevant *Jurisdictional Regulator* (in a form and by a date to be determined by the *Jurisdictional Regulator*) which provide a true and fair statement of the financial and operating performance of the *Distribution Network Service Provider* in a reporting period.

(c) The certified annual financial statements submitted by the *Distribution Network Service Provider* to the *Jurisdictional Regulator* may be used by the *Jurisdictional Regulator* to:

(1) monitor the compliance of the *Distribution Network Service Provider* with the applicable *regulatory caps*;

(2) assess the allocation of costs between services which are subject to regulation under the *regulatory caps* and services or activities which are not subject to regulation under the *regulatory caps*, and identify any cross-subsidy between these different types of services or activities; and

(3) collate data regarding the financial, economic and operational performance of the *Distribution Network Service Provider* to be used as input to the *Jurisdiction Regulator's* decision-making regarding the setting of *regulatory caps* or other regulatory controls to apply in future *regulatory control periods.*

(d) In addition to the certified financial statements referred to in clause 6.10.6(b), the *Jurisdictional Regulator* may require a *Distribution Network Service Provider* to provide any other information the *Jurisdictional Regulator* reasonably requires to perform its regulatory functions in a manner and by a date it considers to be consistent with the requirements of clauses 6.10.2, 6.10.3, 6.10.4 and 6.10.5.

(e) The *Jurisdictional Regulator* may request or undertake verification and/or independent audit of any information sought by it, or provided to it, under this clause 6.10.6.

(f) Information provided to the *Jurisdictional Regulator* by a *Distribution Network Service Provider* pursuant to this clause 6.10.6 must be treated as confidential by the *Jurisdictional Regulator* and must not be disclosed to any other party without the prior written consent of the *Distribution*

Network Service Provider which provided the information unless the procedures set out in clauses 6.10.7(c)-(e) have been followed.

6.10.7 Information disclosure by the Jurisdictional Regulator

(a) In making a *regulatory cap* determination or any other decision under this clause 6.10, the relevant *Jurisdictional Regulator* must publish full and reasonable details of the basis and rationale of the decision including but not limited to the following:

(1) reasonable details of qualitative and quantitative methodologies applied including any calculations and formulae; and

(2) full reasons for all material judgments and qualitative decisions made and options considered and all discretions exercised which have a material bearing on the outcome of the *Jurisdictional Regulator's* overall decision.

(b) Notwithstanding clause 6.10.7(a), the *Jurisdictional Regulator* must also disclose relevant information to the relevant *Distribution Network Service Provider*, but only on request by the *Distribution Network Service Provider*, such information to include, but is not limited to, the following:

(1) the values adopted by the *Jurisdictional Regulator* for each of the input variables in any calculations and formulae, including a full description of the rationale for adoption of those values; and

(2) reasonable details of other assumptions made by the *Jurisdictional Regulator* in the conduct of all material qualitative and quantitative analyses undertaken in relation to the setting of a *regulatory cap* or any related matter.

(c) Each *Jurisdictional Regulator* in discharging its functions under the *Rules* may publicly release information or the contents of documents provided to it by a *Distribution Network Service Provider* for the purposes of performing its functions under the *Rules* in circumstances where the *Distribution Network Service Provider* has declined to give written consent to its release in accordance with clause 6.10.6(f) if the *Jurisdictional Regulator*:

(1) is of the opinion that:

(A) the disclosure of the information or the contents of the documents would not cause detriment to the *Distribution Network Service Provider* who supplied it; or

(B) although the disclosure of the information or the contents of the documents would cause detriment to the *Distribution Network*

Service Provider who supplied it, the public benefit in disclosing it outweighs that detriment; and

(2) is of the opinion, in relation to any other person who has provided the *Distribution Network Service Provider* with information or documents that form part of the information or documents provided by the *Distribution Network Service Provider* to the *Jurisdictional Regulator*, that:

(A) the disclosure of the information or contents of the documents would not cause detriment to that person; or

(B) although the disclosure of the information or contents of the documents would cause detriment to that person, the public benefit in disclosing it outweighs the detriment,

and the procedures set out in clauses 6.10.7(d)-(e) have been followed.

(d) The *Jurisdictional Regulator* must not publicly release any information or the contents of any documents under clause 6.10.7(c) until the expiration of 28 days from the date of receipt of a written notice sent by the *Jurisdictional Regulator* to:

(1) the *Distribution Network Service Provider* who supplied the information or documents; or

(2) any person whom the *Jurisdictional Regulator* is aware supplied the *Distribution Network Service Provider* with information or documents that form part of the information or documents provided to the *Jurisdictional Regulator* by the *Distribution Network Service Provider*,

as the case may be, of the *Jurisdictional Regulator*'s intention to disclose.

(e) The notice referred to in clause 6.10.7(d) must:

(1) state that the *Jurisdictional Regulator* wishes to disclose the information or contents of the documents, specifying the nature of the intended disclosure and setting out detailed reasons why the *Jurisdictional Regulator* wishes to make the disclosure;

(2) state that the *Jurisdictional Regulator* is of the opinion required by clause 6.10.7(c) and setting out detailed reasons why it is of that opinion; and

(3) identify the legislation (if any) governing the review of decisions by the *Jurisdictional Regulator* to release information in the relevant *participating jurisdiction*.

(f) Where as a result of a review, under the legislation (if any) referred to in clause 6.10.7(e)(3), of its decision to publicly release information or documents a *Jurisdictional Regulator* is not allowed to disclose particular information or documents provided to it for the purpose of performing its functions under the *Rules*, the *Jurisdictional Regulator* may nonetheless use the information or document for the purposes of performing its functions under the *Rules.*

(g) Nothing in clauses 6.10.7(d) and (e) is intended to affect a *Registered Participant's* rights to seek a review under general principles of administrative law of the *Jurisdictional Regulator's* decision to publicly release any information or the contents of any documents under clause 6.10.7(c).

Part E - Distribution Network Pricing

This part of the *Rules* applies to the pricing of *prescribed distribution services* for *distribution networks*, and must be interpreted in accordance with the pricing principles set out in clause 6.1.1 and schedule 6.7.

6.11 Introduction

(a) Prices for *prescribed distribution services* are based on the averaging of *distribution service* costs.

(b) Prices for *Distribution Customers* may vary depending on the location, *voltage* level and *load* characteristics of individual *Distribution Customers*.

(c) *Distribution service* pricing does not permit the concept of point-to-point wheeling arrangements.

(d) *Distribution service* pricing must be applied to *distribution systems*.

(e) The *Jurisdictional Regulator* may, in consultation with *Registered Participants*, develop alternative pricing methodologies to the approach set out in Part E. Any new pricing methodology so developed must conform to any jurisdictional rules, principles, or guidelines for the regulation of *distribution* pricing formulated under clause 6.10.1(f).

6.12 Step 1 - Determination of Aggregate Annual Revenue Requirement

To enable regulation of *distribution service* pricing under this Part E, each *Distribution Network Service Provider* must seek from the relevant *Jurisdictional Regulator* a determination of the *Distribution Network Service Provider's aggregate annual revenue requirement* in accordance with Part D.

6.13 Step 2 - Allocation of Distribution Costs

The components of the *aggregate annual revenue requirement* are to be allocated first amongst different assets within classes of *distribution service*, and then to different *cost pools* in accordance with clause 6.14.

6.13.1 Classes of distribution service

(a) Classes of *distribution service* may include:

(1) *entry service* which includes the asset-related costs and services provided to serve an *Embedded Generator* or group of *Embedded Generators* at a single *network coupling point* from that *network coupling point* to their *connection point;*

(2) *exit service* which includes the asset-related costs and services provided to serve a *Distribution Customer* or group of *Distribution Customers* at a single *network coupling point* from that *network coupling point* to their *connection point;*

(3) *distribution use of system service* which includes the *distribution network* shared by *Embedded Generators* and *Generators connected* to a *transmission network* where benefits of *new distribution network investment* have been allocated to that *Generator* in accordance with schedule 6.8 and *Distribution Customers*, but excluding *entry service, exit service* and *common service*; and

(4) *common service* which includes the asset-related costs and services that ensure the integrity of the *distribution system* and benefit all *Distribution Customers* and cannot reasonably be allocated on the basis of *voltage* levels or location.

(b) *Distribution Network Service Providers* must classify each element and cost of their *distribution services*, including payments made to other *Network Service Providers*, into one of the classes of *distribution services* listed in clause 6.13.1(a).

(c) The sum of the *aggregate annual revenue requirement* for each class of *distribution service* must equal the *Distribution Network Service Provider's aggregate annual revenue requirement*.

6.13.2 Allocation of aggregate annual revenue requirements to asset categories within classes of network service

(a) The assets required by the *Distribution Network Service Provider* to deliver each class of *distribution service* except *common service* may be split into asset categories for the purpose of allocating the *aggregate annual revenue requirement* prior to setting prices.

(b) The asset categories referred to in clause 6.13.2(a) must be defined by the *Distribution Network Service Provider* and agreed with the *Jurisdictional Regulator* and may include:

(1) *use of system voltage* levels; and

(2) *connection asset voltage* levels.

(c) The *Distribution Network Service Provider* may elect to use locational prices and if used, the *Distribution Network Service Provider* must obtain the approval of the *Jurisdictional Regulator* and specify the locations and *voltage* levels for which these locational prices are to apply.

(d) The *Distribution Network Service Provider* may elect to divide its *network* into geographical areas for one or more *voltage* levels which will represent different zones for pricing purposes and if this occurs, the *Distribution Network Service Provider* must obtain the approval of the *Jurisdictional Regulator* to the geographic boundaries incorporated in the *pricing zones* and of the *voltage* levels of *distribution service* incorporated within these *pricing zones*.

6.13.3 Method of allocation to asset categories

(a) The *aggregate annual revenue requirement* for an asset category in relation to each class of *distribution service* is to be calculated by the *Distribution Network Service Provider* by allocating the *aggregate annual revenue requirement* for that class of *distribution service* to the asset categories using an allocation basis agreed with the *Jurisdictional Regulator.*

(b) The method by which the *aggregate annual revenue requirement* is allocated under clause 6.13.3(a) may include:

(1) for asset-related costs including return on assets and current cost depreciation charges, the basis may be the replacement cost of the relevant asset categories determined in accordance with any rules specified by the *Jurisdictional Regulator* including rules for treating asset category replacement costs which were provided as partially or fully contributed;

(2) chart of accounts information for operating and maintenance costs; or

(3) for the *transmission* or *distribution service* costs paid to other *Network Service Providers*, on such basis as may be agreed with the *Jurisdictional Regulator*.

(c) Payments to and from *Embedded Generators* are to be determined up to an amount of the long run marginal cost of *augmenting* the *distribution network*, including any other *networks* necessary to cater for additional *generation* at the *network coupling point,* calculated on a case by case basis in accordance with schedule 6.3.

(d) Any payments made under clause 6.13.3(c):

(1) to *Embedded Generators* must be added to: and

(2) from *Embedded Generators* must be deducted from,

the *aggregate annual revenue requirement* for the relevant asset category consistent with the calculation used to determine that payment.

6.13.4 Allocation of asset category costs to cost pools

(a) Each *Distribution Network Service Provider* must establish *cost pools* to which *aggregate annual revenue requirements* for all asset categories referred to in clause 6.13.2 must be allocated according to the use of the assets by groups of *Distribution Network Users* having similar *load* characteristics and *voltage* levels, other than in relation to *cost pools* for services provided by *new distribution network investment* assets, for which *cost pools* the *aggregate annual revenue requirements* must be allocated in a manner that is consistent with schedule 6.8.

(b) Prices for the same *voltage* level and/or *load class* may differ between *pricing zones*.

(c) *Cost pools* may include *load classes* within each *voltage* level which have similar *load* and/or *metering* characteristics as defined by each *Distribution Network Service Provider*.

(d) Additional *cost pools* may be included by the *Distribution Network Service Provider* as required by the use of locational and zonal pricing and for any other relevant purpose.

(e) *Distribution service* prices are to be derived from the costs allocated to each *cost pool*.

6.13.5 Method of allocation to cost pools

(a) The method of allocating the *aggregate annual revenue requirement* for the asset categories to *cost pools* must be agreed with the *Jurisdictional Regulator*.

(b) Methods of allocation referred to in clause 6.13.5(a) may include one or more of the following measures:

(1) anytime demand;

(2) period demand (such as peak, shoulder and off-peak);

(3) coincident demand;

(4) period *energy* (such as peak, shoulder and off-peak);

(5) anytime *energy*; and

(6) *load* cycle basis (method of intercepts).

6.13.6 Cost allocation to Distribution Customers and Embedded Generators

Distribution service costs must be allocated to *Embedded Generators* and *Distribution Customers* as follows:

(a) The *cost pools* for *entry services* must all be allocated to *Embedded Generators* at the *network coupling point*.

(b) The *cost pools* for *exit services* must all be allocated to *Distribution Customers* at the *network coupling point*.

(c) In respect of the *cost pools* for *distribution use of system services* (as defined in clause 6.13.1(a)(3)):

(1) the portion of the *distribution use of system* costs allocated to *Embedded Generators* must not exceed the long run marginal cost of *augmenting* the *distribution network* and any other *networks* necessary to cater for additional *generation* at the *network coupling point,* calculated on a case by case basis in accordance with schedule 6.3; and

(2) the portion of the *distribution use of system* costs allocated to *Distribution Customers* must be done on a cost reflective or other basis agreed with the *Jurisdictional Regulator*.

(d) The *cost pools* for *common services* must be allocated to *Distribution Customers* (other than *Market Network Service Providers* as they are not required to pay for *common services*) on a cost reflective or other basis agreed with the *Jurisdictional Regulator*.

(e) Where *entry services* are shared by *Embedded Generators* and *exit services* are shared by *Distribution Customers*, the allocated cost must be shared between the *Distribution Network Users* either:

(1) as agreed with the *Distribution Network Users*; or

(2) on a cost reflective or other basis agreed with the *Jurisdictional Regulator*; or

(3) on the basis of the *maximum demand* of individual *Distribution Network Users* at a *network coupling point*, measured in respect of the 10 hours for which the *Distribution Network User* has used the *network* most intensively during the preceding year.

(f) The *cost pools* for services provided by *new large distribution network assets* and *new small distribution network assets* must be allocated to *Embedded Generators* and *Generators connected* to a *transmission network*, where benefits of *new distribution network investment* have been allocated

to that *Generator* in accordance with schedule 6.8, and *Distribution Customers*, in a manner which is consistent with schedule 6.8.

6.13.7 Treatment of network service costs paid to other Network Service Providers

(a) A *Distribution Network Service Provider* must pay *transmission service* costs to a *Transmission Network Service Provider* in respect of the *Distribution Network Service Provider's* use of a *transmission network* at each *connection point* on the *transmission network*.

(b) The *transmission service* costs referred to in clause 6.13.7(a) must be allocated to asset categories using an appropriate allocation method agreed with the *Jurisdictional Regulator* and consistent with the objective of the *distribution service* pricing regulatory regime set out in clause 6.10.2(b)(4).

(c) Where a *Distribution Network Service Provider* uses other *distribution networks*, *distribution service* costs must be paid by that *Distribution Network Service Provider* to the owner of those other *distribution networks* for the use of those other *distribution networks* at each *network coupling point*.

(d) The *distribution service* costs referred to in clause 6.13.7(c) must be allocated to asset categories using an appropriate allocation method agreed with the *Jurisdictional Regulator*.

6.14 Step 3 - Usage Based Prices for Distribution Network Service

The outcome of the cost allocation process specified in clause 6.13 is a number of *cost pools* containing allocated annual costs referable to categories which may include one or more of the following classes depending on the type of *Embedded Generator* or *Distribution Customer* receiving *distribution service* at each *connection point.* Typical *cost pools* include:

(a) *Embedded Generator entry costs*;

(b) *Distribution Customer exit costs*;

(c) *Embedded Generator distribution use of system* costs;

(d) *Distribution Customer distribution use of system* costs;

(e) *Distribution Customer common service* costs;

(f) *new large distribution network asset* costs; and

(g) *new small distribution network asset* costs.

These classes of cost may be converted into prices in accordance with clauses 6.14.1 to 6.14.3.

6.14.1 Embedded Generator prices

(a) The *Embedded Generator* charge for *prescribed distribution services* may incorporate *entry costs.*

(b) The charge payable by an *Embedded Generator* for *entry services* is a fixed annual amount equal to the *entry cost* allocated to each *Embedded Generator* under clause 6.13.6(a) unless the charge for those *entry services* has been agreed in a current *connection agreement* with the *Embedded Generator*.

(c) The charge payable by an *Embedded Generator* for *negotiated use of system services* must be determined in accordance with clause 5.5(f)(2) and the parties may seek recourse to the *Jurisdictional Regulator* in the event of a dispute.

(d) There may be other charges applicable to *distribution services* for *Embedded Generators*, including local *connection* requirements and any risk premium associated with the provision of *generator access* between the *Embedded Generator* and the *Distribution Network Service Provider* and such charges must be agreed between the *Embedded Generator* and the relevant *Distribution Network Service Provider*. Any revenue received from charges for *generator access* does not form part of the relevant *Distribution Network Service Provider's aggregate annual revenue requirement*.

(e) There may be situations where the *Distribution Network Service Provider* is prepared to pay for equivalent *distribution services* by *Embedded Generators.* These arrangements are set out in clause 6.10.5(d)(7)(iii) and payments for such equivalent *distribution services* are to be agreed between the relevant *Distribution Network Service Provider* and *Jurisdictional Regulator.*

(f) Where an *Embedded Generator* benefits from *new large distribution network assets* or *new small distribution network assets* as determined in accordance with clause 5.6.2, the charge payable by the *Embedded Generator* for the services provided by those new assets will be as determined in accordance with schedule 6.8.

6.14.2 Distribution Customer price

(a) The charges payable by a *Distribution Customer* for *prescribed distribution services* may incorporate *exit costs, distribution use of system* costs and *common service* costs.

(b) The charge payable by *Distribution Customers* is to be determined as an amount consistent with the following (subject to any relevant *price cap* level):

(1) a fixed amount equal to the *exit cost* allocated in accordance with clause 6.13.6(b); plus

(2) a variable amount so that costs for *distribution use of system* allocated to *Distribution Customers* under clause 6.13.6(c) are fully recovered; plus

(3) a variable amount so that costs for *common service* allocated to *Distribution Customers* under clause 6.13.6(d) are fully recovered.

(c) The *Distribution Customer* price structure is to be determined by the *Distribution Network Service Provider*.

(d) The prices determined under this sub-clause may comprise one or more elements related to:

(1) *demand based prices* (eg. $ per maximum kW per period or $ per maximum kVA per period, which may include a time of use component);

(2) *energy based prices* (eg. ¢ per kWh or ¢ per kVAh which may include a time of use component); and

(3) *Distribution Customer* charges (eg. $ per *Distribution Customer* per period).

(e) Where quantities are used in determining charges, these quantities may be minimum quantities specified in the prices, actual quantities used by the *Distribution Customer* or quantities agreed by the *Distribution Customer* and *Distribution Network Service Provider.* The pricing outcome will be subject to regulation as outlined in clause 6.14.4.

(f) Where the charge payable for *exit services* has been agreed between a *Distribution Customer* and the relevant *Distribution Network Service Provider* in a current *connection agreement,* the charge payable by that *Distribution Customer* determined under clause 6.14.2(b) must not include any amount attributable to *exit costs.*

6.14.3 Prices for Network Users that are both Distribution Customers and Embedded Generators

(a) *Distribution Network Users* may have *connection points* that combine *Embedded Generators* and *Distribution Customers.* Depending on the relative status of the relevant *generation* and the *load, the connection point*

could represent a net *Distribution Customer* or a net *Embedded Generator.* Where the net loading position at a *connection point* fluctuates between net import and net export during a *billing period* the following conditions are to apply:

(1) periods of net export of *energy* will be subject to *Embedded Generator* pricing arrangements; and

(2) periods of net import of *energy* will be subject to *Distribution Customer* pricing arrangements.

(b) For *Distribution Customers* where there is no export of *generation* into the *distribution network*, prices are to be applied and payable as determined under clause 6.14.2.

(c) For *Embedded Generators* where there is no consumption of electricity from the *distribution network* by a *Distribution Customer*, prices are to be applied and payable as determined under clause 6.14.1 provided that the *Embedded Generator* must not be charged twice for the use of the same assets.

6.14.4 Regulation of distribution prices

(a) The *Jurisdictional Regulator* may place limits on the annual variation in published *distribution service* prices. Any such limits must be specified by the *Jurisdictional Regulator* at the commencement of the *regulatory control period* and are to apply for the duration of the *regulatory control period.*

(b) Pricing outcomes for *Distribution Customers* under clause 6.14.4 must not be inconsistent with any applicable jurisdictional requirements and any applicable *price cap* level.

6.14.5 Publication of distribution network prices

(a) Each *Distribution Network Service Provider* in conjunction with the *Jurisdictional Regulator* must publish by 31 May each year:

(1) a schedule of prices for all classes of *distribution services* at each *voltage* level, *load class* and *pricing zone* where the schedule prices are to be the maximum price charged;

(2) a statement providing details of principles and methods for determining *connection* charges; and

(3) the service standards to which it will adhere for the services to which those *distribution service* prices relate, which service standards must include, and not be inconsistent with, any service standards imposed

on the *Distribution Network Service Provider* by any regulatory regime administered by the *Jurisdictional Regulator*,

to apply to *Distribution Customers* and *Embedded Generators* in the following year, commencing 1 July.

(b) Price variations other than on an annual basis can only be made with the approval of the *Jurisdictional Regulator* who will also determine the amount of notice which should be given before implementation of the new price.

6.14.6 Agreement as to distribution prices

(a) Subject to clause 6.14.6(b) and (c), the prices determined in accordance with clauses 6.14.1 to 6.14.3, or the prices determined by the application of a *price cap*, are the maximum prices which a *Distribution Network Service Provider* is entitled to charge for providing the relevant *prescribed distribution services* to:

(1) the standards described in schedule 5.1; and

(2) the standards published in accordance with clause 6.14.5(a)(3),

notwithstanding any agreement with another person to the contrary.

(b) A *Distribution Network Service Provider* may, but is not required to, agree with a *Distribution Network User* to charge that *Distribution Network User* lower prices than those described in clause 6.14.6(a) and, if the relevant parties have so agreed, the prices payable by that *Distribution Network User* for the provision of the relevant *prescribed distribution services* are those so agreed rather than those described in clause 6.14.6(a).

(c) If a *Distribution Network Service Provider* agrees to provide a *Distribution Network User* with *prescribed distribution services* to higher or lower standards than those described in schedule 5.1 or the standards published in accordance with clause 6.14.5(a)(3), then the prices payable by the *Distribution Network User* as a result of the difference between the level prescribed by schedule 5.1 or the standards published in accordance with clause 6.14.5(a)(3) and the agreed higher or lower standard are to be those agreed between the *Distribution Network Service Provider* and the relevant *Distribution Network User* in accordance with clause 6.14.7, provided that the reductions in prices payable by the *Distribution Network User* for the provision of *prescribed distribution services* to a lower standard are limited to the amount of the *Distribution Network Service Provider's* avoided costs (if any) as a result of the provision of services to that lower standard.

6.14.7 Pricing of negotiable services

(a) Each *Distribution Network Service Provider* (other than a *Market Network Service Provider*) must establish a framework in accordance with the requirements of clause 6.14.7(b) (the "*negotiating framework*") setting out the minimum requirements to be followed during negotiations with *Distribution Network Users* for *negotiable services*.

(b) For the purposes of clause 6.14.7(a), the *negotiating framework* must specify:

(1) a requirement for the *Distribution Network Service Provider* and the *Distribution Network User* to negotiate in good faith for the provision of *negotiable services*;

(2) notwithstanding clause 6.18.2, a requirement for the *Distribution Network Service Provider* to provide all such commercial information as the *Distribution Network User* may reasonably require to enable the *Distribution Network User* to engage in effective negotiation with the *Distribution Network Service Provider* for the provision of *negotiable services*, including the cost information described in clause 6.14.7(b)(3);

(3) a requirement for the *Distribution Network Service Provider* to:

(i) identify, and inform the *Distribution Network User* of, the reasonable costs and/or the increase or decrease in costs (as appropriate), of providing those *negotiable services*; and

(ii) demonstrate to the *Distribution Network User* that its charges for providing those *negotiable services* reflect those costs and/or the cost increment or decrement (as appropriate);

(4) a requirement for the *Distribution Network User* to provide all such commercial information as the *Distribution Network Service Provider* may reasonably require to enable the *Distribution Network Service Provider* to engage in effective negotiation with the *Distribution Network User* for the provision of *negotiable services*;

(5) a reasonable period of time for commencing, progressing and finalising negotiations with the *Distribution Network User* for the provision of *negotiable services*, and a requirement that each party to the negotiation must use its reasonable endeavours to adhere to those time periods during the negotiation;

(6) a process for dispute resolution which provides for all disputes arising out of or concerning negotiations for *negotiable services* to be dealt with in accordance with clause 8.2 or, where the *Distribution Network*

User is not a *Registered Participant*, in accordance with a specified alternative dispute resolution process;

(7) a requirement to publish the outcome of the negotiation to provide *negotiable services*; and

(8) the arrangements for payment by the *Distribution Network User* of the *Distribution Network Service Provider's* reasonable direct expenses incurred in processing the application to provide the *negotiable services*; and

(9) a requirement that the *Distribution Network Service Provider* determine the potential impact on other *Distribution Network Users* of the negotiated provision of a *prescribed distribution service* to a higher or lower standard than any standard:

(i) described in schedule 5.1; or

(ii) published by the *Distribution Network Service Provider* in accordance with clause 6.14.5(a)(3),

and a requirement that the *Distribution Network Service Provider* must notify and consult with any affected *Distribution Network Users* and ensure that the provision of these *negotiable services* does not result in non-compliance with any service standards or other obligations in relation to other *Distribution Network Users* under the *Rules.*

(c) Each *Distribution Network Service Provider* must:

(1) have its *negotiating framework* developed in accordance with clause 6.14.7(b) approved by the *Jurisdictional Regulator*; and

(2) comply with the requirements of the *negotiating framework* in accordance with its terms and subject to any amendments or conditions imposed by the *Jurisdictional Regulator*.

(d) For the avoidance of doubt, commercial information which is required to be provided to a *Distribution Network User* in accordance with clause 6.14.7(b)(2):

(1) does not include confidential information provided to the *Distribution Network Service Provider* by another person; and

(2) may be provided subject to a condition that the *Distribution Network User* must not provide any part of that commercial information to any other person without the consent of the *Distribution Network Service*

Provider which provided the information to the *Distribution Network User*.

(e) For the avoidance of doubt, commercial information which is required to be provided to a *Distribution Network Service Provider* in accordance with clause 6.14.7(b)(4):

(1) does not include confidential information provided to the *Distribution Network User* by another person; and

(2) may be provided subject to a condition that the *Distribution Network Service Provider* must not provide any part of that commercial information to any other person without the consent of the *Distribution Network User* which provided the information to the *Distribution Network Service Provider*.

6.15 Distribution Network Service Provider Prudential Requirements

This clause sets out the arrangements by which *Distribution Network Service Providers* may minimise financial risks associated with investment in *network* assets, and provides for the adoption of cost-reflective payment options in conjunction with the use of average *distribution* prices. The clause also prevents *Distribution Network Service Providers* from receiving income twice for the same assets through prudential requirements and *distribution service* prices.

6.15.1 Prudential requirements for distribution network service

(a) A *Distribution Network Service Provider* may require an *Embedded Generator* or *Distribution Customer* that requires a new *connection* or a modification in service for an existing *connection* to establish prudential requirements for *connection service* and/or *distribution use of system service*.

(b) Prudential requirements for *connection service* and/or *distribution use of system service* are a matter for negotiation between the *Distribution Network Service Provider* and the *Embedded Generator* or *Distribution Customer* and the terms agreed must be set out in the *connection agreement* between the *Distribution Network Service Provider* and the *Embedded Generator* or *Distribution Customer*.

(c) The *connection agreement* may include one or more of the following provisions:

(1) the conditions under which and the time frame within which other *Distribution Network Users* who use that part of the *distribution network* contribute to refunding all or part of the payments;

(2) the conditions under which financial arrangements may be terminated; and

(3) the conditions applying in the event of default by the *Distribution Customer* or *Embedded Generator*.

(d) The prudential requirements may incorporate, but are not limited to, one or more of the following arrangements:

(1) financial capital contributions;

(2) non-cash asset contributions;

(3) *distribution service* charge prepayments;

(4) guaranteed minimum *distribution service* charges for an agreed period;

(5) guaranteed minimum *distribution service* quantities for an agreed period; and

(6) provision of financial guarantees for *distribution service* charges.

6.15.2 Capital contributions, prepayments and financial guarantees

In relation to capital contributions, prepayments and financial guarantees:

(a) the *Distribution Network Service Provider* is not entitled to receive any asset related cost component of the *aggregate annual revenue requirement* for assets provided by *Distribution Network Users*;

(b) the *Distribution Network Service Provider* may receive a capital contribution, prepayment and/or financial guarantee up to the future *aggregate annual revenue requirement* for any new assets installed as part of a new *connection* or modification to an existing *connection*, including any *augmentation* to the *distribution network*;

(c) where assets have been the subject of a contribution or prepayment, the *Distribution Network Service Provider* must amend the *aggregate annual revenue requirement*; and

(d) the asset categories referred to in clause 6.13.3 must not incorporate the asset related cost components of the *aggregate annual revenue requirement* for any asset category covered by clause 6.15.2 and the *Distribution Network Users* who use any such asset together as a group are to pay less for the ongoing use of that asset category than they otherwise would have paid.

6.15.3 Treatment of past prepayments and capital contributions

(a) Payments made by *Distribution Customers* and *Embedded Generators* for *distribution service* prior to 13 December 1998 must be made in accordance with any contractual arrangements with the relevant *Distribution Network Service Providers* applicable at that time.

(b) Where contractual arrangements referred to in clause 6.15.3(a) are not in place, past *distribution service* prepayments or capital contributions may be incorporated in the capital structure of the *Distribution Network Service Provider's* business.

(c) The *Jurisdictional Regulator* may intervene in and resolve any dispute under this clause 6.15.3 which cannot be resolved between the relevant *Distribution Network Service Provider* and *Distribution Customer* or *Embedded Generator*.

6.16 Billing and Settlements Process

This clause describes the manner in which *Distribution Customers* and *Embedded Generators* are billed by *Distribution Network Service Providers* for *distribution service* and how payments for *distribution service* are settled.

6.16.1 Billing for distribution services

(a) A *Distribution Network Service Provider* must bill *Distribution Network Users* for *distribution service* as follows:

(1) *Embedded Generators*:

(i) by applying the *entry charge* as a fixed annual charge to each *Embedded Generator*; and

(ii) by applying the *Generator distribution use of system* price to the *Embedded Generator's* nominated capacity.

(2) *Distribution Customers*:

The charges to *Distribution Customers* must be determined according to use of the *distribution network* as determined in accordance with a *metrology procedure* or, in the absence of a *metrology procedure* allowing such a determination to be made, by a *meter* or by agreement between the *Distribution Customer* and the *Distribution Network Service Provider* by applying one or more of the following measures:

(i) demand-based prices to the *Distribution Customer's metered* or agreed half-hourly demand;

(ii) *energy*-based prices to the *Distribution Customer's metered* or agreed *energy*;

(iii) the *Distribution Customer* charge determined under this clause 6.16 as a fixed periodic charge to each *Distribution Customer*; and

(iv) a fixed periodic charge, a prepayment or other charge determined by agreement with the *Distribution Customer*.

(b) Subject to clause 6.16.1(c), where a *Distribution Customer* (other than a *Market Customer*) incurs *distribution service* charges, the *Distribution Network Service Provider* must bill the *Market Customer* from whom the *Distribution Customer* purchases electricity directly or indirectly for such *distribution services* in accordance with clause 6.16.1(a)(2).

(c) If a *Distribution Customer* and the *Market Customer* from whom it purchases electricity agree, the *Distribution Network Service Provider* may bill the *Distribution Customer* directly for *distribution services* used by that *Distribution Customer* in accordance with clause 6.16.1(a)(2).

(d) *Distribution Network Service Providers* must:

(1) calculate *transmission service* charges and *distribution service* charges for all *connection points* in their *distribution network*; and

(2) pay to *Transmission Network Service Providers* the *transmission service* charges incurred in respect of use of a *transmission network* at each *connection point* on the relevant *transmission network*.

(e) Charges for *distribution services* based on *metered* kW, kWh, kVA or kVAh for:

(1) *Embedded Generators* that are *Market Generators;*

(2) *Market Customers*; and

(3) *Second-Tier Customers*,

must be calculated by the *Distribution Network Service Provider* from:

(1) *settlements ready data* obtained from *NEMMCO's metering database,* for those *Embedded Generators, Market Customers* and *Second-Tier Customers* with *connection points* that have a type 1, 2, 3 or 4 *metering installation*; and

(2) *energy data*, in accordance with a *metrology procedure* that allows the *Distribution Network Service Provider* to use *energy data* for this purpose, or otherwise *settlements ready data* obtained from

NEMMCO's metering database, for those *Embedded Generators*, *Market Customers* and *Second-Tier Customers* with *connection points* that have a type 5, 6 or 7 *metering installation*.

(f) Charges for *distribution services* based on *metered* kW, kWh, kVA or kVAh for:

(1) *Embedded Generators* that are not *Market Generators*;

(2) *Non-Registered Customers*; and

(3) *franchise customers*,

must be calculated by the *Distribution Network Service Provider* using data that is consistent with the *metering data* used by the relevant *Local Retailer* in determining *energy settlements*.

(g) The *Distribution Network Service Provider* may bill the relevant *Local Retailer* for *distribution services* used by *Non-Registered Customers* and *franchise customers*.

(h) Where the billing for a *Distribution Customer* for a particular *financial year* is based on quantities which are undefined until after the commencement of the *financial year*, charges must be estimated from the previous year's billing quantities with a reconciliation to be made when the actual billing quantities are known.

(i) Where the previous year's billing quantities are unavailable or no longer suitable, nominated quantities may be used as agreed between the parties.

6.16.2 Minimum information to be provided in distribution network service bills

The following is the minimum information that must be provided with a bill for a *network coupling point* issued by a *Distribution Network Service Provider* directly to a *Registered Participant*:

(a) the *network coupling point* identifier;

(b) the dates on which the *billing period* starts and ends;

(c) the identifier of the *distribution service* price from which the *network coupling point* charges are calculated; and

(d) measured quantities, billed quantities, prices and amounts charged for each component of the total *distribution service* account.

6.16.3 Settlement between Distribution Network Service Providers

The billing and *settlement* process specified in this clause 6.16 must be applied to all *Distribution Customers* including other *Distribution Network Service Providers*.

6.16.4 Obligation to pay

A *Distribution Network User* must pay *distribution service* charges properly charged to it and billed in accordance with this clause 6.16 by the due date specified in the bill.

6.17 Distribution Network Service Pricing Records

Each *Distribution Network Service Provider* must maintain appropriate *distribution service* pricing records that satisfy any requirements of the *Jurisdictional Regulator*.

6.18 Data Required for Distribution Network Service Pricing

6.18.1 Forecast use of networks by Distribution Customers and Embedded Generators

Any information required by *Distribution Network Service Providers* must be provided by *Registered Participants* as part of the *connection* and access requirements set out in Chapter 5.

6.18.2 Confidentiality of distribution network pricing information

All information used by *Distribution Network Service Providers* for the purposes of *distribution service* pricing is *confidential information* and must be treated in accordance with clause 8.6.

Part EA – Unbundling TUOS and DUOS charges

6.18A Separate disclosure of transmission and distribution charges

(a) A *Distribution Customer*:

(1) with a *load* of greater than 10MW or 40GWh per annum; or

(2) which has *metering* equipment which is capable of capturing relevant *transmission* and *distribution system* usage data,

may request a *Distribution Network Service Provider* to whose *network* the *Distribution Customer* is *connected* (a "TUOS/DUOS disclosure request") to provide the *Distribution Customer* with a statement identifying the separate components of the *transmission use of system* and *distribution use of system* charges which the *Distribution Customer* has been charged for electricity supplied to its *connection points* (a "TUOS/DUOS disclosure statement").

(b) Within 10 *business days* of receipt of any *TUOS/DUOS disclosure request*, a *Distribution Network Service Provider* must notify the relevant *Distribution Customer* of the estimated charge, including details of how the charge is calculated, for providing the *TUOS/DUOS disclosure statement*, which charge must be no greater than the reasonable variable costs directly incurred by the *Distribution Network Service Provider* in preparing the statement for the particular *Distribution Customer.*

(c) If the relevant *Distribution Customer* advises the *Distribution Network Service Provider* within 30 days of receipt of the notice referred to in clause 6.18A(b) that it still requires the requested *TUOS/DUOS disclosure statement*, the relevant *Distribution Network Service Provider* must prepare the statement and provide it to the *Distribution Customer* within 30 days of being so advised. The *TUOS/DUOS disclosure statement* must include detailed information on the methodology used to determine the *distribution use of system* charges and the allocation of the *transmission use of system* charges which the *Distribution Customer* has been charged for electricity *supplied* to its *connection point*, which information must be sufficient to allow the *Distribution Customer* to assess the impact on their *network* charges of a change in their *network* use.

(d) The *TUOS/DUOS disclosure statement* must also separately identify the *Customer TUOS usage charge*, *Customer TUOS general charge* and *common service charge* components of the *transmission use of system* charges which the *Distribution Customer* has been charged for electricity *supplied* to its *connection point*, where a *Distribution Customer* that makes a *TUOS/DUOS disclosure request* in accordance with clause 6.18A(a) requests this information.

(e) Where a *Distribution Customer* requests the inclusion in the *TUOS/DUOS disclosure statement* of the information referred to in clause 6.18A(d), the *Distribution Network Service Provider* must separately identify that component of the charge notified under clause 6.18A(c) that relates to the provision of this additional information.

(f) Each *Distribution Network Service Provider* must publish information annually disclosing the *transmission use of system* and *distribution use of system* charges for each of the classes of *Distribution Customers* identified for this purpose by the *Distribution Network Service Provider*, or as required by the *Jurisdictional Regulator*.

Part F - Interconnections

6.19 Network Pricing for Interconnectors

(a) All *interconnectors* that formed part of the *power system* in the *participating jurisdictions* as at 31 December 1997 are deemed to be *regulated interconnectors*.

(b) All *regulated interconnectors* are subject to the *transmission service* regulation and pricing arrangements in accordance with Part B and Part C of Chapter 6.

(c) The *Network Service Provider* must adjust the *annual revenue requirement* for each of the assets providing the *interconnection* by the amount of the amounts distributed to it under clause 3.18.4 in respect of the relevant *directional interconnectors* and then adjust the *network prices* to *Transmission Customers* in accordance with clause 6.4.3B.

(d) **[Deleted]**

(e) **[Deleted]**

(f) **[Deleted]**

Part G - Ring Fencing Arrangements for Network Service Providers

6.20 Ring-Fencing Guidelines

6.20.1 Compliance with Ring-Fencing Guidelines

All *Transmission Network Service Providers* and *Distribution Network Service Providers*, including *Market Network Service Providers*, must comply with the *Transmission Ring-Fencing Guidelines* and the *Distribution Ring-Fencing Guidelines* prepared in accordance with clause 6.20.2 as from the time that any *jurisdictional derogation* from this clause 6.20 ceases to apply in respect of the *participating jurisdiction* in which the *Transmission Network Service Provider* or *Distribution Network Service Provider* is located.

6.20.2 Development of Ring-Fencing Guidelines

(a) Ring-fencing guidelines must be developed by the *AER* in consultation with the *Jurisdictional Regulators* and each *participating jurisdiction* for the accounting and functional separation of the provision of *prescribed transmission services* by *Transmission Network Service Providers* from the provision of other services by *Transmission Network Service Providers* (the "**Transmission Ring-Fencing Guidelines**").

(b) Ring-fencing guidelines must be developed by each *Jurisdictional Regulator* in consultation with the *AER* and each other *Jurisdictional Regulator* for the accounting and functional separation of the provision of *prescribed distribution services* by *Distribution Network Service Providers* located in that *Jurisdictional Regulator's participating jurisdiction* from the provision of other services by such *Distribution Network Service Providers* (the "**Distribution Ring-Fencing Guidelines**").

(c) The *Transmission Ring-Fencing Guidelines* and the *Distribution Ring-Fencing Guidelines* may include, but are not limited to:

(1) provisions defining the need for and extent of:

(A) legal separation of the entity through which a *Network Service Provider* provides *network services* from any other entity through which it conducts business;

(B) the establishment and maintenance of:

(i) consolidated and separate accounts for *prescribed transmission services* and other services provided by the *Transmission Network Service Provider*; and

(ii) consolidated and separate accounts for *prescribed distribution services* and other services provided by the *Distribution Network Service Provider*;

(C) allocation of costs:

(i) between *prescribed transmission services* and other services provided by the *Transmission Network Service Provider*; and

(ii) between *prescribed distribution services* and other services provided by the *Distribution Network Service Provider*;

(D) limitations on the flow of information between the *Network Service Provider* and any other person; and

(E) limitations on the flow of information where there is the potential for a competitive disadvantage:

(i) between those parts of the *Network Service Provider's* business which provide *prescribed transmission services* and parts of the *Network Service Provider's* business which provide any other services; and

(ii) between those parts of the *Network Service Provider's* business which provide *prescribed distribution services* and parts of the *Network Service Provider's* business which provide any other services; and

(2) provisions allowing the *AER* or the *Jurisdictional Regulator* to add to or to waive a *Network Service Provider's* obligations under the *Transmission Ring-Fencing Guidelines* or the *Distribution Ring-Fencing Guidelines*.

(d) In developing the *Transmission* and *Distribution Ring-Fencing Guidelines* the *AER* and each *Jurisdictional Regulator* respectively must consider, without limitation, the following matters:

(1) the need, so far as practicable, for consistency in the *Distribution Ring-Fencing Guidelines* between each *participating jurisdiction*;

(2) the need, so far as practicable, for consistency with Federal and State regulation in each *participating jurisdiction* of ring-fencing requirements of other utility businesses;

(3) the need, so far as practicable, for consistency between the *Transmission* and *Distribution Ring-Fencing Guidelines*; and

(4) the need, so far as practicable, for the *Distribution Ring-Fencing Guidelines* in each *participating jurisdiction* to be consistent with the arrangements for the *retailer of last resort* in that jurisdiction.

(e) In developing:

(1) the *Transmission Ring-Fencing Guidelines*, the *AER;* and

(2) the *Distribution Ring-Fencing Guidelines*, each *Jurisdictional Regulator*,

must consult with *participating jurisdictions*, *Registered Participants*, *NEMMCO* and other *interested parties*, and such consultation must be at least as extensive as the consultation prescribed by the *Rules consultation procedures*.

(f) **[Deleted]**

6.20.3 [Deleted]

Schedule 6.1 - Estimating Weighted Average Cost of Capital

1. Basis for Estimating the Weighted Average Cost of Capital of a Network Service Provider

In 1990, the Commonwealth Treasury published a paper entitled "Financial Monitoring of Government Business Enterprises: An Economic Framework (Treasury Economic Paper Number 14)". This paper addressed the issue of setting target economic rates of return and concluded that:

> "Investments by Governments in business enterprises are not the same as social expenditures funded from the budget (requiring higher levels of taxation to pay for that), with no prospect of future payback. The business enterprises produce and sell goods and services which could alternatively be produced and sold by the private sector. Attempts to expand Government business enterprises through the use of target rates of return lower than the opportunity cost of capital in the private sector would result in a misallocation of resources between the public and private sectors.
>
> Improved resource allocation is more likely to be achieved by having Government business enterprises operate under financial conditions parallelling as closely as possible those in the private sector, rather than by giving public enterprises an investment break. Setting target rates of return for Government business enterprises on the basis of the marginal rate of return of private sector investments of similar risk is a central part of this even-handed treatment.
>
> Basing target rates of return for public enterprises on the return from alternative private sector investments should result in sound investment and operational decisions at the Government enterprise level and balanced investment between the public and private sectors."

In January 1995 the National Steering Committee on Performance Monitoring of Government Business Enterprises circulated a draft paper entitled "An Economic Framework for Assessing the Financial Performance of Government Trading Enterprises". The National Steering Committee's draft paper extended the work completed in 1990 by the Commonwealth Treasury, and addressed, among other things, the issue of estimating the cost of capital of government business enterprises.

The following schedule outlines an approach to estimating the cost of capital of a government-owned *Network Service Provider* in the National Electricity Market. The approach outlined herein is consistent with that outlined in the draft paper produced in January 1995 by the National Steering Committee on Performance Monitoring of Government Business Enterprises. The approach outlined is also consistent with clause 3(1) of the Competition Principles Agreement executed by the Commonwealth, State and Territory Governments on 11 April 1995, which states:

"The objective of competitive neutrality policy is the elimination of resource allocation distortions arising out of the public ownership of entities engaged in significant business activities: Government businesses should not enjoy any net competitive advantage simply as a result of their public sector ownership."

2. Outline of Method for Estimating a Network Service Provider's Weighted Average Cost of Capital

2.1 Definition of Weighted Average Cost of Capital

The *weighted average cost of capital* is a "forward looking" weighted average cost of debt and equity for a commercial business entity. Accordingly, the *Network Service Provider's weighted average cost of capital* will represent the shadow price or social opportunity cost of capital as measured by the rate of return required by investors in a privately-owned company with a risk profile similar to that of the *network* company.

The terms "required economic rate of return", "target rate of return" and "cost of capital" are synonymous and are used interchangeably throughout this schedule.

2.2 Cost of Equity

There is a variety of methods which can be applied to estimate the cost of equity capital of a business enterprise. The Capital Asset Pricing Model (CAPM) remains the most widely accepted tool applied in practice to estimate the cost of equity.

The CAPM is a model based on the proposition that the required rate of return on equity is equal to the risk-free rate of return plus a risk premium.

The theory underlying the CAPM is rigorous. However, in applying the CAPM, there should be a recognition of the limitations of the model. The limitations of CAPM, as with any model, relate mainly to the measurement and estimation of relevant input variables. Consequently, the CAPM should be regarded as providing an indication of the cost of equity, rather than a firm and precise measurement.

2.3 Cost of Debt

The cost of debt is estimated with reference to current prices in domestic and overseas corporate debt markets. Given the long lives of *network* assets, the cost of debt should reflect the cost of a long-dated debt portfolio.

3. Estimation of the Cost of Equity

The *Network Service Provider's* required rate of return on equity is estimated using the Capital Asset Pricing Model (CAPM):

$R_e = R_f + \beta (R_m - R_f)$

where R_e = required rate of return on equity, after company tax

R_f = risk - free rate

$(R_m - R_f)$ = the risk premium above the risk-free rate required for a market-weighted (ie diversified) portfolio of securities

β = a measure of the asset's riskiness relative to the market

The approach to estimating values for each of the inputs to the CAPM is outlined in detail below.

3.1 Risk-free Rate

The risk free rate is normally taken to be the yield to maturity on long term (10 year) Commonwealth bonds, with the equity market risk premium (see section 3.2 below) also measured historically from such a benchmark.

3.2 Equity Market Risk Premium

The equity market risk premium (MRP) can be observed by considering the historical data of yield gaps between returns on equity, R_m and returns on risk-free debt, R_f, namely:

$MRP = R_m - R_f$

3.3 Beta

Beta is a measure of the extent to which the return on a given equity investment moves with the return on the equity market.

Beta factor measurements for all listed Australian companies are publicly available. Where beta data is not available (because the *Network Service Provider* is not a listed company), it is necessary to estimate a beta factor. This can be done by observing the beta factors of listed companies (in Australia and overseas) which have business risk profiles and capital structures similar to those of Australian *Network Service Providers*.

3.4 Capital Structure and Market Risk Premium

The risk premium sought by equity investors will be a function of:

- the underlying market risk (volatility) of the pre-financing cash flows of the investment, and
- the level of financial risk, which is in turn dependent on the capital structure of the entity.

Published data on share market betas and related market risk premia relate to equity returns, and therefore reflect the market risk and the financial risk faced by investors.

To ensure validity of the CAPM calculations, it is necessary to apply assumptions of capital structure and market risk premia which are consistent with one another. In addition, where beta and other data relating to listed companies are being used to impute a cost of equity for a government business enterprise, the capital structures of the GBE and the private sector surrogate(s) should be reasonably comparable. This ensures that the beta imputed for the GBE correctly reflects the financial and market risk of the GBE.

4. Determination of the Cost of Debt

4.1 The Question of the Government Guarantee on Borrowings

The National Steering Committee on Performance Monitoring of GBE's recommends that where the GBE has access to Government-guaranteed borrowings, the guarantor should charge the GBE a fee for provision of the Government guarantee. The guarantee fee would generally be the difference between the cost of Government debt and the cost of debt which would be faced by the enterprise if it was privately owned.

Application of the fee in this manner would increase the GBE's cost of debt to levels which reflect its full opportunity cost. This approach is consistent with the principles outlined in section 1 of this schedule and with clause 3(4)(b)(ii) of the Competition Principles Agreement which states:

> "The Parties will impose on the Government business enterprise debt guarantee fees directed towards offsetting the competitive advantages provided by government guarantees".

4.2 Estimating the Cost of Debt

Typically, a *Network Service Provider* will have a portfolio of debt consisting of lines of debt with different maturities, durations and yields. Given the long life of *transmission* assets this debt portfolio would typically be long-dated. A weighted

average cost of debt should be estimated, taking into account the maturity and duration characteristics of the portfolio and the associated current market yields. Market yields applicable to the debt should reflect fully the *Network Service Provider's* credit risk.

5. Determination of the Weighted Average Cost of Capital

5.1 The Relationship Between Capital Structure and Weighted Average Cost of Capital

The National Steering Committee on Performance Monitoring of GBE's draft paper entitled "An Economic Framework for Assessing the Financial Performance of Government Trading Enterprises" states:

> "Gearing should not affect a government trading enterprise's target rate of return, which implies that shareholder value will also be insensitive to varying levels of debt. For practical ranges of capital structure (say less than 80% debt), the required rate of return on total assets for a government trading enterprise should not be affected by changing debt to equity ratios".

As noted in section 3.4, where beta and other data relating to listed companies are being used to impute a cost of equity for a government business enterprise, the capital structures of the GBE and the private sector surrogate(s) should be reasonably comparable. This ensures that the beta imputed for the GBE correctly reflects the financial and market risk of the GBE.

5.2 Taxation and the Impacts of Dividend Imputation

Clause 3(4)(b)(i) of the Competition Principles Agreement states:

> "The Parties will impose on the Government business enterprise full Commonwealth, State and Territory taxes or tax equivalent systems".

Weighted average cost of capital can be defined and expressed in pre-company tax terms or after company tax terms. Both definitions of *weighted average cost of capital* will yield exactly the same results, provided that:

- the definition of cash flows (ie costs and revenue requirements) is consistent with the definition of *weighted average cost of capital* applied; and
- the tax rate used to "gross-up" after tax required return to pre-tax required return is the effective tax rate[1] paid by the company.

[1] Effective tax rate = Actual tax paid ÷ (revenue - Operating expenses - net interest paid - Depreciation)

Under an imputation tax system, a proportion of the tax paid at the company level is, in effect, personal tax withheld at the company level. Australia has a full imputation tax system, however the proportion of company tax paid which can be claimed as a tax credit against personal tax varies, depending on:

- the marginal tax rate of the recipient of the franked dividend; and
- whether the recipient is an Australian tax-payer.

The value of franking credits, will impact on:

- the value of an investment as perceived by various investors; and
- the *weighted average cost of capital* of a tax-paying corporate entity.

In October 1993, researchers at the Melbourne University Graduate School of Management completed initial empirical research into the value of franking credits in Australia. The results of this research indicate that franking credits are, on average, valued by equity investors at approximately 50 cents in the dollar.

As the ultimate owners of government business enterprises, tax-payers would value their equity (and post corporate tax cash flows) on exactly the same basis as they would value an investment in any other corporate tax-paying entity. On this basis, it would be reasonable to assume the average franking credit value (of 50%) in the calculation of the *Network Service Provider's* pre-tax *weighted average cost of capital*.

5.3 Calculation of the Weighted Average Cost of Capital Under an Imputation tax

The formula for calculating pre-tax *weighted average cost of capital* ("WACC") is:

$$WACC = \frac{R_e}{1 - T(1 - \gamma)} * \frac{S}{V} + R_d * \frac{D}{V}$$

where:

R_e = required rate of return on equity, after company tax

R_d = pre-tax weighted average cost of debt

T = effective corporate tax rate

γ = value of franking credits or imputation factor

S = market value of equity

D = market value of debt

V = market value of debt plus equity

5.4 Example Calculation of Pre-tax Weighted Average Cost of Capital

The calculations below are provided for illustrative purposes only, and the input assumptions have no status or purpose other than facilitating a demonstration of the approved method for estimating *weighted average cost of capital*.

Key assumptions:

Effective tax rate	33%
Imputation factor	0.5
Consumer Price Index	3.3%
Equity (geared) β	0.4
Risk free rate	8.2% nominal
Implied real risk free rate	4.75% real
Equity market risk premium	6.6%
Cost of debt margin over risk free rate	1.25%
Weighted average cost of debt	9.45% nominal

Capital structure:

Debt:	55%
Equity:	45%

Cost of equity:

$R_e = R_f + \beta (R_m ! R_f)$

$= 8.2 + (0.4 \times 6.6)$

$=$ 10.8% nominal after tax

Before tax *weighted average cost of capital*:

$$WACC = \frac{R_e}{1-T(1-y)} \times \frac{S}{V} + R_d \times \frac{D}{V}$$

$$= \frac{10.8\%}{(1-0.33(1-0.5)} \times \frac{45}{100} + 9.45\% \times \frac{55}{100}$$

= 11.0% nominal before tax

Assumed inflation = 3.3%, so 11.0% nominal before tax = 7.5% real before tax

Schedule 6.2 - Categories of Transmission System Cost

This schedule 6.2 describes how the *transmission system* costs are to be formed from the *aggregate annual revenue requirement* of a *Transmission Network Service Provider* which is determined in accordance with Part B of Chapter 6. It describes the asset categories which are used, and defines the manner in which the assets are to be categorised. It also indicates how the total *transmission system* costs will be allocated between the service categories set out in clause 6.3.1.

The *aggregate annual revenue requirement* of the *Transmission Network Service Provider* must be separated into five components:

- costs which relate to the provision of assets to provide service to the overall *transmission system* and any non asset related costs which it is not appropriate to allocate to users on a locational basis (called *common service*);
- the cost of providing assets which are fully dedicated to providing *connection* to a single *Generator* or group of *Generators connected* at a single point within the *transmission network* (called *entry assets*);
- the cost of providing assets which are fully dedicated to the *supply* of a single *Transmission Customer* or group of *Transmission Customers connected* at a single point within the *transmission network* (called *exit assets*);
- the cost of assets which are shared to a greater or lesser extent by all users across the *transmission system*, including those costs associated with *new transmission network investment* other than those allocated to specific *Generators* in accordance with schedule 6.8 (called *transmission network* assets); and
- the costs associated with *new transmission network investment* which are allocated to specific *Generators* in accordance with schedule 6.8.

1. Common Service Costs

The *common service* cost category includes all the *transmission service* costs which cannot be allocated to users on a locational basis, ie they cover those costs which provide equivalent benefits to all users within the *transmission system* without any differentiation of their location.

These costs are recovered from *Transmission Customers* on a *postage stamp basis*.

There are two types of costs to be included in the *common service* category:

(i) the cost of *network* assets which provide a *common service*; and

(ii) the cost to the *Transmission Network Service Provider* of providing non asset related services to users.

1.1 Network Assets Which Provide Common Service

Common service is provided by the following *transmission network* assets and *connection assets*:

(i) *power system* communications networks;

(ii) *control systems*;

(iii) network switching centres (excluding generation and system control functions);

(iv) dynamic reactive control *plant* (depending on location and use);

(v) static *reactive plant*;

(vi) spare *plant* and equipment including that installed at *substations*;

(vii) fixed assets such as buildings and land that are not associated with *substation* or line easements, eg head office buildings, land for future *substations* etc.; and

(viii) motor vehicles and construction equipment.

1.2 Non Asset Related Common Service Costs

The non asset related *common service* costs include the following:

(i) *transmission network* switching and operations;

(ii) administration and management of the business;

(iii) *transmission network* planning and development; and

(iv) general overheads.

The first step is to identify the non asset related costs which are to be included in the *common service* category. These will generally need to be identified from budget projections. The difference between the *aggregate annual revenue requirement* and that recovered from the non asset related *common service* cost category are the asset related *network* costs. These costs must be allocated to individual assets to allow the cost allocation to be carried out. This is determined through the use of a simple ratio of the *aggregate annual revenue requirement* required from assets to the Optimised Replacement Cost of the *network* as determined from the valuation which is called the Annual Cost Fraction ψ, ie:

$$\text{Annual Cost Fraction } (\psi) = \frac{\text{Aggregate Annual Revenue Requirement of all assets}}{\text{Optimised Replacement Cost of all assets}}$$

The individual assets to which costs are allocated are consistent with those identified in the *network* valuation. Generally only major primary *plant* is separately identified with the costs of this *plant* incorporating all secondary and auxiliary *plant*. The annual cost to be recovered from each individual asset can then be determined by application of the above factor to the Optimised Replacement Cost of the asset as defined in the *network* valuation.

The *Transmission Network Service Provider* must separately identify the costs relating to assets which provide *common service* and the charges for these are to be recovered through *common service* charges. This is determined by applying the annual cost fraction Ψ to the Optimised Replacement Cost of assets identified as being in the *common service* category. These costs are then added to the non asset related *common service* costs identified as above to form the total *common service* cost pool for the *transmission system*.

The category for some assets is not clear cut. *Reactive plant* and *substation* establishment costs may fall in the *common service* category depending on their location and use. These aspects are considered in the following sections.

1.3 Reactive Plant

Dynamic *reactive plant* is provided for system reasons and is to be treated as a *transmission network* asset and would become part of the *common service* charge to *loads*.

All existing dynamic and static *reactive plant* in *switchyards* or at the *transmission* level in *load* supplying *substations* and any associated switchgear and dedicated *transformers* will be charged as shared *network* assets through the *common service* price.

Reactive plant installed at a *substation* at the subtransmission *voltage* level should be charged as *shared network* assets through application of a *common service* price unless it is clearly evident that such *plant* has been provided to meet the local reactive requirements of one or more *Transmission Network Users connected* at the relevant *substation* in which case it may be charged as a *connection asset*.

2. Entry and Exit Assets

The *entry* and *exit asset* costs are recovered from the *Transmission Network Users* who benefit from them and requires no complex analysis to determine the sharing.

A "shallow *connection asset*" policy is to be adopted in which only those assets (including individual assets within a *substation*) which provide *supply* to only those *Transmission Network Users connected* at the *connection point* are included. This is a simple definition, which avoids the difficulties that can be caused by a "deeper *connection asset*" policy where assets may change from *connection assets* to becoming part of the *transmission network*.

Consequently *entry* and *exit assets* include only *substation* assets, including *transformers*, which are used to supply *load* at the interface between *Transmission Network Users* and the *transmission network*.

However the *Transmission Network Service Provider* may require the *Transmission Network User* to meet all the *network* charges for radial *transmission lines*.

Transmission lines connecting *Generators* to the *Transmission Network Service Provider's* assets may be assets of the *Generator*. Where such are owned by the *Transmission Network Service Provider* they are to be treated as *connection assets*.

Some *substation* establishment and building costs are to be recovered through entry and exit charges. Treatment of these costs is covered in the following section.

2.1 Substation Establishment and Buildings

The majority of *substation* establishment costs are included in the *transmission network* category. For example the cost of a circuit breaker includes associated *busbars* and isolators, secondary *plant* including *remote control* and *secondary equipment*, civil works, design installation and commissioning and project administration.

Additional *substation* establishment costs include only the civil works, roads and fences required for the establishment of the *substation* while buildings include only the common *substation* equipment and *facilities*. These costs are to be recovered through *connection* charges.

In cases where a *substation* does not supply any *load* (ie either a switching *substation* or a transformation *substation* between two *transmission* levels) then these *substation* establishment and building costs should be allocated on a simple pro-rata basis to each circuit breaker which terminates a *line* or *transformer* at the *substation* and will therefore be included in the node to node costs of the *transmission network*.

For example an existing *substation* which provided transformation only between two *transmission voltage* levels could be extended to supply *load* in which case the associated additional *substation* establishment costs would be allocated to the

connection category. Alternatively an existing *substation* which only supplies *load* may be converted by the addition of transformation between *transmission* levels. In this case *substation* establishment costs would be allocated to *common service*.

Substation establishment costs for existing *substations* which provide a dual purpose must be allocated as *connection* costs.

2.2 Summary of Connection Assets

The following sections summarise the allocation of specific assets to the *connection asset* category:

2.2.1 Participant Generator Switchyards

(a) Entry (*connection assets*)

(1) *transmission* switchgear and associated *plant* used for *connection* of *Generator transformers*;

(2) *substation* establishment and buildings.

(b) Shared *Network*

(1) all switchgear for termination of *transmission lines* from the *substation*.

2.2.2 Load Point Substation

(a) Exit (*connection assets*)

(1) all switchgear at the subtransmission *voltage* level (ie feeder circuit breakers and subtransmission bus-tie circuit breakers and isolators);

(2) all *transformers* which supply the subtransmission *voltage* level, and associated switchgear at both the *transmission* and subtransmission *voltage* level;

(3) *substation* establishment and building costs;

(4) any bus ties at the *transmission voltage* level; and

(5) *reactive plant* installed for *power factor* correction.

Treatment on a case by case basis may be necessary for any specific situations which are not accommodated by these general rules.

2.2.3 Meters

Metering installations on *Transmission Network User* feeders will be treated as *connection assets*.

2.2.4 Land

Land at *substations* which *supply load* or *connect generating units* will be treated as part of the *connection assets*. This will be site-specific; that is, the specific value of the land at each *substation* will be included with the value of the *substation* for charging purposes.

3. Transmission Network Assets (other than new transmission network investment allocated to Generators)

The remaining assets are included as *transmission network* assets, other than that proportion of *new transmission network investment* assets from which *Generators* are determined to benefit in accordance with clause 5.6.2 (in respect of which *Generators* pay charges determined in accordance with schedule 6.8). This category includes all elements of the *transmission network* which provides *transmission service* on a locational basis and forms the majority of the costs. The allocation of the *transmission network* costs involves determining the flow imposed on each asset by each *Transmission Network User* and sharing the costs accordingly. This approach means that the costs of all *transmission network* assets have to be represented between nodes, ie all relevant *substation* costs have to be allocated to lines.

This is achieved by including those *substation* asset costs involved in terminating and switching each line at each end. This requires the cost of circuit breakers and terminations to be included with the line cost in order to represent a "node" to "node" cost. Where breaker and a half switching arrangements are in place it will be necessary to split the costs of the "centre" circuit breaker between two circuits.

The relevant *transmission network* assets include:

(1) *transmission lines*;

(2) switchgear (circuit breakers and isolators) on *transmission lines* and auto-*transformers* which are part of the *transmission network* and are switched at the *substation* including associated bus work and control and protection schemes;

(3) auto-*transformers* which transform *voltage* between *transmission* levels;

(4) any dynamic *reactive plant* and associated switchgear and transformation regardless of *voltage* level;

(5) all static *reactive plant* and associated switchgear;

(6) all system controls required for monitoring and control of the integrated *transmission system*. This includes remote monitoring and associated communications, *load shedding* and special control schemes and *voltage* regulating *plant* required for operation of the integrated *transmission system*.

4. Transmission Network (new transmission network investment allocated to Generators)

These assets are that proportion of *new transmission network investment* assets in respect of which *Generators* are determined to benefit in accordance with clause 5.6.2. The allocation of costs for this proportion of *new transmission network investment* assets is determined in accordance with schedule 6.8.

Schedule 6.3 - Maximum Negotiated Use of System Service Price

This schedule 6.3 describes the method by which *Network Service Providers* are to determine the maximum prices to be paid by *Generators* or *Market Network Service Providers connected* to a *transmission* or *distribution network* for *use of system* where they have negotiated to pay *negotiated use of system charges* under clauses 5.5(f)(2) or 5.5A(g)(2) respectively. This method calculates the maximum prices which a *Network Service Provider* can charge a *Generator* to provide a nominated capacity at the *Generator's connection point* at a standard of service comparable with that offered to *Transmission* or *Distribution Customers*.

This schedule does not apply to the calculation of any *generator access* charge which a *Generator*, or *market network service provider access* charge which a *Market Network Service Provider,* has agreed to pay the *Network Service Provider* to guarantee a level and standard of service of *power transfer capability* under clauses 5.5(f)(4)-(6) and 5.5A(g)(3)-(5). Any such charges or compensation are costs or revenue which fall outside the relevant *revenue cap* or *price cap*.

The schedule also does not apply to the prices to be paid for *connection* charges by *Generators* which are otherwise payable under clause 5.5(f)(1) or by *Market Network Service Providers* which are otherwise payable under clause 5.5A(g)(1).

1. Long Run Marginal Cost

The *negotiated use of system service* price for use of the *network* is to be based on the long run marginal cost of *network augmentation* required to provide *transmission* or *distribution service* for new *Generators* at a *connection point* in a *transmission network* or in a *distribution network*.

The Long Run Marginal Cost, expressed in $ per kW is defined as

Net present value of cost of new network investments ($) ÷ Net present value of new *generation* capacity (kW)

The *negotiated use of system service* price expressed in $ per kW per year is determined by expressing the long run marginal cost as an annual charge using a discount rate over a 30 year period equal to the *Network Service Provider's weighted average cost of capital*, determined in accordance with schedule 6.1.

2. New Generation Capacity

New *generation* capacity is assumed to be *connected* at each *connection point* where a *negotiated use of system service* price is required. For *transmission networks*, the *Network Service Provider* must use a new *generation* capacity which is appropriate to the *network* location and may be one of the following:

(i) the capacity of the largest *generating unit* already *connected* in the same sub-region as the *connection point*;

(ii) one quarter of the total *generation* capacity already *connected* in the same sub-region as the *connection point*;

(iii) one quarter of the total *maximum demand* of the sub-region in which the *connection point* is located;

(iv) the forecast annual increase in *maximum demand* over the *regulatory control period* of the sub-region in which the *connection point* is located.

(v) the capacity of the actual new *generation* being installed at the *connection point*.

For *distribution networks* the new *generation* capacity is the capacity of *generation* actually installed or to be installed at the *connection point*.

3. Cost of New Network Investment

The cost of new network investment is the estimated cost of new investments in the *transmission network* or *distribution network* assuming:

(i) *network* development, *loads* and *generation* correspond to the current system plus committed development only;

(ii) new *generation* capacity as defined in section 2 above, is *connected* at the *connection point* being examined, and at no other *connection point*;

(iii) *network loads* in the same *region* as the new *generation* capacity are to be scaled up in proportion to the increase resulting from the new *generation* capacity;

(iv) *network* capacity is to be provided to allow all committed *loads* to be supplied with any one circuit or *transformer* out of service and with any credible combination of *generation dispatch*.

4. Negotiated Use of System Service Price relative to the Reference Node

For *transmission networks* the long run marginal cost determined in (1) above is to be expressed as the cost of providing *network* capacity for new *generation* at a particular *connection point* relative to the long run marginal cost of providing *network* capacity for new *generation* at the *reference node*.

This is achieved by subtracting from the long run marginal cost for a particular *connection point*, the long run marginal cost for the *reference node*.

For *distribution networks*, the *negotiated use of system service* price is further determined in accordance with clause 5.5 of schedule 6.6.

Schedule 6.4 - Determination of Customer TUOS Usage Charges

1. Introduction

The determination of *transmission use of system* prices (other than *negotiated use of system service* prices) for each *Transmission Customer's connection points* is based on the principle that prices will be established which provide appropriate signals for the additional *transmission* costs which will arise from additional use (or a decrease in use) of the relevant *transmission network* by the *Transmission Customer* at that *connection point*. This is implemented by recovery of:

- the *Customer TUOS usage charge* determined using *Customer TUOS usage prices* in accordance with clauses 6.4.3B and 6.5.4, which provides an appropriate price signal to the *Transmission Customer* for its use of that *connection point*; and

- the *Customer TUOS general charges* determined using *Customer TUOS general prices* in accordance with clause 6.4.3C and 6.5.4A, which provides part of the balance of the *aggregate annual revenue requirement* as outlined in clause 6.4.3B(a).

The *Transmission Network Service Providers* in the *region* or *regions* over which the cost allocation under clause 6.4 is being made will determine the usage component of *transmission use of system service* costs for each *Transmission Customer's connection point connected* to a *transmission network* within the *region* or *regions*. For example, where the *Transmission Network Service Providers* in *interconnected regions* agree to perform a single cost allocation for those *regions* in accordance with clause 6.3.4, the *Transmission Network Service Providers* will jointly determine the usage component of *transmission use of system service* costs for all *connection points* with *Transmission Customers connected* to a *transmission network* in the *regions*.

The usage component of *transmission use of system service* costs allocated to *connection points* with *Transmission Customers connected* to a *transmission network* in the *regions* will be used by each individual *Transmission Network Service Provider* in the *region* or *regions* over which the cost allocation under clause 6.4 is being made to determine the *Customer TUOS usage prices* for those *connection points* with *Transmission Customers connected* to the *Transmission Network Service Provider's transmission network* in accordance with clause 6.5.4. The *Customer TUOS usage prices* are used by the *Transmission Network Service Provider* to determine *Customer TUOS usage charges* in accordance with clause 6.5.4.

The usage component of *transmission use of system service* costs for a *connection point* will be established using the *cost reflective network pricing* method or the modified *cost reflective network pricing* method, as specified by clause 6.4.3B, outlined below in respect of each *connection point.* The process below must,

however, be modified so as to reduce the usage component of *transmission use of system service* costs for *connection points* by the estimated revenue from *auction* proceeds distributed under clause 3.18.4 to the *Transmission Network Service Provider* or *Transmission Network Service Providers* (as appropriate) in the *region* or *regions* over which the cost allocation under clause 6.4 is being made.

Paragraphs 2 to 5 of this schedule 6.4 outline the *cost reflective network pricing* method which is carried out by the software. The modified *cost reflective network pricing* method is outlined in paragraph 6 of this schedule.

2. The Cost Reflective Network Pricing Cost Allocation Algorithm

The *cost reflective network pricing* cost allocation process requires detailed *network* analysis and involves the following steps:

(i) determining the annual costs of the individual *transmission network* assets in the optimised *transmission network*. (This is described in schedule 6.2);

(ii) determining the proportion of each individual *transmission network* element utilised in providing a *transmission service* to each point in the *transmission network* for specified operating conditions;

(iii) determining the maximum flow imposed on each *transmission network* element by *load* at each *connection point* over a set of operating conditions determined in accordance with paragraph 4 of this schedule 6.4;

(iv) allocating the costs attributed to the individual *transmission network* elements to *loads* based on the proportionate use of the *transmission network* elements; and

(v) determining the total cost allocated to each point in the *transmission network* by adding the share of the costs of each individual *transmission network* element attributed to each point in the *transmission network*.

3. Allocation of Generation to Load

A major assumption in the use of the *cost reflective network pricing* method is the definition of the *generation* source and the point where *load* is taken. The approach is to use the "electrical distance" to pair *generation* to *load*, in which a greater proportion of *load* at a particular location is supplied by *generating units* which are electrically closer than those which are electrically remote. In electrical engineering terminology the "electrical distance" is the impedance between the two locations, and this can readily be determined through a standard engineering calculation called the "fault level calculation".

Once the assumption has been made as to the *generating units* which are supplying each *load* for a particular *load* and *generation* condition (time of day) it

is possible to trace the flow through the *transmission network* which results from supplying each *load*. The use made of any *transmission network* element by a particular *load* is then simply the ratio of the flow on the *transmission network* element resulting from the *supply* to this *load* to the total use of the *load* made by all *loads* and all *generating units.*

4. Operating Conditions for Cost Allocation

The choice of operating conditions is important in developing prices using the *cost reflective network pricing* method. The *Transmission Network Service Provider* has the flexibility in the choice of operating conditions which will be important to consider in their particular *transmission network*. This section outlines the principles that should apply in determining those operating conditions which should be considered.

The use made of the *transmission network* by particular *loads* and *generating units* will vary considerably depending on the loading and *generation* conditions on the *network*. For this reason a number of operating conditions are examined with different *load* and *generation* patterns.

The *load* and *generation* patterns used to establish *transmission service* prices should include all operating scenarios which result in most stress in the *transmission network* and for which *network* investment may be contemplated. Operating conditions must be included which impose *peak loading* conditions on particular *transmission network* elements, recognising that these may occur at times other than for peak demand. Particular attention in this regard should be paid to *interconnectors*.

Consistent with these principles, the operating conditions to be used for the cost allocation process are as follows for the main *transmission system*:

- *Load* and *generation* conditions to be actual operating conditions from the previous *financial year*; and

- Operating conditions to be used are to include at least 10 *days* with high system demand, to ensure that loading conditions which impose peak flows on all *transmission network* elements are captured.

The period chosen should broadly correspond to the times at which high demands drive *network* expansion decisions. Summer loading is the critical determinant for *network* expansion in all *regions* due to the proximity of the summer peak to the winter peak and the lower equipment ratings which apply during summer.

5. Summary of Cost Reflective Network Pricing Method

The *cost reflective network pricing* method used as the basis for determining the usage component of *transmission use of system service* costs for a *connection*

point in accordance with clause 6.4.3B involves allocating the overall costs of providing the shared *transmission service* to each *transmission network connection* point.

The allocation process is carried out to allocate the cost attributed to individual *transmission network* elements to *loads*. The total *network* cost for each *load* is then calculated by adding all the costs which have accrued to that *load* for each *transmission network* element.

The following summarises these steps in tabular form:

1.	**Attribute network costs to network elements**	A cost is attributed to each *transmission network* element in respect of which *transmission use of system* charges are to be calculated. The total costs which are attributed to individual *transmission network* elements will be allocated to *connection points*. If the total shared *network* costs (revenue requirements) are to be allocated using the *cost reflective network pricing* method then the cost attributed to each *transmission network* element is determined by taking a proportion of its optimised replacement value in the *network* valuation using the annual cost fraction (being the ratio of the *annual revenue requirement* to the total replacement value of the *network* valued on a deprival basis).
2.	**Determine the fault contribution matrix to allocate generation to loads**	The base fault contribution matrix is calculated as the basis for the *generation* to *load* allocation. This is carried out once only with a *maximum demand loading* condition, and with all *generating units* in service with output scaled to meet the *load* requirements, and the resulting base fault contribution matrix is the basis for all operating conditions. The fault calculation is carried out with zero *generating unit* impedance so that only *network* effects are accounted for in the calculation.

3.	**Determine constrained allocation of actual generation to loads**	When applied to an actual operating condition the base fault contribution calculation takes no account of the actual output of each *generating unit* which would result if the actual *load* was allocated according to electrical distance. For example *generating units* that are close to *load* points would be loaded beyond their output for the particular operating condition. A *constrained* allocation is recalculated for each operating condition studied. This redistributes the contributions of *generation* to *loads* until each *generating unit's* total output equals its actual output in the *load* flow scenario. This is done for each *load* flow scenario.

The following steps are then carried out for each of the operating conditions being considered:

4.	**Calculate line flow contributions of each load**	For each *load* flow scenario, a sensitivity analysis is carried out using *load* flow analysis techniques. The change in flow in each *transmission network* element (line or *transformer*) is calculated for a small change in each *load* (with corresponding changes in the *generation supplying* that *load*, according to the *constrained* allocation matrix described above). These sensitivities (partial derivatives) are weighted by the *load* magnitude to give a MW "flow component" magnitude in each element due to each *load* for that hour.
5.	**Calculate relative utilisation by each load of each network element**	The relative utilisation of *transmission network* elements by each *load* are obtained from the MW flow components above. In this calculation only flow components in the direction of the prevailing line flow are used.

6.	**Determine the share of each network element required by each load**	When all operating conditions have been completed the cost of the individual *transmission network* element to be allocated to *loads* based on this locational allocation (ie half the annual cost of the *transmission network* element) is shared on a pro-rata basis with the maximum flow component that each *load* has imposed on the *transmission network* element for the operating conditions considered.
7.	**Allocate network costs to each load**	Finally the *network* costs are allocated to each *load*. This process involves summing, across all *transmission network* elements, the product of their relative utilisation by that *load* and the allocated cost of each *transmission network* element.

This method is used to determine the usage component of *transmission use of system service* costs for a *connection point* for each relevant *connection point* by implementing the *cost reflective network pricing* method described in paragraphs 2 to 5 of this schedule 6.4, with the costs of the *transmission network* elements determined as 50% of the full cost which is allocated to each by the relevant calculations. The costs determined for each relevant *connection point* would be the average of the costs calculated for that *connection point* over the operating conditions used for the determination of the usage component of *transmission use of system service* costs in accordance with paragraph 4 of this schedule 6.4.

6. Summary of Modified Cost Reflective Network Pricing Method

This method is identical to that outlined in paragraphs 2 to 5 of this schedule 6.4 with modifications in the representation of individual *network* asset costs in the model. The method described in the Table in paragraph 5 of this schedule 6.4 is to apply with the following modifications in the way costs are represented:

(a) The annual costs of each of the individual *transmission network* assets in the optimised *transmission network* is determined. (This includes the capital costs and operating and maintenance costs and is described in schedule 6.2.)

(b) These individual *transmission network* asset costs are multiplied by a factor which depends on asset utilisation of each asset. The asset utilisation is to be based on the maximum flow allowed on elements within the normal operating *constraints* of the *network*.

(c) The *Transmission Network Service Provider* may determine the relationship between asset utilisation and costs represented within the *cost reflective network pricing* method for this purpose.

(d) The costs represented in this manner are then determined in accordance with the method as outlined in steps 2 to 7 of the Table in paragraph 5 of this schedule 6.4.

7. Conversion of Customer TUOS usage charges to prices

Following the determination of the usage component of *transmission use of system service* costs for each individual *connection point* as described above *Customer TUOS usage prices* are determined in accordance with clause 6.5.4. These *Customer TUOS usage prices* are then used to determine the *Customer TUOS usage charges* in accordance with clause 6.5.4.

8. Non Locational Charges

Common Service Charges

Costs other than for the *network* and *network* costs which provide common good will be charged by a *common service* charge. These charges include:

- Costs associated with assets other than the *network*, such as communications, control and administration assets, as well as *network* planning and operation, administration and management costs.

- The cost of *network* assets which provide benefits to all users of the *network*, (eg: system stabilising equipment, reactive control *plant*).

Each *Transmission Network Service Provider* must itemise the services recovered under the *common service* charge category.

Determination of Common Service Charges

Common service charges are to be determined for all *Transmission Customers* in accordance with clause 6.5.6.

9. Cost Allocation Between Regions

The usage component of *transmission use of system service* costs for a *connection point* are to be established for all *connection points* within the *region* or *regions* over which the cost allocation under clause 6.4 is being made. Where *Transmission Network Service Providers* in adjacent *interconnected regions* agree to undertake a single cost allocation for those *regions* under clause 6.3.4, those *Transmission Network Service Providers* determine the usage component of *transmission use of system service* costs for a *connection point* with a *Transmission Customer* in those *interconnected regions*. Each *Transmission Network Service Provider* uses the allocated usage costs for a *connection point* with its *transmission network* to determine the *Customer TUOS usage prices* and *Customer TUOS usage charges* to apply to that *connection point*. To the extent

that the determination of *Customer TUOS usage charges* results in the recovery of some of a *Transmission Network Service Provider's* costs by another *Transmission Network Service Provider* in relation to a *connection point connected* to that other *Transmission Network Service Provider's network*, the first-mentioned *Transmission Network Service Provide*r recovers these through financial transfers under clause 6.7.4.

Transmission Network Service Providers in the *region* or *regions* over which the cost allocation under clause 6.4 is being made are not required to include *transmission networks* in other *regions* in the analysis they undertake to determine the *Customer TUOS usage charges* for those *connection points* with *Transmission Customers connected* to a *transmission network* in the *region* or *regions* over which the cost allocation is being made. Where *Transmission Network Service Providers* in adjacent *interconnected regions* do not agree to perform a single cost allocation under clause 6.3.4, the *Customer TUOS usage charges* for *connection points* with *Transmission Customers connected* to a *transmission network* in a *region* only recover the costs of *transmission networks* in that *region*. Financial transfers may occur between *Transmission Network Service Providers* located in the *interconnected regions* under clause 3.6.5, which are then taken into account in the determination of *Customer TUOS general charges* for the *connection points* with *Transmission Customers connected* to a *transmission network*.

Schedule 6.5 – [Deleted]

Schedule 6.6 - Categories of Distribution System Cost

This schedule 6.6 describes how the *distribution system* costs may be formed from the *aggregate annual revenue requirement* of a *Distribution Network Service Provider* which is determined in accordance with Part D of Chapter 6. It describes the asset categories which may be used, and defines the manner in which the assets may be categorised. It also indicates how total costs could be allocated between *excluded distribution service* categories and the *prescribed distribution service* categories of *connection*, *distribution use of system* and *common service*.

The *aggregate annual revenue requirement* of a *Distribution Network Service Provider* can be separated into four components:

- costs which relate to the provision of assets to provide service to the overall *distribution system* and any non asset related costs which may not be appropriate to allocate to individual parts of the *distribution system* (called *common service*);

- the cost of providing assets which are fully dedicated to the *supply* of a single customer or group of customers *connected* at a single point within the *distribution network* (called *connection assets*);

- the cost of assets which are shared to a greater or lesser extent by all users across the *distribution system* and can be identified as related to a specific part of the *distribution system* (*distribution use of system* assets); and

- the cost of that proportion of assets which relate to the provision of services to *Embedded Generators* by *new distribution network investment* assets allocated to *Embedded Generators* as a result of the application of clause 5.6.2 (called *new distribution network investment* assets).

The *aggregate annual revenue requirement* of the *Distribution Network Service Provider* must exclude costs which relate to the provision of *excluded distribution services* and unrelated business activities including but not limited to costs in respect of *energy* trading and *generation*. It may be that some *connection assets* have been determined as providing *excluded distribution services* for a single customer or group of customers *connected* at a single point within the *distribution network.*

Overhead type costs such as motor vehicles, construction equipment, computers, office equipment, software, operations and management of the business general overheads and other expenses that cannot be identified against *common service*, *connection service* or *distribution use of system service* must be allocated in a fair and reasonable way across all of these services.

1. Common Service Costs

The *common service* cost category includes all the *distribution service* costs which cannot be allocated to users on a locational basis, ie they cover those costs which provide equivalent benefits to all users within the *distribution system* without any differentiation of their location. These costs are usually applied to users on a *postage stamp basis*.

There are two types of costs to be included in the *common service* category:

(i) the cost of *network* assets which provide a *common service*; and

(ii) the cost to the *Distribution Network Service Provider* of providing non asset related services to users.

1.1 Network Assets Which Provide Common Service

Common service is provided by *distribution network* assets that can include, but are not limited to, the following:

- *power system* communications networks;
- *control systems*;
- control centres;
- dynamic reactive control *plant*;
- static *reactive plant*;
- spare *plant* and equipment including that installed at *substations*;
- fixed assets such as buildings and land that are not associated with *substation* or line easements, eg head office buildings, land for future *substations* etc.;
- *load* control signalling equipment in *substations* and on customer premises; and

1.2 Non Asset Related Common Service Costs

The non asset related *common service* costs can include, but are not limited to, the following:

- *distribution network* switching and operations;
- *distribution network* planning and development;

Again, with these expenses only the *Distribution Network Service Provider's* share of each category should be included into the total *common service cost pool*.

The remaining *distribution network* assets are divided into three categories: *connection assets*, *distribution use of system* assets and *new distribution network investment* assets.

2. Connection Assets

The *connection asset* costs are recovered from the *Distribution Customers* who benefit from them and require no complex analysis to determine the sharing.

Connection assets are those assets (including individual assets within a *substation*) which provide supply to only those *Distribution Customers connected* at the *connection point*. This simple definition avoids the difficulties of assets changing from *connection assets* to becoming part of the *distribution network*.

Consequently *connection assets* would typically include the following:

- service lines plus *meters* for domestic customers;
- service lines, *meters*, dedicated *distribution transformers* and associated switchgear for medium size commercial and industrial *Distribution Customers*;
- *high voltage* lines and *plant* for major commercial and industrial *Distribution Customers*.

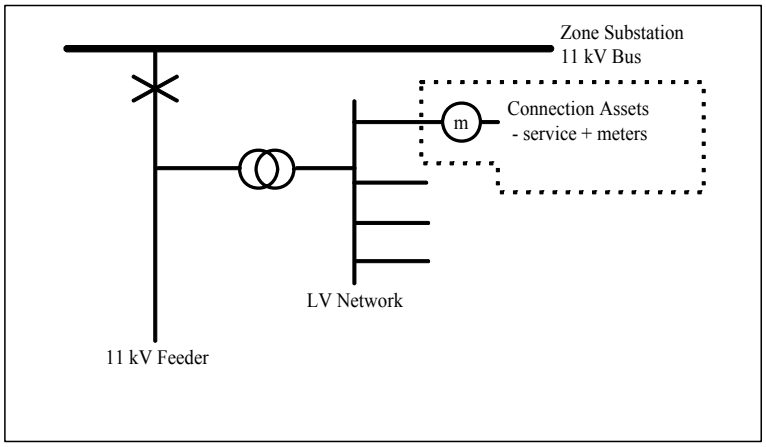
The asset related costs of *connection assets* that:

- have been provided by a *Distribution Customer*;
- have been funded by capital contributions from a *Distribution Customer*; or
- provide customer connection through *excluded distribution service*

may be excluded from the *aggregate annual revenue requirement* of the *Distribution Network Service Provider* by the *Jurisdictional Regulator.*

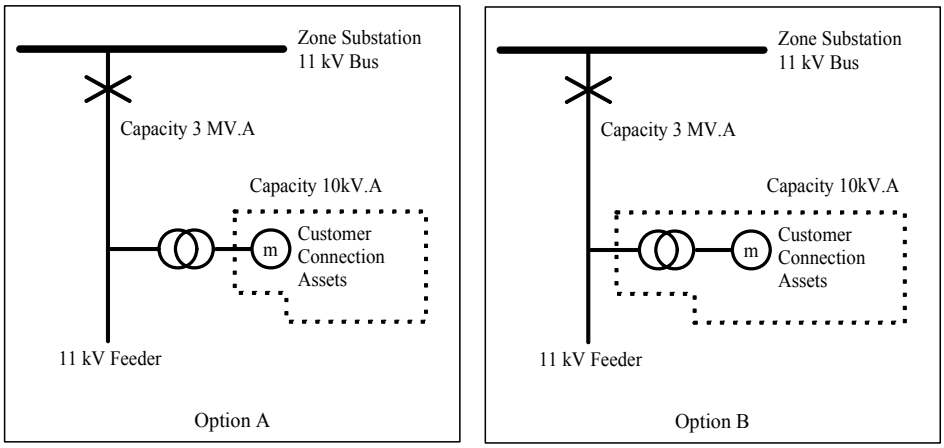
The examples below highlight some of the issues associated with *connection assets* and recommended approaches in each case. The philosophy adopted is to assign as *connection assets* those assets that can be reasonably considered as being fully dedicated to the use of the relevant *Distribution Customer*.

Example 1 - Domestic Customer in Suburban Area



In this case there is virtually no choice, that is, the *connection assets* are the LV service lines plus *meters*, and all upstream *network* (LV mains, *distribution transformers* etc.). The *network coupling point* (boundary of *connection service* and *distribution service*) is the junction of the service mains and the LV mains. The *connection point* is the asset boundary between the service main and the customer's electrical installation.

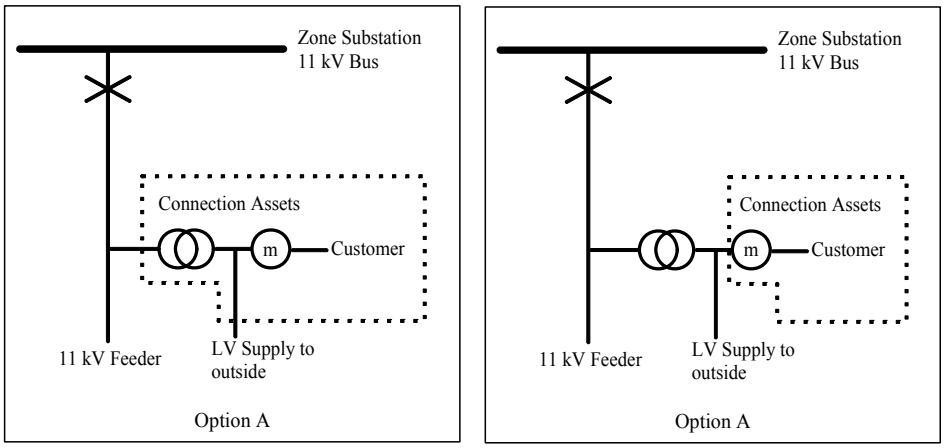
Example 2 - Domestic Customer in Rural Area (5kV.A) / Single Customer on a spur, dedicated *distribution transformer*



The 11 kV spur line has a large capacity compared to the expected *Distribution Customer maximum demand*. The *connection* charges associated with this asset would be abnormally high for a *Distribution Customer* of this size if this and the *distribution transformer* were included as *connection assets*.

Another important consideration is that any capital contribution policy is not necessarily related to a *connection asset* policy. That is, capital contributions may be sought from the *Distribution Customer* for installation of parts of the *distribution system*. In this case, a contribution may be sought for part or all of the cost of the 11 kV spur line plus the *distribution transformer*. This does not mean that these assets need be considered as *connection assets*. Option A is often utilised as it places the *connection asset* charges for this *Distribution Customer* on an equal basis with all other domestic *Distribution Customers.* Inequities in the cost of *supply* are managed by seeking capital contributions as required.

Example 3 - New Commercial/Industrial Customer 250kV.A *maximum demand* / 300kV.A *transformer*, LV feed to outside area for backup

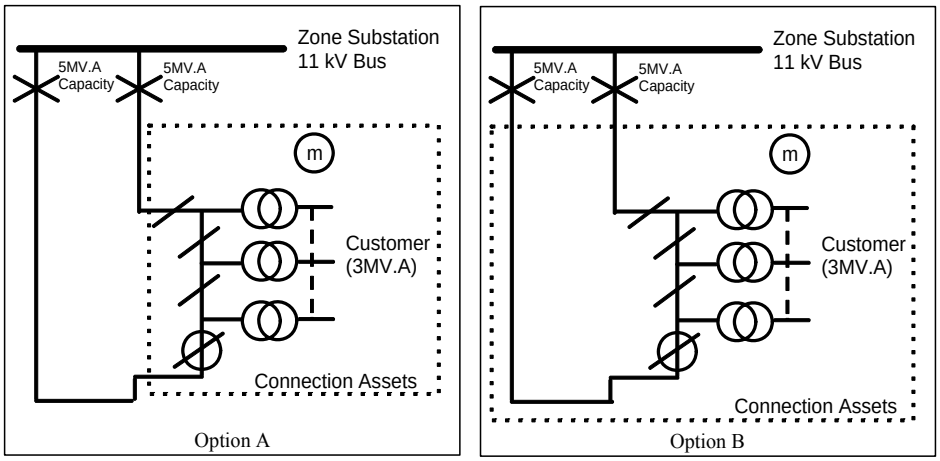


In this case a *transformer* is installed for virtually dedicated use of the commercial and industrial *Distribution Customer*. In option A, the *transformer* (and associated protection), the service and the *metering* are considered as the *connection asset*. The alternative option B has the *connection assets* as only the LV service plus the *metering*, due to the shared use of the *distribution transformer*. In this case an important issue arises as to the extent of shared usage. In this case the outside LV *supply* is for backup only and the commercial and industrial *Distribution Customer* has a demand of above 80% of *transformer* capacity.

Option A is often used since the asset is essentially dedicated to the use of the *Distribution Customer* and the backup provided by the LV interconnection works is to the mutual benefit of the *Distribution Customer* and/or the general LV network. If the LV supply fed other *Distribution Customers* on the *distribution network*, then option B may be used since the *transformer* is a genuine shared asset.

Under option A, the *network coupling point* is the tee point where the 11 kV spur joins the *distribution network*. The *connection point* is past the LV *metering point*, on the asset boundary.

Example 4 - C & I Customer, 3 MV.A maximum demand, requires 100% backup capability on the 11 kV feeder plus three 1500 kV.A *transformers* for added security

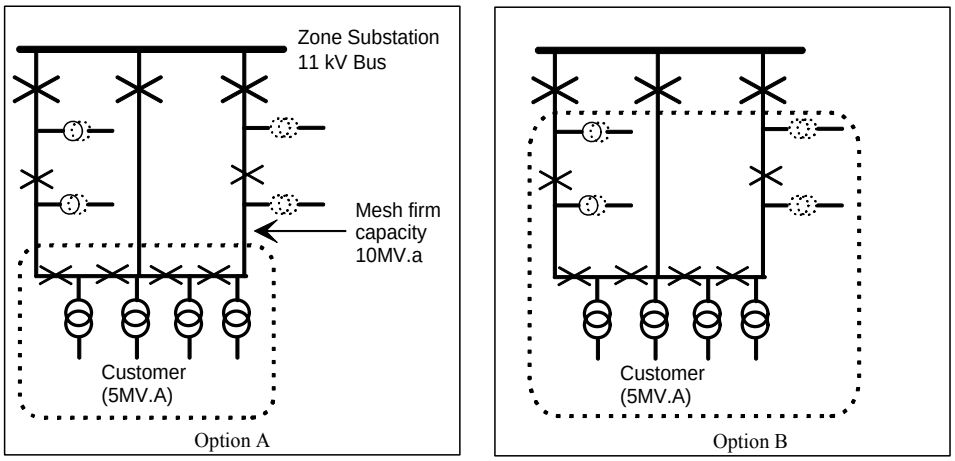


In this example, option A reflects the shallow policy with *transformers* and associated switchgear as *connection assets* and option B reflects the requirement of the *Distribution Customer* to have 100% feeder backup capability. Selecting option B may result in the feeder asset being poorly utilised which is not appropriate. If a deep *connection asset* policy was chosen, then several *Distribution Customers* in the feeder ring could share the total *connection assets*. This may work but would be difficult to administer when demands changed or when *Distribution Customers* were added to or subtracted from the ring.

Option A is simpler and addresses the issue of the *Distribution Customer* requiring three 1500 kV.A *transformers*. These *connection assets* can be provided on an agreed basis between the *Distribution Network Service Provider* and the *Distribution Customer* and provided the *Distribution Customer* pays an agreed return on those assets there is no problem. The *Distribution Customer* is paying the full cost for the improved security of *supply* from the extra *transformer*. The issue of backup feeder capacity for the *Distribution Customer* could be resolved by a capital contribution made by the *Distribution Customer* to the *Distribution Network Service Provider* for retaining spare capacity in the second feeder and/or constructing it initially.

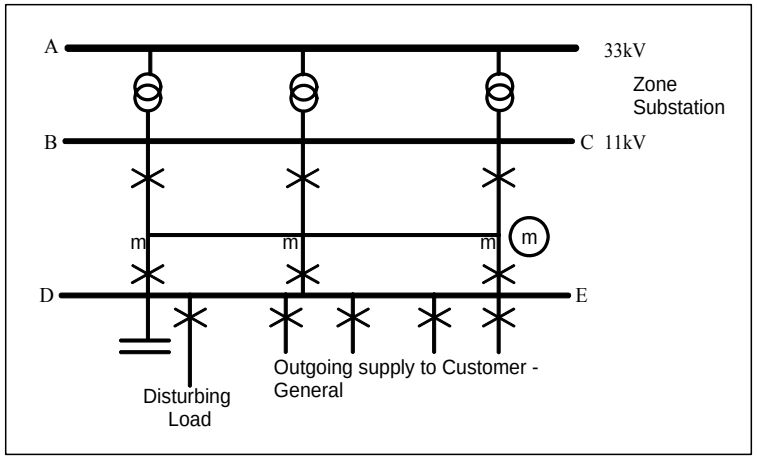
Under option A, the *network coupling point* is the *high voltage* switchgear. The *connection point* is past the LV *metering point*, on the asset boundary.

Example 5 - CBD Customer, 5MV.A



This is very similar to example 4 in that option A is the shallow policy including only local *Distribution Customer* equipment and option B includes the total mesh. Again option A is favoured to avoid the complication associated with determining charging proportions for option B, particularly with *Distribution Customers* being added or subtracted. The *Distribution Network Service Provider* may choose to retain ownership of the circuit breakers to ensure operational integrity of the mesh but the whole *substation* could still be classified as a *connection asset*.

Example 6 - Major Industrial Customer, 10+ MV.A



In this case part of the *Distribution Customer load* is supplied from bus C at the zone *substation* and the remainder (a disturbing *load*) is supplied from a dedicated

33/11 kV *transformer* to reduce the impact of the disturbing *load*. Other *Distribution Customers* share the use of bus C with the *Distribution Customer*. Several options exist for treatment of this situation as follows:

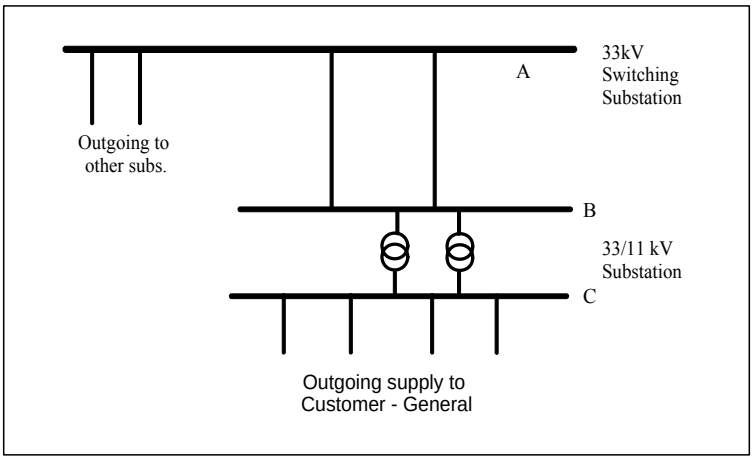
(1) Treat the *Distribution Customer* as having a *network coupling point* at 11 kV at busses B and C. The 11 kV feeders from B to D and C to E are treated as *connection assets* and the *Distribution Customer* is charged for the *distribution service* (upstream shared *network*) at an 11 kV rate. The *connection point* is the asset boundary at busses D and E.

(2) Treat the *load* supplied from bus D and the *load* supplied from bus E as separate situations. That is, for the *load* on bus D the *connection assets* could be treated as all *plant* between A and D with A as the *network coupling point*. This part of the *load* would be given a *distribution service* price at a 33 kV rate. The *load* supplied from E could be treated as per option 1 with a *network coupling point* at C, *connection assets* between C and E and an 11 kV *distribution service* rate.

(3) The final option would be to adopt a shallow *connection asset* approach with the *network coupling points* at busses D and E. The *distribution service* prices could then be based on a standard 11 kV rate or if zonal pricing was adopted, a separate *pricing zone* could be adopted for the *supply* to bus D. The separate *pricing zone* could be used to reflect differences in cost of *supply* to the bus D *load*. This zonal pricing approach may be appropriate if for example several large disturbing *loads* collected at bus D.

Another point of note in this example is the treatment of the *shunt capacitor* at bus D. The poor *power factor load* at D necessitates the use of the *capacitor bank* to minimise losses and investment in *plant* between A and D. The capacitor should be treated as a *connection asset* in this case since it is required specifically for one *Distribution Customer* as opposed to most *substation* capacitors which are for general *network reactive power* requirements and are treated as *common service* assets.

Example 7 - Major Industrial Customer, 20+ MV.A



In this case the 33 kV feeders from A to B and the 33/11 kV *substation* are fully utilised by the *Distribution Customer load*. The choices for location of the *network coupling point* are A, B and C. A is favoured in this case since the feeders and *substation* are fully utilised and dedicated for the use of the *Distribution Customer*. If either the feeders or the 33/11 kV *substation* could be shared in future then this would be a strong argument for shifting the *network coupling point* closer to the *Distribution Customer*. In this case with the *network coupling point* at A the *Distribution Customer* would receive a *distribution service* at the 33 kV rate.

3. Distribution Use of System Service (other than new distribution network investment allocated to Embedded Generators)

The remaining *distribution network* assets are included as *distribution use of system* assets, other than that proportion of *new distribution network investment* assets from which *Embedded Generators* are determined to benefit in accordance with clause 5.6.2 (in respect of which *Embedded Generators* pay charges determined in accordance with schedule 6.8). This category includes all elements of the *distribution network* which provides *use of system* service and forms the majority of the costs. The *distribution use of system* assets would typically include:

(i) *distribution lines* including all poles and associated hardware;

(ii) terminating switchgear (circuit breakers and isolators) including associated protection and controls;

(iii) *transformers* between *distribution voltage* levels;

(iv) switchgear for the above *transformers*;

(v) underground cable systems including conduits and trenching.

The costs associated with *distribution use of system* assets are to be allocated on a usage basis and pricing structures include *voltage* levels, *Distribution Customer* classes and zones as required.

4. Distribution Network (new distribution network investment allocated to Embedded Generators)

These assets are that proportion of *new distribution network investment* assets in respect of which *Embedded Generators* are determined to benefit in accordance with clause 5.6.2. The allocation of costs for this proportion of *new distribution network investment* assets is determined in accordance with schedule 6.8.

5. Other considerations

5.1 Reactive Plant

Reactive plant is provided for *distribution system* reasons and is to be treated as a *distribution network* asset.

Reactive plant installed at the *distribution voltage* level of *distribution substations* should be charged for as *distribution network* assets through application of a *common service* price unless it is clearly evident that such *plant* has been provided to meet the local reactive requirements of one or more *Distribution Customers connected* at that *substation* in which case it may be charged as a *connection asset*.

5.2 Substation Establishment and Buildings

The majority of *substation* establishment costs are included in the asset valuation for major *plant* items. For example the cost of a circuit breaker includes associated *busbars* and isolators, secondary *plant* including *remote control* and *secondary equipment*, civil works, design installation and commissioning and project administration.

5.3 Meters

Metering installations for *Distribution Customers* will be treated as *connection assets* in accordance with the provisions outlined in Chapter 7.

5.4 Land

Land at *substations* which supply specific *Distribution Customers* or *connect Embedded Generators* will be treated as part of the *connection assets*. This will be

site-specific; that is, the specific value of the land at each *substation* will be included with the value of the *substation* for charging purposes.

5.5 Embedded Generation

Embedded Generators can in some circumstances provide significant benefits in certain parts of a *distribution network*. An example will highlight some of the issues.

A remote *load centre* is currently supplied from two existing 33 kV feeders. The *maximum demand* of the *load* is 20 MW and it is increasing steadily. Within 5 years a third 33 kV circuit will be required as will *substation* reinforcement works in later years. Through normal supply side planning this would require a $5M capital injection in 2005 and a further $5M in 2010. The options to be considered in this case include:

- *supply* side reinforcement;
- a demand side management project incorporating both curtailable and *interruptible loads*;
- an *embedded generating unit*.

In this case the injection of local *generation* at the *load centre* would provide substantial loss reduction, long deferrals of the capital program and possible *reliability* improvements. An injection of 10 MW reliable *generation* would be appropriate initially. The key considerations from a *distribution network* pricing perspective are as follows:

- **Reliability** - for the *generation* to be an acceptable option the *reliability* of the *embedded generating unit* would need to be assured. This could be achieved through suitable contract arrangements, a joint venture between the *Distribution Network Service Provider* and the *Embedded Generator* or combination of the *generation* with some existing *load* so that the *load* could be interrupted if the *generation* failed. The *generation* is most critical during *network* contingencies and *reliability* considerations should include recognition of the *embedded generating unit* configuration (e.g. multiple sets) and possible common failure modes.
- **Network prices** - *network* prices would be broken into the three components as shown below.

  (1) *Common service* charges would generally be nil as under the *Rules* all *common service* costs are allocated to *Distribution Customers*.

  (2) *Connection service* charges would be determined based on the specific *connection asset* requirements.

(3) *Distribution use of system* charges are negotiable between the *Distribution Network Service Provider* and the *Embedded Generator*. The charges (or payment) need to reflect the benefit available to the *Distribution Network Service Provider* from the *embedded generating unit*. This will depend on:

(i) the sizing of the *generation* relative to the capacity and capability of the local *network* to which the *embedded generating unit* is being *connected*;

(ii) the reliability of the *generation* and hence the ability to defer *augmentation* works while providing an overall acceptable level of *reliability;*

(iii) the degree to which any benefits to the *distribution network* which might accrue from the *generation* are shared between the *Distribution Network Service Provider*, the *Embedded Generator* and other *Distribution Network Users.*

In this case, if the *generation* was very *reliable* and the capital program was deferred by several years then a payment to the *Embedded Generator* for some of the deferral value could result. The long run marginal cost (benefit) of the shared *distribution network* reinforcement represents the upper limit of payment to the *Embedded Generator*.

As a general principle, commercial arrangements should be made with *Embedded Generators* and this may include a competitive tendering process to ensure equal opportunity for other *Embedded Generators*. For example, a statement of opportunity for the area concerned could be issued with an invitation to bid for *generation* capacity in the area. This would facilitate free market forces providing the optimum outcome for the *distribution network* business and existing *Distribution Customers*.

6. Excluded Distribution Services

Services and activities that the *Jurisdictional Regulator* may define as *excluded distribution services* may include, but are not limited to, the following:

(a) the transportation of electricity not consumed in the *Distribution Network Service Provider's* system (i.e. on behalf of another *Distribution Network Service Provider*);

(b) new *connection* and augmentation of existing *connection* to the *distribution network*;

(c) services (including metering, electric lines or electrical *plant*) for the specific benefit of any *Distribution Network User* requested by that *Distribution Network User* and not made available by the *Distribution*

Network Service Provider as a normal part of *prescribed distribution service* to all customers. These services can include:

(1) charges for moving mains, services or *meters* forming part of the *distribution network* to accommodate extension, redesign or redevelopment of any premises;

(2) the provision of electric *plant* (i.e. mobile generators) for the specific purpose of enabling the provision of top-up or standby supplies of electricity; and

(3) the provision of prepayment *meters* to customers, but only to the extent that the charge for the provision of those *meters* exceeds the charge for the provision of standard *meters* for such customers;

(d) the relocation of electric lines and *plant* and the carrying out of associated works pursuant to any statutory obligations imposed on the *Distribution Network Service Provider*;

(e) charges for temporary supplies;

(f) capital contributions or other forms of prudential requirements for new works and augmentations;

(g) charges for reserve and duplicate *supply*;

(h) charges for supplies with higher quality and reliability standards than required by general practice;

(i) charges for *connection points* requiring more than the least overall cost, technically acceptable assets;

(j) charges for *distribution services* and system augmentation required to receive *energy* from an *Embedded Generator*;

(k) charges for *generator access* for *Embedded Generators* under clause 5.5;

(l) charges for non-compliance with a *connection agreement*, including but not limited to *reactive power*, *power factor*, harmonics, *voltage* dips and test supply requirements;

(m) charges for multiple *connection points* to a single property not recovered through *prescribed distribution service* prices;

(n) charges for public lighting;

(o) charges for provision of *metering* to a standard in excess of that required for the billing of *prescribed distribution services*;

(p) charges for provision of *TUOS/DUOS disclosure statements* to *Distribution Customers* under clause 6.18A.

Schedule 6.7 - Principles for Network Pricing

1. Cost reflective pricing

Network prices should in principle be cost reflective. This is to facilitate the competitive *market*, by providing equitable access to the *network* and ensuring that appropriate investment in the *network* takes place in the longer term.

It is intended that all *Network Users* should be charged on a consistent basis, in accordance with their use of *network* assets and taking into account the impact of *network constraints*.

2. Non-discriminatory pricing of network services

Network pricing should provide non discriminatory access to the *network*. This implies a common approach for all *Market Participants*, no matter where they are located or whether they participate or not in competitive *market* trading. Actual prices at different locations will differ because of the *network* configuration and patterns of use. In this way, prices will equitably recover the costs of the *network*.

Network pricing should be based on the location in the *network* and the assets employed in providing *transmission* or *distribution services*. The price for each *Market Participant* should be influenced by the location in the *network* and the assets employed in providing *transmission* or *distribution service.*

3. Compatibility with market trading arrangements

The *network* pricing proposals should be compatible with the electricity *market* design proposals to encourage and facilitate the development of these arrangements.

The pricing approach proposed should be independent of any contract arrangements that *Market Participants* may enter into for *energy* trading. In return for the payment of a *connection* and *use of system* fee to the local *Network Service Provider*, the *Market Participant* is entitled to enter into *energy* trading arrangements with any other *Market Participant*.

4. Network prices for economically efficient investment

Network prices should provide signals to optimise the cost of *network* development in order the minimise the cost of development and operation of the *market*.

It should be recognised that the above objectives of non-discriminatory pricing (leading to the equitable recovery of existing costs) and economically efficient pricing for new investment in the *network* are to some extent incompatible. The challenge is to devise a method of *network* pricing which meets both.

5. Network interconnectors managed to reduce the barriers to a national market

Pricing for *interconnectors* should encourage efficient *market* operation and provide appropriate signals for the development of new *interconnectors*. This implies that the pricing for *interconnectors* should recover all the costs associated with efficient operation of the *interconnector*.

6. Published and transparent prices

Prices for *transmission services* and *distribution services* should be transparent and published in order to provide pricing signals to *Market Participants*. This is consistent with the principle adopted by *COAG*.

7. Transition arrangements are required by governments

The eventual aim for *transmission network* pricing is to use the *cost reflective network pricing* method. For the initial *market*, individual jurisdictions will apply whatever transitional arrangements they require for *transmission network* pricing as an adjustment to the prices calculated under the proposed arrangements. However in order to maintain the overall objectives for a national competitive *market*, any transitional arrangements will need to be consistent with the principle that prices for the use of the shared *transmission network* are to be transparent, published and non-discriminatory.

Schedule 6.8 - Charges to Generators for New Network Investment

1. Charges to Generators for New Network Investment

Notwithstanding any other provisions of the *Rules*, charges to *Generators* for *new network investment* will not apply until any changes to the *Rules* which provide for such charges are made.

2. Determination of relative benefits for new network investment

Until the commencement of operation of any changes to the *Rules* referred to in paragraph 1 above, in relation to *new network investment* proposed as part of the *network* planning process under clause 5.6.2, the percentage share of benefits resulting from the establishment and use of the *new network investment* is deemed to be zero for *Generators* and 100% for *Transmission Customers* or *Distribution Customers* (whichever is relevant) *connected* to the relevant *network*. All the *Network Service Provider's* capital costs of establishing and operating a *new large network asset* or a *new small network asset* must be allocated to *Transmission Customers* or *Distribution Customers* (whichever is relevant) for the purposes of paragraph 3 of this schedule 6.8.

3. Recovery of costs for new network investment

Where:

(a) the *AER* has, as part of a *revenue cap* which it sets for a *Transmission Network Service Provider*; or

(b) a *Jurisdictional Regulator* has, as part of its economic regulation of a *Distribution Network Service Provider* under clause 6.10.5,

allocated an amount to be recovered by the *Network Service Provider* for *new network investment*, the *Network Service Provider* must recover that entire amount from *Transmission Customers* or *Distribution Customers* (whichever is appropriate) by charging the amount allocated to *Transmission Customers* or *Distribution Customers* (whichever is relevant) through *transmission use of system* charges or *distribution use of system* charges (whichever is relevant).

CHAPTER 7

7. Metering

7.1 Introduction to the Metering Chapter

7.1.1 Application to Market Customers and Local Retailers

(a) This Chapter only applies to a *Market Customer* in respect of:

(1) *connection points* through which it purchases any *market load*; and

(2) *connection points* through which it sells any *second-tier load*.

(b) This Chapter only applies to a *Local Retailer* in respect of *connection points* at which *load* may be classified as a *first-tier load* (whether so classified or not) and then only to the extent required by the *Market Settlement and Transfer Solution Procedures* and *B2B Procedures*.

7.1.2 Purpose

(a) The purpose of this Chapter is to set out the rights and obligations of *Registered Participants* and the rights, obligations and qualifications of *Metering Providers* associated with the measurement of electrical *energy*, and the provision of *metering data* and *B2B Data* and the performance of *B2B Communications.*

(b) This Chapter sets out provisions relating to:

(1) *revenue metering installations* and *check metering installations* used for the measurement of *active energy* and where appropriate, *reactive energy*;

(2) collection and provision of *metering data* and *B2B Data*;

(3) provision, installation and maintenance of *metering installations* and the provision and servicing of *data collection systems*;

(4) accuracy of *metering installations*;

(5) inspection, testing and audit requirements;

(6) security of, and rights of access to, *metering data* and *B2B Data*;

(7) competencies and standards of performance; and

(8) the *metering database,* including *metering register* requirements.

(c) Nothing in this Chapter precludes the application of evolving technologies and processes as they become available in accordance with the *Rules*.

7.1.3 [Deleted]

7.1.4 Obligations of Market Participants to establish metering installations

(a) Before participating in the *market* in respect of a *connection point*, the *Market Participant* must ensure that:

(1) that *connection point* has a *metering installation* and that the *metering installation* is registered with *NEMMCO*;

(2) it has sought an offer and, if accepted, entered into an agreement under clause 7.2.2 or it has complied with clause 7.2.3 in relation to that *metering installation* and has advised the *Local Network Service Provider* accordingly; and

(3) prior to registration a *NMI* has been obtained by the *responsible person* for that *metering installation*.

(b) *NEMMCO* may refuse to permit a *Market Participant* to participate in the *market* in respect of any *connection point* in relation to which that *Market Participant* is not in compliance with its obligations under clause 7.1.4(a).

7.2 Responsibility for Metering Installation

7.2.1 Responsible person

(a) The person who has responsibility for the provision of a *metering installation* is the *responsible person*.

(b) *NEMMCO* must establish guidelines, in accordance with the *Rules consultation procedures*, on the role of the *responsible person* as required by the *Rules.*

7.2.1A Responsibility of Metrology Coordinator

(a) **[Deleted]**

(b) **[Deleted]**

(c) **[Deleted]**

(d) **[Deleted]**

(e) **[Deleted]**

(f) The *Metrology Coordinator* is responsible for the design and approval of those *metrology procedures* that will apply to *metering installations* in accordance with clause 7.3.1(ba)(2) at *connection points* in the *participating jurisdiction* of that *Metrology Coordinator.*

(g) The *Metrology Coordinator* is responsible for providing the approved *metrology procedure* to *NEMMCO*.

(h) A *Metrology Coordinator* may not approve more than one *metrology procedure* for each type of *metering installation* within the *participating jurisdiction* of that *Metrology Coordinator.*

7.2.2 Responsibility of Local Network Service Provider

(aa) Each *Local Network Service Provider* is responsible for the provision of *metering installations* to *Market Participants* connected to, or proposing to connect to, the *Local Network Service Provider's* network in its *local area* and the installation and maintenance of those *metering installations* unless otherwise elected by the *Market Participant*.

(a) No later than 15 *business days* after a *Local Network Service Provider* receives a request in writing from a *Market Participant* to assume responsibility for a *metering installation*, the *Local Network Service Provider* must offer to provide, install and maintain the *metering installation* of the *Market Participant* and must inform the *Market Participant* of the terms and conditions on which the offer is made.

(b) If the *Market Participant* accepts the offer made under clause 7.2.2(a), the *Local Network Service Provider*:

(1) thereafter has responsibility for the provision, installation and maintenance of that *Market Participant's metering installation,* in accordance with this Chapter 7 and the applicable *metrology procedure;* and

(2) must provide *NEMMCO* with relevant details of the *metering installation* in accordance with schedule 7.5 within 10 *business days* of acceptance by the *Market Participant* of the offer.

7.2.3 Election by a Market Participant to be responsible for providing and maintaining a metering installation

(a) If a *Market Participant* elects not to request an offer from or does not accept the offer of the *Local Network Service Provider* for the provision of a *metering installation* under clause 7.2.2, or if an agreement under clause 7.2.2 is terminated due to breach by the *Market Participant,* the *Market Participant*:

(1a) will be the *responsible person* for that *metering installation*, in accordance with this Chapter 7 and the applicable *metrology procedure*;

(1) will have responsibility for arranging for the provision, installation and maintenance of the relevant *metering installation* and, for this purpose, must engage a *Metering Provider(s)* registered by *NEMMCO* for the relevant work or, where the *Market Participant* is required to do so in accordance with a relevant *metrology procedure*, allow another person to engage a *Metering Provider* registered by *NEMMCO* to install the relevant *metering installation*;

(2) must enter into an agreement with the *Metering Provider(s)* which includes the terms and conditions for the provision, installation and maintenance of the *metering installation* by the *Metering Provider* or, where a *Market Participant* allows another person to engage a *Metering Provider* in accordance with clause 7.2.3(a)(1), must enter into an agreement with a *Metering Provider* in relation to the terms and conditions for the maintenance of the *metering installation*; and

(3) must provide *NEMMCO* with the relevant details of the *metering installation* in accordance with schedule 7.5 within 10 *business days* of entering into an agreement with the *Metering Provider(s)*.

(b) For the avoidance of doubt, nothing in clause 7.2.3(a) prevents a *Market Participant* electing to terminate its agreement with a *Metering Provider(s)* after installation of a *meter* and entering into a new agreement with another *Metering Provider* for the maintenance of the *metering installation*.

7.2.4 Joint metering installations

(a) Where more than one *Market Participant* wishes to use a *metering installation* at a particular *connection point* for the purpose of satisfying its obligations, then each of them may separately enter into the agreements referred to in clause 7.2.2 or 7.2.3 or some or all of them may jointly enter into those agreements for the use of a shared *metering installation*.

(b) Where more than one *Market Participant* uses a *metering installation* which is provided, installed and maintained by a person other than the *Local Network Service Provider*, they must agree and notify *NEMMCO* as to which of them is the *responsible person* for that *metering installation.*

(c) In the absence of such agreement, *NEMMCO* may nominate one of the *Market Participants* to be the *responsible person* for that *metering installation.*

7.2.5 Other responsibilities

The *responsible person* must:

(a) ensure that each of its *metering installations* are provided, installed and maintained in accordance with the appropriate *metrology procedure* provided for in clause 7.3.1(ba);

(aa) only use a *metrology procedure* involving a type 5, 6 or 7 *metering installation* in the *participating jurisdiction* of the *Metrology Coordinator* who has approved that *metrology procedure;*

(b) ensure that the components, the accuracy and testing of each of its *metering installations* complies with the requirements of the *Rules*;

(ba) provide and maintain the security control of each of its *metering installations* in accordance with clause 7.8.2;

(bb) ensure that for each of its *metering installations* a *communications link* is installed and maintained to the *telecommunications network* and includes, where required for the connection to that *telecommunications network*, a modem and *isolation* equipment approved under applicable telecommunications regulations;

(bc) provide access to each of its *metering installations* from a telecommunications network to facilitate the requirements of clause 7.7 and clause 7.12(aa); and

(c) **[Deleted]**

(d) provide to *NEMMCO* the information specified in schedule 7.5 for each of its *metering installations*.

7.2.6 [Deleted]

7.2.7 Registration of metering installations

(a) *NEMMCO* must establish and *publish* a registration process to facilitate the application of this Chapter 7 to *Market Participants* and *Network Service Providers* in respect of:

(1) new *metering installations;*

(2) modifications to existing *metering installations;* and

(3) decommissioning of *metering installations,*

including the provision of information on matters such as application process, timing, relevant parties, fees and *metering installation* details.

7.2.8 Market Settlement and Transfer Solution Procedures

(a) *NEMMCO*, in consultation with *Registered Participants* in accordance with the *Rules consultation procedures*, must develop and *publish Market Settlement and Transfer Solution Procedures*.

(b) *NEMMCO* may from time to time amend the *Market Settlement and Transfer Solution Procedures* in consultation with *Registered Participants* in accordance with the *Rules consultation procedures*. *NEMMCO* must *publish* any such amendment to the *Market Settlement and Transfer Solution Procedures.*

(c) The *Market Settlement and Transfer Solution Procedures* may include roles and responsibilities for *Metering Providers*.

(d) All *Registered Participants* and *Metering Providers* must comply with the *Market Settlement and Transfer Solution Procedures*.

(e) If a *Registered Participant* or *Metering Provider* breaches the requirements of the *Market Settlement and Transfer Solution Procedures*, *NEMMCO* may send to that *Registered Participant* or *Metering Provider* a notice in writing setting out the nature of the breach.

(f) If the *Registered Participant* or *Metering Provider* remains in breach for a period of more than 5 *business days* after receipt of a notice from *NEMMCO* under clause 7.2.8(e), *NEMMCO* must advise:

(1) the *Jurisdictional Regulator* for the *participating jurisdiction* in which the *connection point* in respect of which the breach occurs is located; and

(2) in the case of breach by a *Registered Participant*, the *AER*.

7.2A.1 B2B e-Hub

NEMMCO must provide and operate a *B2B e-Hub*. As required by *B2B Procedures* and subject to clause 7.2A.4(k), *Local Retailers, Market Customers* and *Distribution Network Service Providers* must use the *B2B e-Hub* for *B2B Communications*.

7.2A.2 Information Exchange Committee

(a) *NEMMCO* must establish the *Information Exchange Committee* in accordance with the *Information Exchange Committee Election Procedures.*

(b) The *Information Exchange Committee* must only be constituted by:

(1) three *Distribution Network Service Provider Members*;

(2) three *Local Retailer/Market Customer Members*; and
(3) two *Independent Members.*

Local Retailers and *Market Customers* together and *Distribution Network Service Providers* must, in relation to categories of *Members* in relation to which they are entitled to vote under the *Information Exchange Committee Election Procedures*, use their reasonable endeavours to ensure that the *Information Exchange Committee* is established in accordance with the *Information Exchange Committee Election Procedures*. Each *Member* must serve on the *Information Exchange Committee* for the term specified in the *Information Exchange Committee Election Procedures* and must only be removed or replaced in accordance with the *Information Exchange Committee Election Procedures*.

(c) *Local Retailers, Market Customers* and *Distribution Network Service Providers* must ensure that the *Information Exchange Committee Election Procedures* include provisions in respect of *Member* qualifications, procedures for voting for *Members*, the term of a *Member*, determination and publication of results of elections and the removal and resignation of a *Member*.

(d) The first *Information Exchange Committee Election Procedures* must be *published* by the time this clause 7.2A.2 comes into operation. The *Information Exchange Committee Election Procedures* may only be amended in accordance with the procedure set out in the *Information Exchange Committee Election Procedures* and with the support of:

(1) not less than 75% of all *Registered Participants* registered by *NEMMCO* as *Distribution Network Service Providers* under clause 2.5.1; and

(2) not less than 75% of that class of *Registered Participants* comprising:

(A) *Registered Participants* who are included on the list of *Local Retailers published* by *NEMMCO*; and

(B) *Market Customers* who are not included on the list of *Local Retailers published* by *NEMMCO* and who are not a *related body corporate* of a *Local Retailer*.

Neither a *Registered Participant* nor *NEMMCO* is obliged to comply with an amendment to the *Information Exchange Committee Election Procedures* unless that amendment is made in accordance with this clause. *NEMMCO* must *publish* the current version of the *Information Exchange Committee Election Procedures*.

(e) A *Registered Participant* must ensure that a person it nominates as a *Member* for a category satisfies the requirements for that particular category of *Member* as set out in the *Information Exchange Committee Election Procedures.*

(f) The first *Information Exchange Committee Operating Manual* must be *published* by the time this clause 7.2A.2 comes into operation. The *Information Exchange Committee Operating Manual* may only be amended in accordance with the procedure set out in the *Information Exchange Committee Election Procedures* and with the support of:

(1) not less than 75% of all *Registered Participants* registered by *NEMMCO* as *Distribution Network Service Providers* under clause 2.5.1; and

(2) not less than 75% of that class of *Registered Participants* comprising:

(A) *Registered Participants* who are included on the list of *Local Retailers published* by *NEMMCO*; and

(B) *Market Customers* who are not included on the list of *Local Retailers published* by *NEMMCO* and who are not a *related body corporate* of a *Local Retailer*.

Neither a *Registered Participant* nor *NEMMCO* is obliged to comply with an amendment to the *Information Exchange Committee Operating Manual* unless that amendment is made in accordance with this clause. *NEMMCO* must *publish* the current version of the *Information Exchange Committee Operating Manual*.

(g) The functions and powers of the *Information Exchange Committee* include:

(1) developing, consulting on and making an *Information Exchange Committee Recommendation*;

(2) managing the ongoing development of the *B2B Procedures* and any *changes* to them;

(3) establishing the *Information Exchange Committee Working Groups*;

(4) developing, consulting on and approving the *Information Exchange Committee Works Programme*;

(5) reviewing and considering work completed by the *Information Exchange Committee Working Groups*;

(6) developing proposed amendments to the *Information Exchange Committee Election Procedures*; and

(7) developing proposed amendments to the *Information Exchange Committee Operating Manual*.

(h) The *Information Exchange Committee* must provide to *NEMMCO* the current version of the *B2B Procedures* and the *Information Exchange Committee Works Programme*.

(i) *NEMMCO* must publish the *B2B Procedures* and the *Information Exchange Committee Works Programme* provided to it by the *Information Exchange Committee*.

(j) The *Information Exchange Committee*, *NEMMCO*, *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* must comply with the *Information Exchange Committee Election Procedures* and the *Information Exchange Committee Operating Manual*.

(k) The *Information Exchange Committee* must meet at least once every three months.

(l) The quorum for a meeting of the *Information Exchange Committee* is five *Members* comprising two *Distribution Network Service Provider Members*, two *Local Retailer/Market Customer Members* and one *Independent Member*.

(m) A decision of the *Information Exchange Committee* is not valid and enforceable unless it is made as follows:

(1) an *Information Exchange Committee Recommendation* requires the support of six or more *Members*;

(2) any decision that a proposal under clause 7.2A.3(a) should not be considered further after initial consideration under clause 7.2A.3(b), and any decision to not recommend *B2B Procedures* or a *change* to the *B2B Procedures* for approval by *NEMMCO* requires the support of six or more *Members*;

(3) any decision to approve the *Information Exchange Committee Works Programme* requires the support of six or more *Members*; and

(4) any other decision by the *Information Exchange Committee* requires the support of five or more *Members*.

(n) Each *Member* in performing his or her duties or in exercising any right, power or discretion must have regard to the *B2B Objective* and the *B2B Principles* and must:

(1) at all times act honestly;

(2) exercise the degree of care and diligence that a reasonable person in a like position would exercise;

(3) not make improper use of information acquired by virtue of his or her position to gain, directly or indirectly, an advantage for himself or herself, or the *Registered Participants* by which he or she is employed and/or which nominated him or her to be a *Member*; and

(4) not make improper use of his or her position to gain, directly or indirectly, an advantage for himself or herself or the *Registered Participants* by which he or she is employed and/or which nominated him or her to be a *Member*.

(o) Subject to clause 7.2A.2(n), a *Distribution Network Service Provider Member* may take into account the interests of *Distribution Network Service Providers* in performing his or her duties or in exercising any right, power or discretion.

(p) Subject to clause 7.2A.2(n), a *Local Retailer/Market Customer Member* may take into account the interests of *Local Retailers* and *Market Customers* in performing his or her duties or in exercising any right, power or discretion.

(q) The *Information Exchange Committee* must prepare the *Information Exchange Committee Annual Report* for the period ended 31 December in the first calendar year following the establishment of the *Information Exchange Committee* and the year ended 31 December in each year thereafter. The *Information Exchange Committee* must provide the *Information Exchange Committee Annual Report* to *NEMMCO* by the following 31 March and *NEMMCO* must *publish* that *Information Exchange Committee Annual Report*.

(r) The *Information Exchange Committee Annual Report* must contain the information required by the *Information Exchange Committee Operating Manual*.

(s) By 28 February each year the *Information Exchange Committee* must prepare a draft budget for the following *financial year* in a form which is consistent with the budget procedures of *NEMMCO*. Following discussion with *NEMMCO* the *Information Exchange Committee* must prepare a budget by 31 March and provide that budget to *NEMMCO*. When *NEMMCO publishes* its budget pursuant to clause 2.11.3, *NEMMCO* must advise the *Information Exchange Committee* of the final budget for the *Information Exchange Committee* for that *financial year*.

7.2A.3 Method of making and changing B2B Procedures

(a) *NEMMCO*, a *Local Retailer*, a *Market Customer* or a *Distribution Network Service Provider* may propose *B2B Procedures*, or a *change* to the *B2B Procedures*, to the *Information Exchange Committee*. The proposal must be submitted in writing to the *Information Exchange Committee* and must provide details of the proposal and supporting information, including reasons for any *change* or *B2B Procedure*.

(b) Within 25 *business days* of receipt by the *Information Exchange Committee* of a proposal under clause 7.2A.3(a), the *Information Exchange Committee* must meet to determine whether on a prima facie basis making new *B2B Procedures* and/or *changing* the *B2B Procedures* is warranted having regard to the *B2B Objective* and the *B2B Principles*.

(c) If, after its consideration under clause 7.2A.3(b), the *Information Exchange Committee* decides that the proposal made under clause 7.2A.3(a) should not be considered further, the *Information Exchange Committee* must within five *business days* provide written reasons for that decision to whichever of *NEMMCO*, the *Local Retailer*, *Market Customer* or *Distribution Network Service Provider* who made the proposal.

(d) If, after its consideration under clause 7.2A.3(b), the *Information Exchange Committee* decides that the proposal made under clause 7.2A.3(a) should be considered further, the *Information Exchange Committee* must develop the proposal into a *B2B Proposal* (which may differ from the proposal originally made) and an accompanying *B2B Procedures Change Pack* for consultation. The *Information Exchange Committee* must seek *NEMMCO's* advice on whether a conflict with the *Market Settlement and Transfer Solution Procedures* arises from the *B2B Proposal* and include any such advice in the *B2B Procedures Change Pack.*

(e) The *Information Exchange Committee* must comply with the *Rules consultation procedures* in relation to the *B2B Proposal*. For the purposes of clause 8.9(b), the nominated persons to whom notice must be given are *Local Retailers, Market Customers, Distribution Network Service Providers* and *NEMMCO*. For the purposes of the notice, the particulars of the matters under consultation must include a copy of the *B2B Procedures Change Pack.*

(f) *NEMMCO* must *publish* the notice of consultation within 3 *business days* of its receipt and must notify all *Local Retailers, Market Customers* and *Distribution Network Service Providers* of the consultation.

(g) In addition to the matters which clause 8.9(g) requires be included in the draft report, the draft report must contain details of the *Information Exchange Committee's* consideration of the *B2B Objective* and each of the *B2B Principles* and how the *Information Exchange Committee* has considered each submission made having regard to the *B2B Objective* and the *B2B Principles.*

(h) In addition to the matters which clause 8.9(k) requires be included in the final report, the final report must contain details of the *Information Exchange Committee's* consideration of the *B2B Objective* and each of the *B2B Principles* and how the *Information Exchange Committee* has

considered each submission having regard to the *B2B Objective* and the *B2B Principles.*

(i) The *Information Exchange Committee* can conclude not to recommend the proposed *B2B Procedures* be made or not to recommend a *change* to the *B2B Procedures*. Alternatively, the *Information Exchange Committee* may make an *Information Exchange Committee Recommendation* and in doing so may recommend a different *B2B Procedure* or *change* to the *B2B Procedures* from that originally proposed under clause 7.2A.3(a). A conclusion not to recommend the proposed *B2B Procedures* be made or not to recommend a *change* to the *B2B Procedures*, or the making of an *Information Exchange Committee Recommendation*, must be included in the final report required under clause 8.9(k).

(j) In coming to a conclusion not to recommend the proposed *B2B Procedures* or not to recommend a *change* to the *B2B Procedures*, or in making an *Information Exchange Committee Recommendation*, the *Information Exchange Committee* must seek to achieve the *B2B Objective* and, in seeking to achieve the *B2B Objective*, must have regard to the *B2B Principles*. To the extent of any conflict between the *B2B Principles*, the *Information Exchange Committee* may determine the manner in which those principles can best be reconciled or which of them should prevail.

(k) If the *Information Exchange Committee* recommends not to make the proposed *B2B Procedures* or not to *change* the *B2B Procedures*, *NEMMCO* must take no further action in respect of the proposal. If the *Information Exchange Committee* makes an *Information Exchange Committee Recommendation*, *NEMMCO* must consider the *Information Exchange Committee Recommendation* and must approve that *Information Exchange Committee Recommendation*, unless it concludes that:

(1) the *Information Exchange Committee* has failed to have regard to the *B2B Objective* and/or the *B2B Principles*;

(2) the *Information Exchange Committee Recommendation* would conflict with the *Market Settlement and Transfer Solution Procedures*; or

(3) the *Information Exchange Committee* has not followed the *Rules consultation procedures* (as supplemented by this clause 7.2A.3).

(l) In considering an *Information Exchange Committee Recommendation*, *NEMMCO* must not consider:

(1) the manner in which the *Information Exchange Committee* considered the *B2B Objective* and the *B2B Principles* or the weight given by the *Information Exchange Committee* to the different *B2B Principles* or the balancing between them; or

(2) the merits of the *Information Exchange Committee Recommendation.*

(m) NEMMCO must not amend the Information Exchange Committee Recommendation and must not conduct any further consultation on the Information Exchange Committee Recommendation prior to making its *B2B Decision*.

(n) *NEMMCO* must *publish* and make available on its website its *B2B Decision*, with reasons, within 10 *business days* of receiving an *Information Exchange Committee Recommendation* from the *Information Exchange Committee*.

(o) If *NEMMCO* decides not to approve an *Information Exchange Committee Recommendation*, the reasons for the *B2B Decision* which are to be *published* and made available in accordance with clause 7.2A.3(n) must include an explanation of the following, where applicable:

(1) to which of the *B2B Objective* and/or the *B2B Principles NEMMCO* considers the *Information Exchange Committee* failed to have regard;

(2) how the *Information Exchange Committee Recommendation* would give rise to a conflict with the *Market Settlement and Transfer Solution Procedures;* or

(3) how the *Information Exchange Committee* did not follow the *Rules consultation procedures* (as supplemented by this clause 7.2A.3).

7.2A.4 Content of the B2B Procedures

(a) The *B2B Procedures* may provide for B2B *Communications.*

(b) For each *B2B Communication*, the *B2B Procedures* must contain:

(1) the required *B2B Data* inputs and *B2B Data* outputs;

(2) the required business process flows and related timing requirements;

(3) the required content and format;

(4) the required delivery method; and

(5) the back-up delivery method to be used where the required delivery method cannot be used.

(c) The *B2B Procedures* may include obligations in relation to the information to be maintained and provided to support *B2B Communications.*

(d) For each *B2B Communication* the *B2B Procedures* may also include:

(1) details for testing and certification;

(2) provisions relating to contingency arrangements;

(3) examples of how a *B2B Communication* may operate in practice; and

(4) the method for dealing with a dispute (which may include provisions deferring the use of the dispute resolution procedures in the *Rules* and access to the courts).

(e) The *B2B Procedures* or a *change* to the *B2B Procedures* must also include a date for the commencement of the *B2B Procedures* or the *change*. That date must be not less than 10 *business days* after the related *B2B Decision* is *published*. The *Information Exchange Committee* may extend that date following consultation with *NEMMCO* and affected *Registered Participants.* If the date is extended by the *Information Exchange Committee*, the *Information Exchange Committee* must provide *NEMMCO* with that date and *NEMMCO* must *publish* that date.

(f) A *change* to the *B2B Procedures* may also include provisions relating to a date for the end of a process related to a *B2B Communication*. That date may be after the date of commencement of the *change* and may be left to the discretion of the *Information Exchange Committee*. If the date is set by the *Information Exchange Committee*, the *Information Exchange Committee* must provide *NEMMCO* with that date and *NEMMCO* must *publish* that date.

(g) The *B2B Procedures* may be constituted by one or more separate documents.

(h) The *B2B Procedures* may include roles and responsibilities for *Metering Providers*.

(i) Subject to the *Information Exchange Committee* following the requirements placed upon it in the *Rules* in relation to the *B2B Procedures*, *Local Retailers*, *Market Customers*, *Distribution Network Service Providers*, *NEMMCO* and *Metering Providers* must comply with the *B2B Procedures*.

(k) *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* may, on such terms and conditions as agreed between them, communicate a *B2B Communication* on a basis other than as set out in the *B2B Procedures*, in which case the parties to the agreement need not comply with the *B2B Procedures* to the extent that the terms and conditions agreed between them are inconsistent with the *B2B Procedures*.

(l) *B2B Data* is *confidential information* and may only be disclosed as permitted by the *Rules*.

(m) If a *change* to the *B2B Procedures* is of a minor or procedural nature or is necessary to correct a manifest error in the *B2B Procedures*, the *Information*

Exchange Committee may recommend the *change* to *NEMMCO* and need not consult on the *change* in accordance with the *Rules consultation procedures*. Clauses 7.2A.3(i) to (o) (inclusive) and clauses 7.2A.4(e) and (f) apply to such a *change* (with any necessary modifications). In addition to *publishing* its *B2B Decision* in relation to such a *change*, *NEMMCO* must notify all *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* of the *change*.

7.2A.5 Transition of B2B Communications from the Market Settlement and Transfer Solution Procedures

(a) At 9.00am (EST), on the day immediately following the day on which the *Information Exchange Committee* is established pursuant to clause 7.2A.2(a) ("**transition day**"):

(1) those *Market Settlement and Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures" are deemed to have been the subject of an *Information Exchange Committee Recommendation* under clause 7.2A.3(i) and to have been approved by *NEMMCO* in accordance with clause 7.2A.3(k), and are deemed to be *B2B Procedures*. Such a deemed *Information Exchange Committee Recommendation* and deemed *B2B Decision* are not within the scope of clauses 8.2.5(d1) to (d4) (see clause 8.2A.2(i)); and

(2) any proposed new *Market Settlement and Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures", or a change to any *Market Settlement* and *Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures", which is the subject of consultation by *NEMMCO* in accordance with the *Rules consultation procedures* on the transition day is deemed to be a valid *B2B Proposal* and, to the extent the *Rules consultation procedures* have been complied with by *NEMMCO*, is deemed to comply with the consultation requirements detailed in clause 7.2A.3(e).

(b) All things done in relation to a *B2B Communication* the subject of those *Market Settlement and Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures" immediately before the transition day must under the *B2B Procedures* continue to have the same status, operation and effect as they would have under the *Market Settlement and Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures". In particular, this clause 7.2A.5 does not disturb the status, operation or effect of any *B2B Communication* or any proceeding, liability, rights or other matter or thing made, done, effected, obtained, given, accrued, incurred, acquired, existing or continuing before the transition day.

7.2A.6 Cost Recovery

(a) The costs of the development of the *B2B Procedures*, the costs of the establishment and operation of the *Information Exchange Committee* (including the engagement costs of specialist advisers, and the remuneration and payment of the reasonable expenses of the *Independent Members*), all of which must be set out in the budget prepared by the *Information Exchange Committee* pursuant to clause 7.2A.2(s) and the *Information Exchange Committee Annual Report*, and the operational costs associated with any service provided by *NEMMCO* to facilitate *B2B Communications* (including providing and operating a *B2B e-Hub*) must be paid by *NEMMCO* in the first instance and recouped by *NEMMCO* as *Participant fees.*

(b) Subject to clause 7.2A.6(a), the cost of any *Member* (other than an *Independent Member*) and involvement of individuals in the *Information Exchange Committee Working Groups* is not to be borne by *NEMMCO*.

(c) The cost to a *Local Retailer, Market Customer* and *Distribution Network Service Provider* of implementing and maintaining the necessary systems and processes to ensure compliance with *B2B Procedures* must be met by that *Local Retailer, Market Customer* or *Distribution Network Service Provider.*

7.3 Metering Installation Arrangements

7.3.1A Metering Installation Requirements

(a) Each *connection point* must have a *metering installation.*

(b) *Energy data* is to be based on units of watthours (*active energy*) and where required varhours (*reactive energy*).

7.3.1 Metering installation components

(a) A *metering installation* must:

(1) either contain a device which has a visible or an equivalently accessible display of (at a minimum) the cumulative total *energy* measured by that *metering installation* or be classified as a *non-metered connection point* in accordance with schedule 7.2, in which case such a device is not required;

(2) be accurate in accordance with clause 7.3.4;

(3) have *electronic data transfer* facilities from the *metering installation* to the *metering database* in accordance with clause 7.3.5;

(3A) contain a *communications link* in accordance with clause 7.2.5(bb);

(4) be secure in accordance with clause 7.8;

(5) have electronic data recording facilities such that *active energy* can be collated in accordance with clause 7.9.3. For the purpose of clarity, this clause 7.3.1(a)(5) relates to the *metering installation* and not a *meter*;

(6) be capable of separately registering and recording flows in each direction where bi-directional *active energy* flows occur;

(7) if a device is used in accordance with clause 7.3.1(a)(1), have a *measurement element* for *active energy* and if required in accordance with schedule 7.2 a *measurement element* for *reactive energy*, which both have an internal or external *data logger*;

(8) be capable of delivering data from the site of the *metering installation* to the *metering database;*

(9) include facilities on site for storing the *interval energy data* for a period of at least 35 *days* if the *communications link* has a capability for *daily* delivery of data from the site of the *metering point* and the *metering installation* includes the *measurement element(s)* and the *data logger* at the same site;

(10) include facilities on site for storing the *interval energy data* for a period of at least 200 *days* or such other period as specified in an applicable *metrology procedure* if the *communications link* does not have a capability for *daily* delivery of data and the *metering installation* includes the *measurement element(s)* and the *data logger* at the same site;

(11) include *metering installation* database facilities for storing *energy data* for a period of at least 35 *days* where the *metering installation* provides for a remote *data logger*; and

(12) include *metering installation* database facilities for storing *energy data* for a period of at least 35 *days* where *metering data* is determined for a non-metered *connection point*.

(b) A *metering installation* may consist of combinations of:

(1) a *current transformer*;

(2) a *voltage transformer*;

(3) secure and protected wiring from the *current transformer* and the *voltage transformer* to the *meter*;

(4) an appropriately constructed panel on which the *meter* and the *data logger* are mounted;

(5) a *meter* and a *data logger* which may be either internal or external to the *meter*. For the purpose of clarification, a *data logger* may be located at a site remote from the site of a *meter* and a *data logger* may consist of a *metering installation* database that is under the control of the *Metering Provider*;

(6) communication interface equipment such as a modem, isolation requirements, telephone service, radio transmitter and data link equipment;

(6a) one or more *communications links* which facilitate the collection of *energy data* from a *data logger* or a *measurement element* so as to enable a remote interface to the *telecommunications network* to be established;

(6b) data processing facilities, including algorithms for the preparation of a load pattern(s), for the conversion of *accumulated energy data* or *estimated energy data* into *metering data;*

(6c) techniques for the estimation of *market loads* in accordance with schedule 7.2;

(7) auxiliary electricity supply to the *meter*;

(8) an alarm circuit and monitoring facility;

(9) a facility to keep the *metering installation* secure from interference;

(10) test links and fusing;

(11) summation equipment; and

(12) several *metering points* to derive the *metering data* for a *connection point*.

(ba) Subject to clause 7.3.1(n), a *metrology procedure* must:

(1) be prepared, revised and *published* by *NEMMCO*, in accordance with the *Rules consultation procedures* and following consultation with other *interested parties*, for *metering installations* associated with those *connection points* which are classified as *metering installation* types 1, 2, 3 and 4 as specified in schedule 7.2;

(2) be prepared and revised by the relevant *Metrology Coordinator* in accordance with the *Rules consultation procedures* and following consultation with other *interested parties* and other *Metrology Coordinators*, for *metering installations* associated with those *connection points* identified in clause 7.1.1(b)(2) and which are classified as *metering installation* types 5, 6 and 7 as specified in schedule 7.2. The *metrology procedures* required by this clause 7.3.1(ba)(2) must:

(i) be established by the relevant *Metrology Coordinator* with respect to its *participating jurisdiction*; and

(ii) be provided by the relevant *Metrology Coordinator* to *NEMMCO* and *published* by *NEMMCO*;

(3) be prepared in accordance with:

(i) the principles set out in clause 7.3.1(bc);

(ii) the relevant requirements of a *metering installation* in accordance with clauses 7.3.1(a), 7.3.1(b), 7.3.4(d), 7.9.3 and schedule 7.2;

(iii) guidelines that are established under clause 7.3.1(bb);

(iv) guidelines for the development of an asset management strategy in accordance with schedule 7.3;

(v) relevant capabilities and acceptable standards of performance of *Metering Providers* for each of the relevant processes and devices in accordance with schedule 7.4;

(vi) processes for the *settlement* of the *market* as provided for in clause 3.15; and

(vii) the management of any *financially responsible Market Participant prudential requirements* as provided for in clause 3.3;

(4) include the period between when the *metrology procedure* is *published* and the effective date of the *metrology procedure.* This period is to be:

(i) a minimum of three months for the *metrology procedures* provided for in clause 7.3.1(ba)(1). Until the effective date of the first *metrology procedure* for each of the *metering installation* types 1, 2, 3 and 4 has been reached, the

requirements of this Chapter 7 are to be taken as meeting the requirements for each of these *metrology procedures*; and

(ii) a minimum of three months for the *metrology procedures* provided for in clause 7.3.1(ba)(2). If the effective date of a *metrology procedure* has not occurred then *metering installation* types 5, 6 and 7 cannot be used in the jurisdiction for which the *metrology procedure* has not become effective.

(bb) For the purpose of clarification, to the extent that the *Rules* and the *National Measurement Act* are inconsistent, the *National Measurement Act* is to prevail. *NEMMCO* in consultation with the National Standards Commission must establish guidelines that clarify the requirements of the *National Measurement Act* in relation to the application of the *National Measurement Act* on *metering installations* required by the *Rules*.

(bc) Subject to clause 7.3.1(n), in the preparation of a *metrology procedure* a *Metrology Coordinator* must have regard to:

(1) the promotion of an efficient *market*;

(2) the avoidance of unreasonable discrimination between *Market Participants*;

(3) minimisation of the barriers to entry for competing retailers;

(4) providing *metrology procedures* which are technically sound and economically efficient; and

(5) the *Rules consultation procedures* where reasonably practicable;

and to the extent of any conflict between the application of these objective to a particular *metrology procedure*, the *Metrology Coordinator* may determine the manner in which they can best be reconciled or which of them should prevail.

(bd) *NEMMCO* must review each *metrology procedure* for consistency with the guidelines established under clause 7.3.1(bb), the *prudential requirements* of clause 3.3 and the settlements requirements of clause 3.15. Where an inconsistency is identified *NEMMCO* must inform the relevant *Metrology Coordinator* of this inconsistency.

(c) Either a *Local Network Service Provider* or a *Market Participant* may with the agreement of the *responsible person* arrange for a *metering installation* to contain features in addition to those specified in clause 7.3.1(b).

(d) The *responsible person* for a *metering installation* must apply to the *Local Network Service Provider* for a National Metering Identifier ("*NMI*").

(da) The *Local Network Service Provider* must issue for each *metering installation* a unique *NMI*.

(db) The *responsible person* must register the *NMI* with *NEMMCO* in accordance with procedures from time to time specified by *NEMMCO*.

(e) Where a *metering installation* is used for purposes in addition to the provision of *metering data* to *NEMMCO* then:

(1) that use must not cause an infringement of the requirements of the *Rules*;

(2) the *responsible person* must co-ordinate with the persons who use the *metering installation* for such other purposes; and

(3) the *metering installation* must comply with the requirements for operational *metering* as detailed in Chapter 4 of the *Rules*.

(f) A *Metering Provider* is entitled to physical access to the site of a *metering installation* in accordance with clause 5.3.7(e) and schedule 5.6.

(g) The *Metrology Coordinator* may propose changes to the *metrology procedures* for which it is responsible which, in the reasonable opinion of the *Metrology Coordinator,* are minor, procedural or necessary to correct a manifest error.

(h) The *Metrology Coordinator* must, following a proposal under clause 7.3.1(g) to change the *metrology procedures* for which it is responsible, consult and seek submissions from *interested parties* regarding the proposed changes to the *metrology procedures.*

(i) The *Metrology Coordinator* must, following consultation with *interested parties* in accordance with clause 7.3.1(h), notify all *Registered Participants, NEMMCO* and other *interested parties* of the changes to the *metrology procedures* proposed by the *Metrology Coordinator* in accordance with clause 7.3.1(g).

(j) A *Registered Participant*, *NEMMCO* or an *interested party* may make a submission to the *Metrology Coordinator* prior to the closing time for submission, being not less than 7 *days* after the issue of the notice by the *Metrology Coordinator* in accordance with clause 7.3.1(i).

(k) The *Metrology Coordinator*, following consideration of all submissions received in accordance with clause 7.3.1(j), may amend the *metrology procedures* to implement:

(1) the changes proposed by the *Metrology Coordinator* in accordance with clause 7.3.1(g); or

(2) any revised changes to the *metrology procedures* following consideration by the *Metrology Coordinator* of any submissions received in accordance with clause 7.3.1(j).

(l) If a *metrology procedure* for a *participating jurisdiction* reproduces a clause, or part of a clause, of the *Rules*, the *Metrology Coordinator* in the relevant jurisdiction must amend the *metrology procedure* to reflect any changes to the *Rules* clause.

(m) The relevant *Metrology Coordinator* must *publish* any changes made to the *metrology procedures* in accordance with clause 7.3.1(l).

(n) Clauses 7.3.1(ba) and 7.3.1(bc) do not apply to changes made to the *metrology procedures* made in accordance with clause 7.3.1(k) or 7.3.1(l).

(o) The relevant *Metrology Coordinator* must consider any proposal it receives for the amendment of a *metrology procedure* for which it is responsible from a *Registered Participant*, *NEMMCO* or an *interested party*.

7.3.2 Connection and metering point

(a) The *responsible person* must ensure that:

(1) the *revenue metering point* is located as close as practicable to the *connection point*; and

(2) any *instrument transformers* required for a *check metering installation* are located in a position which achieves a mathematical correlation with the *revenue metering data*.

(b) The *Market Participant*, the *Local Network Service Provider* and *NEMMCO* must use their best endeavours to agree to adjust the *metering data* which is recorded in the *metering database* to allow for physical losses between the *metering point* and the relevant *connection point* where a *meter* is used to measure the flow of electricity in a power conductor.

(c) Where a *Market Network Service Provider* installs a *two-terminal link* between two *connection points*, *NEMMCO* in its absolute discretion may require a *metering installation* to be installed in the facility at each end of the *two-terminal link*. Each of these *metering installations* must be separately assessed to determine the requirement for *check metering* in accordance with schedule 7.2.

7.3.3 Use of metering data

(a) *Revenue metering data* must be used by *NEMMCO* as the primary source of *metering data* for billing purposes.

(b) *Check metering data*, where available, must be used by *NEMMCO* for:

(1) validation;

(2) substitution; and

(3) account estimation,

of *revenue metering data* as required by clause 7.9.4.

7.3.4 Metering installation types and accuracy

(a) The type of *metering installation* and the accuracy requirements for a *metering installation* which must be installed in respect of each *connection point* are to be determined in accordance with schedule 7.2.

(b) A *check metering installation* is not required to have the degree of accuracy required of a *revenue metering installation* but must have a mathematical correlation with the *revenue metering installation*, and be consistent with the requirements of schedule 7.2.

(c) *Metering installations* in use at *market commencement* must conform with the provisions of Chapter 9.

(d) The accuracy of a type 6 *metering installation* must be in accordance with regulations issued under the *National Measurement Act* or, in the absence of any such regulations, with the applicable *metrology procedure*.

(e) Each *Metrology Coordinator* must advise *NEMMCO* by no later than 30 April each year of how much longer it proposes to allow its *metrology procedure(s)* to contain type 6 *metering installation(s)* within its jurisdiction.

7.3.5 Data collection system

(a) **[Deleted]**

(b) *NEMMCO* must establish processes for the collection of *metering data* for the *metering database* from each *metering installation* in accordance with the requirements of clause 7.9.

(c) *NEMMCO* may use *agency data collection systems* to collect *metering data*, process *metering data* into *settlements ready data* and to transfer *metering data* to the *metering database.*

(d) *NEMMCO* may obtain *metering data* directly from a *metering installation* for the *settlements* process.

(e) Rules and protocols in respect of use of a *data collection system* and its connection to a *metering system* must be approved by *NEMMCO* and *NEMMCO* must not unreasonably withhold such approval.

(f) Data formats used in respect of a *data collection system* must allow access to *metering data* at a *metering installation* and from the *metering database*.

7.3.6 Payment for metering

(a) Subject to clause 7.3.6(aa), the *financially responsible Market Participant* is responsible for payment of all costs associated with the provision, installation, maintenance, routine testing and inspection of the *metering installation.* This includes:

(1) the cost of providing *metering data* and *settlements ready data* to the *Local Network Service Provider* and to the *Local Retailer* to enable these parties to the extent required to fulfil their obligations under the *Rules*;

(2) the cost of providing *metering data* to *NEMMCO*; and

(3) the cost of preparing *settlements ready data* where such costs will not be recovered by *NEMMCO* in accordance with clause 7.3.6(ab).

(aa) If a *Market Participant* allows another person to engage a *Metering Provider* to install a *metering installation* in accordance with clause 7.2.3(a)(1), then the *Market Participant* is not responsible for the payment of the costs of installation of the relevant *metering installation*.

(ab) When *NEMMCO* is required to undertake functions associated with a *metering installation* in accordance with the requirements of a *metrology procedur*e, *NEMMCO's* cost is to be recovered through *Participant fees* in accordance with a budget prepared under clause 2.11.3(b)(3) unless the *metrology procedure* specifies an alternative method of cost recovery, in which case *NEMMCO* must not recover the costs through *Participant fee*s. These functions could include the preparation and application of a *profil*e.

(b) Subject to clause 7.3.6(a), any costs incurred in gaining access to *metering data* must be paid by the party who obtained the *metering data.*

(c) The cost of requisition testing and audits must be paid by the party requesting the test or audit, except where the *metering installation* is shown not to comply with this Chapter 7, in which case the *responsible person* in relation to that *metering installation* must bear the cost.

7.4 Metering Providers

7.4.1 Responsibility

(a) Installation and maintenance of *metering installations* must be carried out only by a *Metering Provider*.

(b) A *Metering Provider* is responsible for providing and maintaining the security controls of a *metering installation* in accordance with clause 7.8.2.

7.4.2 Qualifications and registration of Metering Providers

(a) A *Metering Provider* is a person who:

(1) meets the requirements set out in schedule 7.4; and

(2) is accredited by and registered by *NEMMCO* in that capacity in accordance with the qualification process established under clause S7.4.1(b).

(b) Any person may apply to *NEMMCO* for accreditation and registration as a *Metering Provider*.

(ba) *NEMMCO* must, in accordance with *Rules consultation procedures*, prepare and *publish* guidelines in respect of the accreditation of *Metering Providers*. The adoption of the guidelines by *Metering Providers* is to be included in the qualification process in accordance with clause S7.4.1(b). The guidelines must include a dispute resolution process.

(bb) A *Metering Provider* must comply with the provisions of the *Rules* and of procedures authorised under the *Rules*, and with any requirements established by *NEMMCO* under clause 7.4.2(bc), that are expressed to apply to *Metering Providers*.

(bc) The requirements referred to in clause 7.4.2(bb):

(1) must include the service level requirements with which the different categories of *Metering Providers* referred to in schedule 7.4 must comply; and

(2) may include, among other things, requirements relating to cooperation with *NEMMCO* and any person engaged by *NEMMCO* to operate any relevant *agency metering database*, the confidentiality of information collected by *Metering Providers*, the resolution of disputes between *NEMMCO* and *Metering Providers*, the access of *NEMMCO* to and inspection by *NEMMCO* of any equipment or database maintained by *Metering Providers*, the insurance which must be taken out by or on behalf of *Metering Providers*, subcontracting by *Metering Providers*,

the software and systems that are used by *Metering Providers*, the ownership of intellectual property that is developed or used by *Metering Providers*, and the delivery up to *NEMMCO* of data, works, material and other property in the event of the deregistration of a *Metering Provider*.

As at the date the *Rules* commence operation, the requirements referred to in clause 7.4.2(bb) that apply in respect of a category of *Metering Providers* referred to in schedule 7.4 must be the same as those that applied in respect of that category of *Metering Providers* immediately prior to that date, but *NEMMCO* may from time to time amend such requirements in accordance with the *Rules consultation procedures*.

(c) *Network Service Providers* must either register as a *Metering Provider* or enter into agreements with *Metering Providers* for the provision of *metering services.*

(ca) A *Network Service Provider* must allow a person other than a *Market Participant* to engage a *Metering Provider* to install a *metering installation* where the person does so in accordance with clause 7.2A.3(a)(1).

(d) Subject to clause 7.4.2(e), a *Market Generator* or *Market Customer* which is involved in the trading of *energy* must not be registered as a *Metering Provider* for *connection points* in respect of which the *metering data* relates to its own use of *energy*.

(e) If a *Market Participant* is a *Market Customer* and also a *Network Service Provider* then the *Market Participant* may be registered as a *Metering Provider* for that *connection point* as specified in clause 7.4.2(d), providing that at the *connection points* on the *transmission network*, the *Market Participant* must regard the *Transmission Network Service Provider* with which it has entered into a *connection agreement* as the *Local Network Service Provider*.

7.4.3 Deregistration of Metering Providers

(a) If a *Metering Provider* materially breaches the requirements of clause 7.4.2(bb), *NEMMCO* must send to that *Metering Provider* notice in writing setting out the nature of the breach and, if the *Metering Provider* remains in breach for a period of more than 7 *days* after notice from *NEMMCO*, *NEMMCO* may deregister the *Metering Provider*.

(aa) If *NEMMCO* reasonably determines that a *Metering Provider* may have breached the requirements of clause 7.4.2(bb), it must conduct a review of the *Metering Provider's* capability to install and maintain a *metering installation*. The outcome of the review may be deregistration, suspension

of some categories of registration or continued operation under constraints agreed with *NEMMCO*.

(b) If, in the reasonable opinion of *NEMMCO*, a *Metering Provider* has acted in any way which is unethical, *NEMMCO* may deregister that *Metering Provider*.

(c) This clause 7.4.3 sets out the only action that can be taken against a *Metering Provider*:

(1) for a breach by that *Metering Provider* of provisions of the *Rules* or of procedures authorised under the *Rules*, or of any requirements established by *NEMMCO* under clause 7.4.2(bc), that are expressed to apply to *Metering Providers*; or

(2) by *NEMMCO* as a result of that *Metering Provider* acting in a way which is unethical.

7.5 Register of Metering Information

7.5.1 Metering register

(a) As part of the *metering database*, *NEMMCO* must maintain a *metering register* of all *revenue metering installations* and *check metering installations* which provide *metering data* used for *NEMMCO* account statements.

(b) The *metering register* referred to in clause 7.5.1(a) must contain the information specified in schedule 7.5.

7.5.2 Metering register discrepancy

(a) If the information in the *metering register* indicates that the *revenue metering installation* or the *check metering installation* does not comply with the requirements of the *Rules*, *NEMMCO* must advise affected *Registered Participants* of the discrepancy.

(b) If a discrepancy under clause 7.5.2(a) occurs, then the *responsible person* must arrange for the discrepancy to be corrected within 2 *business days* unless exempted by *NEMMCO*.

7.6 Inspection, Testing and Audit of Metering Installations

7.6.1 Responsibility for testing

(a) Testing of a *metering installation* must be carried out in accordance with the inspection and testing requirements detailed in schedule 7.3.

(b) A *Registered Participant* may request that *NEMMCO* arrange for the testing of any *metering installation* and *NEMMCO* must not refuse any reasonable request.

(c) *NEMMCO* must check test results recorded in the *metering register* of every *metering installation* and arrange for sufficient audit testing of *metering installations* so as to satisfy itself that the accuracy of each *metering installation* conforms with the requirements of this Chapter 7.

(d) The *responsible person* must ensure *NEMMCO* has unrestrained access to the *metering installation* for the purpose of testing the *metering installation* where *NEMMCO* agrees to comply with the *responsible person's* reasonable security and safety requirements and has first given the *responsible person* at least two *business days'* notice of its intention to access the *metering installation* for the purpose of testing the *metering installation*, which notice must include:

(1) the name of the *representative* who will be conducting the test on behalf of *NEMMCO*; and

(2) the *time* when the test will commence and the expected *time* when the inspection will conclude.

(e) The *responsible* person or *NEMMCO*, whichever undertook testing of a *metering installation* for the purpose of this clause 7.6.1, must make the results of all tests in respect of that *metering installation* available as soon as practicable to any person *NEMMCO* considers to have a sufficient interest in the results.

7.6.2 Actions in event of non-compliance

(a) If the accuracy of the *metering installation* does not comply with the requirements of the *Rules*, the *responsible person* must:

(1) advise *NEMMCO* as soon as practicable of the errors detected and the possible duration of the existence of the errors; and

(2) arrange for the accuracy of the *metering installation* to be restored in a time frame agreed with *NEMMCO*.

(b) *NEMMCO* may make appropriate corrections to the *metering data* to take account of errors referred to in clause 7.6.2(a) and to minimise adjustments to the final *settlements* account.

7.6.3 Audits of metering data

(aa) *NEMMCO* is responsible for auditing *metering installations.*

(a) A *Registered Participant* may request *NEMMCO* to conduct an audit to determine the consistency between the data held in the *metering database* and the data held in the *Registered Participant's metering installation*.

(b) If there are inconsistencies between data held in a *metering installation* and data held in the *metering database* the affected *Registered Participants* must liaise together to determine the most appropriate way to resolve the discrepancy.

(c) If there is an inconsistency between the data held in a *metering installation* and the data held in the *metering database*, the data in the *metering installation* is to be taken as prima facie evidence of the *connection point's energy data*.

(d) *NEMMCO* must carry out periodic random audits of *metering installations* to confirm compliance with the *Rules* and must be given unrestrained access by *Registered Participants* to *metering installations* for the purpose of carrying out such random audits where *NEMMCO* agrees to comply with the *Registered Participant's* reasonable security and safety requirements and has first given the *Registered Participant* at least two *business days'* notice of its intention to carry out an audit, which notice must include:

(1) the name of the *representative* who will be conducting the audit on behalf of *NEMMCO*; and

(2) the *time* when the audit will commence and the expected *time* when the audit will conclude.

7.7 Rights of Access to Data

(a) The only persons entitled to have either direct or remote access to *metering data* from a *metering installation*, the *metering database* or the *metering register* in relation to a *connection point* are:

(1) *Registered Participants* whose *NEMMCO* account statement relates to *energy* flowing through that *connection point*;

(2) the *Metering Provider(s)* who has an agreement to service the *metering installation*, in which case access is to be restricted only to allow authorised work;

(3) the *Network Service Providers* associated with the *connection point*;

(4) *NEMMCO* and the *AER* and their authorised agents;

(5) any *Customer* who is registered by *NEMMCO* and who purchases electricity at the associated *connection point*; and

(6) *Registered Participants* as provided for in the *Market Settlement and Transfer Solution Procedures* and *B2B Procedures*.

(b) Electronic access to *metering data* from a *metering installation* must only be provided where passwords in accordance with clause 7.8.2 are allocated, otherwise access to *metering data* shall be from the *metering database*.

(c) The *responsible person* must ensure that access to *metering data* from the *metering installation* by persons referred to in clause 7.7(a) is scheduled appropriately to ensure that congestion does not occur.

(d) Despite anything to the contrary in this clause 7.7 and subject to clause 8.6, *NEMMCO* may provide *metering data* relating to a *Registered Participant* from a *metering installation*, the *metering database* or the *metering register* to an Ombudsman acting under a duly constituted industry dispute resolution ombudsman scheme of which the *Registered Participant* is a participant, if the Ombudsman has requested the data for the purpose of carrying out a function of that scheme in respect of a complaint made by a customer of the *Registered Participant* against that *Registered Participant* under that scheme.

(e) *NEMMCO* must notify the relevant *Registered Participant* of any information requested by an Ombudsman under clause 7.7(d) and, if it is requested by that *Registered Participant*, supply the *Registered Participant* with a copy of any information provided to the Ombudsman.

(f) *NEMMCO* must, acting jointly with industry Ombudsmen, develop procedures for the efficient management of timely access to data by Ombudsmen in consultation with *Registered Participants* in accordance with the *Rules consultation procedures.*

7.8 Security of Metering Installations and Data

7.8.1 Security of metering equipment

(a) The *responsible person* must ensure that the *metering installation* is secure and that associated links, circuits and information storage and processing systems are secured by means of seals or other devices approved by *NEMMCO*.

(b) *NEMMCO* may override any of the security devices fitted to a *metering installation* with prior notice to the *responsible person*.

(c) **[Deleted]**

7.8.2 Security controls

(a) The *responsible person* must ensure that *metering data* held in the *metering installation* is protected from direct local or remote electronic access by suitable password and security controls in accordance with clause 7.8.2(c).

(b) The *Metering Provider* must keep records of electronic access passwords secure.

(c) The *Metering Provider* must allocate 'read-only' passwords to *Market Participants*, *Local Network Service Providers* and *NEMMCO*, except where separate 'read-only' and 'write' passwords are not available, in which case the *Metering Provider* must allocate a password to *NEMMCO* only.

(d) The *Metering Provider* must hold 'read-only' and 'write' passwords.

(e) The *Metering Provider* must forward a copy of the passwords held under clause 7.8.2(d) to *NEMMCO*.

(f) Subject to clause 7.12(aa), *NEMMCO* must hold a copy of the passwords referred to in clause 7.8.2(e) for the sole purpose of revealing them to a *Metering Provider* in the event that the passwords cannot be obtained by the *Metering Provider* by any other means.

(g) **[Deleted]**

7.8.3 Changes to metering equipment, parameters and settings

Changes to parameters or settings within a *metering installation* must be:

(a) authorised by *NEMMCO* prior to the alteration being made;

(b) implemented by a *Metering Provider*;

(c) confirmed by the *responsible person* within 2 *business days* after the alteration has been made; and

(d) recorded by *NEMMCO* in the *metering register*.

7.8.4 Changes to metering data

Alteration to the original stored data in a *meter* must not be made except during on-site accuracy testing of a *metering installation*.

7.9 Processing of Metering Data for Settlements Purposes

7.9.1 Metering databases

(a) *NEMMCO* must create, maintain and administer a *metering database* (either directly or under a contract for provision of the database) containing information for each *metering installation* registered with *NEMMCO.*

(b) *NEMMCO* may use *agency metering databases* to form part of the *metering database*.

(b1) A person engaged by *NEMMCO* to provide *agency data collection systems* and *agency metering databases* must meet and comply with the service level requirements and any other criteria that *NEMMCO* establishes from time to time in relation to those functions, including accreditation requirements.

(c) The *metering database* must have the capacity for electronic access by relevant *Market Participants* and *Network Service Providers*.

(d) The *metering database* must include original *energy* readings and, where relevant, *metering data* and *settlements ready data*.

(e) Rights of access to data held within the *metering database* are set out in clause 7.7.

(f) The *metering database* must contain historical data that is:

(1) held on line for 13 months in accessible format; and

(2) held for a further 5 years and 11 months in archive that is accessible independently of the format in which the data is stored.

7.9.2 Remote acquisition of data

(a) *NEMMCO* is responsible for the remote acquisition of the *metering data* and for storing this data as *settlements ready data* in the *metering database*. Such data may be used:

(1) by *NEMMCO* for *settlements* purposes in accordance with clause 7.9.1; or

(2) by *Distribution Network Service Providers* for the purpose of determining *distribution service* charges in accordance with clause 6.16.1.

(b) If remote acquisition becomes unavailable, *NEMMCO* must arrange with the *responsible person* to obtain the relevant *metering data*.

7.9.3 Periodic energy metering

(a) Where a device is used as the *data logger* (*metering installation* types 1 to 5), the *energy data* relating to the amount of *active energy* and, where relevant, *reactive energy* passing through a *connection point* must be collated in *trading intervals* within a *metering installation* unless it has been agreed between *NEMMCO*, the *Local Network Service Provider* and the *Market Participant*, or *NEMMCO* and the *Metrology Coordinator* responsible for the relevant *metrology procedure*, that *energy data* may be recorded in sub-multiples of a *trading interval*. An agreement between *NEMMCO* and the *Metrology Coordinator* must be recorded in a *metrology procedure*.

(b) Where a *metering installation* database is used as a *data logger (metering installation* types 6 and 7), the *energy data* relating to the amount of *active energy* passing through a *connection point* must be collated or determined in *trading intervals* within a *metering installation* unless it is specified in the *metrology procedure* that the data may be converted into *trading interval* data in the *NEMMCO* substitution process referred to in clause 7.9.4(a), in which case the *metrology procedure* must specify:

(1) the parameters to be used in preparing the *trading interval* data for each *market load*, including the algorithms;

(2) the first-tier *energy data* that is to be used in the conversion process;

(3) the quality and timeliness of the first-tier *energy data*;

(4) the party responsible for providing the first-tier *energy data*; and

(5) if required, the method of cost recovery in accordance with clause 7.3.6(ab).

7.9.4 Data validation and substitution

(a) *NEMMCO* is responsible for the validation and substitution of *metering data* which must be undertaken in accordance with the procedures developed by *NEMMCO* under clause 7.9.4(b).

(b) *NEMMCO* must develop data validation and substitution procedures that produce *settlements ready data* in accordance with the *Rules consultation procedures* and the requirements of the relevant *metrology procedure* which have been prepared in accordance with clause 7.9.3. For the purpose of clarification, and if such a requirement is specified in the *metrology procedure*, the validation and substitution procedures are to include the method by which accumulated *metering data* is to be converted into *trading interval* data and the method of managing the first-tier *energy data* that is necessary to enable this conversion to take place.

(c) *Check metering data*, where available, must be used by *NEMMCO* to validate *metering data* provided that the *check metering data* has been appropriately adjusted for differences in *metering installation* accuracy.

(d) If *check metering data* is not available or *metering data* cannot be recovered from the *check metering installation* within the time required for *settlements*, then a substitute value is to be prepared by *NEMMCO* using a method agreed with the *Market Participant* and the *Local Network Service Provider*.

(e) If *NEMMCO* detects a loss of *metering data* or incorrect *metering data* from a *metering installation*, it must notify the *Market Participant* and *Local Network Service Provider* within 24 hours of detection.

7.9.5 Errors found in metering tests, inspections or audits

(a) If a *metering installation* test, inspection or audit, carried out in accordance with clause 7.6, demonstrates errors in excess of those prescribed in schedule 7.2 and *NEMMCO* is not aware of the time at which that error arose, the error is to be deemed to have occurred at a time half way between the time of the most recent test or inspection which demonstrated that the *metering installation* complied with the relevant accuracy requirement and the time when the error was detected.

(b) If a test or audit of a *metering installation* demonstrates an error of measurement of less than 1.5 times the error permitted by schedule 7.2, no substitution of readings is required unless in *NEMMCO's* reasonable opinion a particular party would be significantly affected if no substitution were made.

(c) If any substitution is required under clause 7.9.5(b), then *NEMMCO* must provide substitute readings to effect a correction for that error in respect of the period since the error was deemed to have occurred.

7.10 Confidentiality

Metering data and passwords are confidential data and are to be treated as *confidential information* in accordance with the *Rules*.

7.11 Performance of Metering Installation

(a) Where the *metering installation* has the capability for the daily delivery of *metering data* from a device(s) contained within the site of the *metering installation, metering data* is required for all *trading intervals*:

(1) at the level of accuracy prescribed in schedule 7.2;

(2) within the time required for *settlements* at a level of availability of at least 99% per annum for *instrument transformers* and other components of the *metering installation*, not including the *communication link*; and

(3) within the time required for *settlements* at a level of availability of at least 95% per annum for the *communication link*,

or as otherwise agreed between *NEMMCO* and the *responsible person*.

(aa) Where the *metering installation* does not have the capability for the *daily* delivery of *metering data* arising from a device(s) contained within the site of a *metering installation*, *metering data* is required:

(1) at the level of accuracy prescribed in schedule 7.2;

(2) within the timeframe and in the format required for *settlements* as specified in procedures established by *NEMMCO* in accordance with clause 7.9.4(b); and

(3) in accordance with performance standards established by *NEMMCO* pursuant to the *Rules consultation procedure*s.

(b) If an *outage* or malfunction occurs to a *metering installation*, repairs must be made to the *metering installation* as soon as practicable and in any event within 2 *days* of detection or such time as detection should have reasonably occurred, unless an exemption is obtained from *NEMMCO.*

(ba) *NEMMCO* must establish and *publish* a procedure applicable to the provision of exemptions in accordance with clause 7.11(b). *NEMMCO* may revise the procedure from time to time.

(bb) If an exemption is provided by *NEMMCO* under clause 7.11(b) then the *Metering Provider* must provide *NEMMCO* with a plan for the rectification of the *metering installation.*

(c) A *Registered Participant* who becomes aware of an *outage* or malfunction of a *metering installation* must advise *NEMMCO* as soon as practicable.

7.12 Meter Time

(a) All *metering installation* and *data logger* clocks are to be referenced to Australian Eastern Standard Time and maintained to a standard of accuracy in accordance with the *load* through the *metering point* in accordance with schedule 7.2.

(aa) The *responsible person* must provide to *NEMMCO* suitable remote data access to set the time function of the *metering installation.*

(b) The *metering database* must be set within an accuracy of ±1 seconds of Australian Eastern Standard Time.

(c) **[Deleted]**

7.13 Evolving Technologies and Processes and Development of the Market

(a) Evolving technologies or processes that:

(1) meet or improve the performance and functional requirements of this Chapter; or

(2) facilitate the development of the *market*,

may be used if agreed between the relevant *Market Participant(s)*, the *Local Network Service Provider* and *NEMMCO*, and the agreement of the *Local Network Service Provider* and *NEMMCO* must not be unreasonably withheld.

(b) No agreement contemplated by clause 7.13(a) can be entered into if it materially and adversely affects the interests of persons other than the *Market Participant(s)* and the *Local Network Service Provider* who are parties to the agreement.

(c) *NEMMCO* must, at least annually, publish a report on the application of evolving technologies and processes.

(d) *NEMMCO* must, at least annually, submit a written report to the *AEMC* on the extent to which this Chapter 7 may need to be amended in order to accommodate the evolving technologies and processes or the development of the *market*.

(e) *NEMMCO* must, at least annually, prepare and publish a report on the impact of the introduction of retail competition on the wholesale market, including:

(1) the scope for improvement in the operation of wholesale *market settlements*;

(2) developments in metering technology suited to more timely operation of the *market;* and

(3) the effectiveness of the provisions of this Chapter 7.

(f) **[Deleted]**

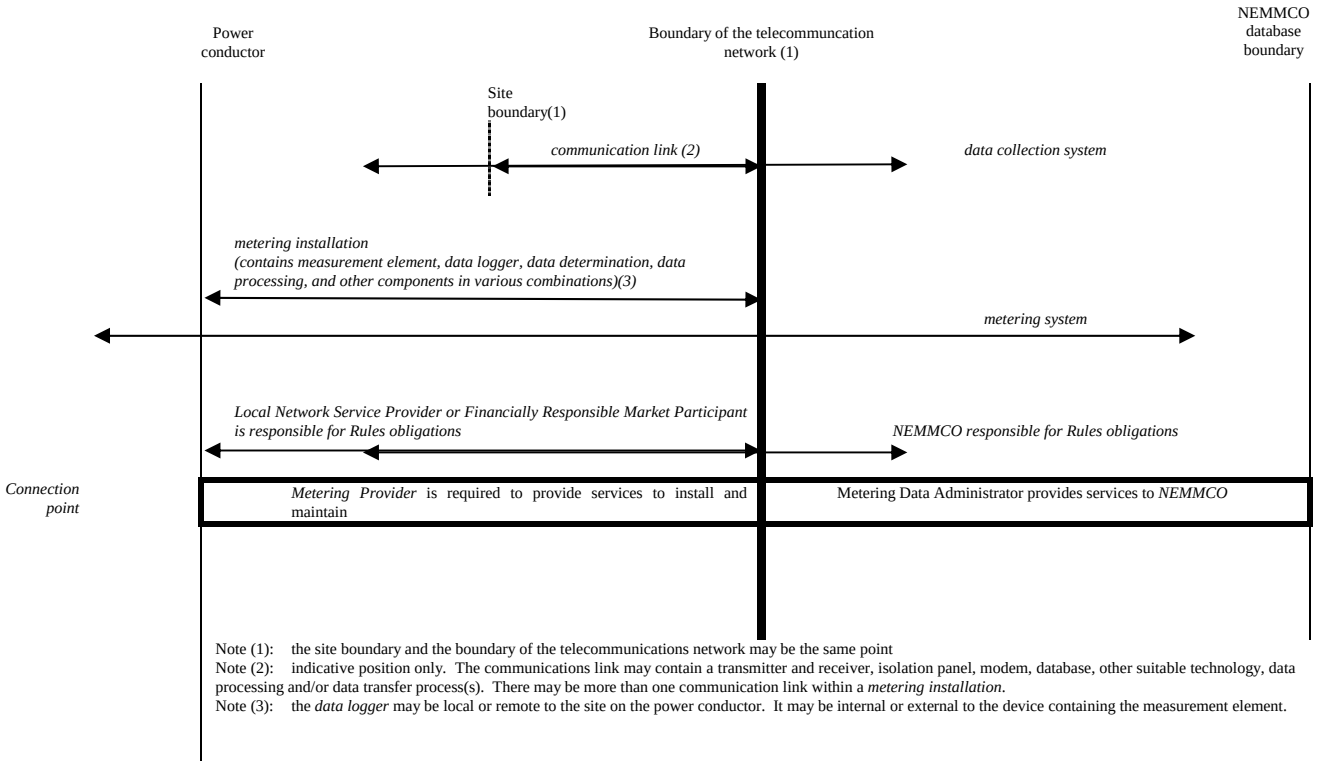
(g) **[Deleted]**

(h) **[Deleted]**

(i) **[Deleted]**

(j) **[Deleted]**

Schedule 7.1 - Responsibility for Metering



Note (1): the site boundary and the boundary of the telecommunications network may be the same point

Note (2): indicative position only. The communications link may contain a transmitter and receiver, isolation panel, modem, database, other suitable technology, data processing and/or data transfer process(s). There may be more than one communication link within a *metering installation*.

Note (3): the *data logger* may be local or remote to the site on the power conductor. It may be internal or external to the device containing the measurement element.

Schedule 7.2 Types and Accuracy of Metering Installations

S7.2.1 General requirements

(a) The following are the minimum requirements for *metering installations*.

(b) A *Registered Participant* may install a *metering installation* with a higher level of accuracy, with the full costs of this work being met by that *Registered Participant*.

S7.2.2 Metering installations commissioned prior to 13 December 1998

(aa) This clause provides conditions that are to apply to *metering installations* that were commissioned prior to 13 December 1998.

(a) The use of *metering* class *current transformers* and *voltage transformers* that are not in accordance with Table S7.2.3.1 are permitted provided that where necessary to achieve the overall accuracy requirements:

(1) *meters* of a higher class accuracy are installed; and/or

(2) calibration factors are applied within the *meter* to compensate for *current transformer* and *voltage transformer* errors.

(b) Protection *current transformers* are acceptable where there are no suitable *metering* class *current transformers* available and the overall accuracy and performance levels can be met.

(c) Where the requirements of clauses S7.2.2(a) and S7.2.2(b) cannot be achieved then the *responsible person* is required to comply with transitional arrangements or obtain an exemption from *NEMMCO* or upgrade the *metering installation* to comply with this schedule 7.2.

(d) The arrangements referred to in clause S7.2.2(c) may remain in force while the required accuracy and performance can be maintained within the requirements of the *Rules*.

(e) The purchase of new *current transformers* and *voltage transformers* must comply with the *Rules*.

S7.2.3 Accuracy requirements for metering installations

Table S7.2.3.1 Overall Accuracy Requirements of Metering Installation Components (note 1)

Type	**Volume limit per annum per connection point**	**Maximum allowable overall error (±%) (refer Tables 2-5) at full load**		**Minimum acceptable class or standard of components**	**Metering installation or data logger Clock Error (Seconds) in reference to EST**
		Active	reactive		
1	greater than 1000 GWh	0.5	1.0	0.2 CT/VT/Meter Wh 0.5 Meter varh	±5
2	100 to – 1000 GWh	1.0	2.0	0.5 CT/VT/ Meter Wh 1.0 Meter varh	±7
3	0.75 to less than 100 GWh	1.5	3.0	0.5 CT/VT 1.0 Meter Wh 2.0 Meter varh	±10
4	less than 750 MWh (note 2)	1.5	NA	Either 0.5 CT and 1.0 Meter Wh; or whole current connected *General Purpose meter MWh:* • with a *data logger; and* • meets the requirements of clause 7.11(a)	±20 (note 2a)

Type	Volume limit per annum per connection point	Maximum allowable overall error (±%) (refer Tables 2-5) at full load		Minimum acceptable class or standard of components	Metering installation or data logger Clock Error (Seconds) in reference to EST
		Active	reactive		
5	Less than x MWh (note 3)	1.5 (note 3b)	NA	Either 0.5CT and 1.0 *meter* Wh; or whole current connected *General Purpose meter* Wh; • with a *data logger;* and • meets the requirements of clause 7.11(aa)	±20 (note 3a)
6	Less than y MWh (note 4)	1.5 (note 4b)	NA	CT or whole-current connected *General Purpose meter* Wh with data processing used to convert *accumulated energy data* into *metering data* and to provide *estimated energy data* where necessary.	(note 4a)
7	Volume limit not specified (note 5)	(note 6)	NA	No *meter* Techniques for determination of *estimated energy data* to be included in the *metrology procedure*.	NA

Note 1: For types 3, 4, 5 and 6 *metering* installations, it is acceptable to use direct connected *meters* meeting the relevant requirements of AS 1284.1 "Electricity Metering - General Purpose Watt hour Meters". The *metering installation* must comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Standards Commission under the *National Measurements Act*.

Note 2: *High Voltage* customers that require a *VT* and whose annual consumption is below 750 MWh, must meet the relevant accuracy requirements of Type 3 *metering* for *active energy* only.

Note 2a: For the purpose of clarification, the clock for a type 4 *metering installation* may be relaxed by *NEMMCO* to accommodate evolving whole-current technologies that are acceptable in accordance with clause 7.13(a).

Note 3: A type 5 *metering installation* will use a *metrology procedure* established and approved by the relevant *Metrology Coordinator* for the purpose of converting *active energy* into *metering data*. The value of "x" is to be determined by the relevant *Metrology Coordinator*. The maximum acceptable value of "x" is 750 MWh per annum. The *metering installation* may provide delays in transferring the *interval energy data* to a remote location where access to a *telecommunications network* has been established. Where such delays are approved by the relevant *Metrology Coordinator*, the *metrology procedure* is to indicate how *interval energy data* will be established during the period of delay.

Note 3a: For the purpose of clarification, the clock error for a type 5 *metering installation* may be relaxed by the relevant *Metrology Coordinator* to accommodate evolving whole-current technologies that are acceptable in accordance with clause 7.13(a).

Note 3b: The maximum allowable error of a type 5 *metering installation* may be relaxed by the relevant *Metrology Coordinator* to accommodate evolving technologies providing that such relaxation is consistent with any regulations published under the *National Measurement Act*.

Note 4: A *metrology procedure* is to be prepared and approved by the relevant *Metrology Coordinator* for the purpose of converting *active energy* into *metering data*. The value of "y" is to be determined by the relevant *Metrology Coordinator*. The maximum acceptable value of "y" is 750 MWh per annum. This *metering installation* type provides for *accumulated energy data* to be transferred to a remote location where access to a *telecommunication network* has been established. The *metrology procedure* is to identify the method by which *accumulated energy data* is to be converted into *trading interval* data in accordance with clause 7.9.3(b), and the method by which *estimated energy data* is to be prepared during the period when the *accumulated energy data* is not available. Devices within the *metering installation* may provide *accumulated energy data* in pre-determined *daily* time periods where such time periods are contained in the applicable *metrology procedur*e.

Note 4a: Any relevant clock errors for a type 6 *metering installation* are to be established in the *metrology procedure*.

Note 4b: The maximum allowable error of a type 6 *metering installation* may be relaxed by the relevant *Metrology Coordinator* providing that such relaxation is consistent with any regulations published under the *National Measurement Act*.

Note 5: A type 7 *metering installation* applies to the condition where it has been agreed between the relevant *Metrology Coordinator* and *NEMMCO* that a *metering installation* does not require a *meter* to measure the flow of electricity in a power conductor and accordingly there is a requirement to determine by other means the *energy data* that is deemed to flow in the power conductor. This condition will only be allowed for a *market load* that is supplied with electricity and has a load pattern which is the same as or similar to one of the following arrangements:

(a) street, traffic, park, community, security lighting;
(b) traffic parking meters, community watering systems;
(c) special telephone service requirements;
(d) devices requiring minuscule loads.

The *metrology procedure* must include each *market load* arrangement that has been classified as a type 7 *metering installation*.

The initial use of a type 7 classification does not remove the requirement for these *second tier loads* to be measured using a *meter* at some future time.

Note 6: The accuracy of the *estimated energy data* is to be in accordance with approved techniques for determining the flow of electricity in power conductors. The techniques, including algorithms, are to be included in the *metrology procedure*.

Table S7.2.3.2 Type 1 Installation - Annual Energy Throughput greater than 1,000 GWh

% Rated Load	**Power Factor**					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	0.7%	0.7%	1.4%	n/a	n/a	1.4%
50	0.5%	0.5%	1.0%	0.5%	1.0%	1.0%
100	0.5%	0.5%	1.0%	n/a	n/a	1.0%

Table S7.2.3.3 Type 2 Installation - Annual Energy Throughput between 100 and 1,000 GWh

% Rated Load	**Power Factor**					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	1.4%	1.4%	2.8%	n/a	n/a	2.8%
50	1.0%	1.0%	2.0%	1.0%	2.0%	2.0%
100	1.0%	1.0%	2.0%	n/a	n/a	2.0%

Table S7.2.3.4 Type 3 Installation - Annual Energy Throughput from 0.75GWh to less than 100GWh

% Rated Load	**Power Factor**					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	2.0%	2.0%	4.0%	n/a	n/a	4.0%
50	1.5%	1.5%	3.0%	1.5%	3.0%	3.0%
100	1.5%	1.5%	3.0%	n/a	n/a	3.0%

Table S7.2.3.5 Type 4 Installation - Annual *Energy* Throughput less than 0.75 GWh

% Rated Load	**Power Factor**		
	Unity	0.866 lagging	0.5 lagging
	active	active	active
10	2.0%	2.0%	n/a
50	1.5%	1.5%	1.5%
100	1.5%	1.5%	n/a

(NOTE: All measurements in Tables 2-5 are to be referred to 25 degrees Celsius).

(a) The method for calculating the overall error is the vector sum of the errors of each component part, ie $\underline{a} + \underline{b} + c$, where:

a = the error of the *Voltage Transformer* and wiring

b = the error of the *Current Transformer* and wiring

c = the error of the *Meter*.

(b) If compensation is carried out then the resultant *metering system* error shall be as close as practicable to zero.

S7.2.4. Check metering

(a) *Check metering* is to be applied in accordance with the following Table:

Type	Energy (GWh pa) per metering point	Check Metering Requirements
1	greater than 1000	*Check metering installation*
2	100 to 1000	Partial *check metering*
3	0.75 to less than 100	No requirement
4, 5 and 6	Less than 0.75	No requirement

(b) A *check metering installation* involves either:

(1) the provision of a separate *metering installation* using separate *current transformer* cores and separately fused *voltage transformer* secondary circuits, preferably from separate secondary windings: or

(2) if in *NEMMCO's* absolute discretion it is considered appropriate, in the case of a *metering installation* located at the facility at one end of the *two-terminal link*, a *metering installation* located at the *facility* at the other end of a *two-terminal link*.

(c) Where the *check metering installation* duplicates the *revenue metering installation* and accuracy level, the average of the two validated data sets will be used to determine the *energy* measurement.

(d) Partial *check metering* involves the use of other *metering data* or operational data available to *NEMMCO* in 30 min electronic format as part of a validation process in accordance with clause 7.9.4.

(e) The physical arrangement of partial *check metering* shall be agreed between the *responsible person* and *NEMMCO*.

(f) *Check metering installations* may be supplied from secondary circuits used for other purposes and may have a lower level of accuracy than the *revenue metering installation*, but must not exceed twice the level prescribed for the *revenue metering installation*.

S7.2.5. Resolution and accuracy of displayed or captured data

Any programmable settings available within a *metering installation*, *data logger* or any peripheral device, which may affect the resolution of displayed or stored data, must meet the relevant requirements of AS 1284 or IEC 1036 and must comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Standards Commission under the *National Measurements Act*.

S7.2.6. General design standards

S7.2.6.1 Design requirements

Without limiting the scope of detailed design, the following requirements must be incorporated in the design of each *metering installation*:

(a) For *metering installations* greater than 1000 GWh pa per *metering point*, the *current transformer* core and secondary wiring associated with the *revenue meter* shall not be used for any other purpose unless otherwise agreed by *NEMMCO*.

(b) For *metering installations* less than 1000 GWh pa per *metering point* the *current transformer* core and secondary wiring associated with the *revenue meter* may be used for other purposes (e.g. local *metering* or protection) provided the *responsible person* demonstrates to the satisfaction of *NEMMCO* that the accuracy of the *metering installation* is not compromised and suitable procedures/measures are in place to protect the security of the *metering installation.*

(c) Where a *voltage transformer* is required, if separate secondary windings are not provided, then the *voltage* supply to each *metering installation* must be separately fused and located in an accessible position as near as practical to the *voltage transformer* secondary winding.

(d) Secondary wiring must be by the most direct route and the number of terminations and links must be kept to a minimum.

(e) The incidence and magnitude of burden changes on any secondary winding supplying the *metering installation* must be kept to a minimum.

(f) *Meters* must meet the relevant requirements of AS 1284 or IEC 1036 and must also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Standards Commission under the *National Measurements Act*.

(g) New *instrument transformers* must meet the relevant requirements of AS 1675 for *current transformers* and AS 1243 for *voltage transformers* and must also comply with any applicable specifications or guidelines

(including any transitional arrangements) specified by the National Standards Commission under the *National Measurements Act*.

(h) Suitable *isolation* facilities are to be provided to facilitate testing and calibration of the *metering installation*.

(i) Suitable drawings and supporting information, detailing the *metering installation*, must be available for maintenance and auditing purposes.

S7.2.6.2 Design guidelines

In addition to the above Design Requirements, the following guidelines should be considered for each *metering installation*:

(a) The provision of separate secondary windings for each *metering installation* where a *voltage transformer* is required.

(b) A *voltage* changeover scheme where more than one *voltage transformer* is available.

Schedule 7.3 - Inspection and Testing Requirements

S7.3.1. General

(a) The *responsible person* must ensure that *metering* equipment purchased has National Standards Commission pattern approval from an accredited laboratory recognised under the International Certification Scheme in accordance with specifications or guidelines (including transitional arrangements) specified by the National Standards Commission under the *National Measurements Act*. The *responsible person* must provide the relevant approval certificates to *NEMMCO* on request.

(b) The *responsible person* must ensure that equipment comprised in a *metering installation* purchased has been tested to the required class accuracy with less than the following uncertainties:

Class 0.2 CT/VT	± 0.05%
Class 0.2 Wh meters	± 0.05/cosΦ%
Class 0.5 CT/VT	± 0.1%
Class 0.5 Wh meters	± 0.1/cosΦ%
Class 0.5 varh meters	± 0.2/sinΦ%
Class 1.0 Wh meters	± 0.2/cosΦ%
Class 1.0 varh meters	± 0.3/sinΦ%
General Purpose meters	± 0.3/cosΦ%
Class 2.0 varh meters	± 0.4/sinΦ%

Appropriate test certificates are to be kept by the equipment owner.

(c) The *responsible person* must ensure that testing of the *metering installation* is carried out:

(1) in accordance with this schedule 7.3, or

(2) in accordance with an asset management strategy that defines an alternative testing practice (ie other than time-based) determined by the *responsible person* and approved by *NEMMCO*;

(3) in accordance with a test plan which has been registered with *NEMMCO*; and

(4) to the same requirements as for new equipment where equipment is to be recycled for use in another site; and

(5) so as to include all data storage and processing components included in the *metrology procedure*, including algorithms used to prepare agreed load patterns.

(d) Other affected parties may witness the tests on request to the *responsible person*.

(e) *NEMMCO* must review the prescribed testing requirements in this schedule 7.3 every 5 years in accordance with equipment performance and industry standards.

(f) The *responsible person* must:

(1) provide the test results to *NEMMCO*;

(2) advise each affected *Market Participant* of the outcome of the tests; and

(3) provide the results of the test to each affected *Registered Participant* on request.

(g) The testing intervals may be increased if the equipment type/experience proves favourable.

Table S7.3.1 Maximum Allowable Level of Testing Uncertainty (±)

Description		**Metering Installation Type**				
		Type 1	Type 2	Type 3	Type 4	Type 5 & 6
In Laboratory	CTs / VTs	0.05%	0.1%	0.1%	0.1%	0.1%
	Meters Wh	0.05/cosϕ%	0.1/cosϕ%	0.2/cosϕ%	0.2/cosϕ%	0.3/cosϕ%
	Meters varh	0.2/sinϕ%	0.3/sinϕ%	0.4/sinϕ%		N/A
In Field	CTs / VTs	0.1%	0.2%	0.2%	0.2%	0.2%
	Meters Wh	0.1/cosϕ%	0.2/cosϕ%	0.3/cosϕ%	0.3/cosϕ%	0.3/cosϕ%
	Meters varh	0.3/sinϕ%	0.4/sinϕ%	0.5/sinϕ%		N/A

Table S7.3.2 Maximum Period Between Tests

Description	Metering Installation Type				
	Type 1	Type 2	Type 3	Type 4	Types 5 & 6
CT	10 years	10 years	10 years	10 years	10 years
VT	10 years	10 years	10 years		N/A
Burden tests	When meters are tested or when changes are made				
CT connected Meter (electronic)	5 years	5 years	5 years	5 years	5 years
CT connected Meter (induction)	2.5 years	2.5 years	5 years	5 years	5 years
Whole-current (Direct Connected Meter)	The testing and inspection requirements must be by an asset management strategy. Guidelines for the development of the asset management strategy must be recorded in a *metrology procedure*.				

Table S7.3.3 Period Between Inspections

Description	Metering Installation Type			
	Type 1	Type 2	Type 3	Type 4, 5 & 6
Metering installation equipment inspection	2.5 years Note: increased inspection period allowed because of *check metering installation* requirements.	12 months (2.5 years if *check metering* installed)	> 10 GWh: 2 years 2< <10 GWh: 3 years <2 GWh: when meter is tested.	When meter is tested.

S7.3.2. Notes (These are technical guidelines)

(a) *Current transformer* and *voltage transformer* tests are primary injection tests or other testing procedures as approved by *NEMMCO*.

(b) All reference/calibrated equipment shall be tested to ensure full traceability to Australian national measurement standards through *verifying authorities* or directly referenced to the National Measurement Laboratory.

(c) The calculations of accuracy based on test results are to include all reference standard errors.

(d) An "estimate of testing uncertainties" must be calculated in accordance with the ISO "Guide to the Expression of Uncertainty for Measurement".

(e) Where operational *metering* is associated with *settlements metering* then a shorter period between inspections is recommended.

(f) For sinϕ and cosϕ refer to the ISO "Guide to the Expression of Uncertainty in Measurement", where cosϕ is the *power factor*.

(g) A typical inspection may include: Check the seals, compare the pulse counts, compare the direct readings of *meters*, verify *meter* parameters and physical connections, *current transformer* ratios by comparison.

Schedule 7.4 - Metering Provider

S7.4.1 General

(a) A *Metering Provider* must be accredited by and registered by *NEMMCO*. *NEMMCO* must accredit and register a *Metering Provider* only for the type of work the *Metering Provider* is qualified to provide.

(b) *NEMMCO* must establish a qualification process for *Metering Providers* that enables registration to be achieved in accordance with the requirements of this schedule 7.4.

(c) **[Deleted]**

(d) A *Metering Provider* must have the necessary licenses in accordance with appropriate State and Territory requirements.

(e) A *Metering Provider* must ensure that any *metering* equipment it installs is suitable for the range of operating conditions to which it will be exposed (e.g. temperature; impulse levels), and operates within the defined limits for that equipment.

(f) A *Metering Provider* must ensure that the *metering installation* is installed and maintained in accordance with a relevant *metrology procedure* that has been established by either *NEMMCO* or the relevant *Metrology Coordinator*.

S7.4.2 Categories of registration

(a) Registrations, in relation to *metering installation* types 1, 2, 3 and 4, must be categorised in accordance with Tables S7.4.1, S7.4.2 and S7.4.3 or other procedures approved by *NEMMCO*.

(b) In relation to *metering installation* types 5, 6 and 7, *NEMMCO* must establish categories of registration which are consistent with the service requirements established in the relevant *metrology procedures*.

Table S7.4.1 Categories of registration for accreditation

Category	Competency
1C	Class 0.2 CTs with < 0.1% uncertainty.
1V	Class 0.2 VTs with < 0.1% uncertainty.
1M	Class 0.2 Wh meters with < 0.1/cosö% uncertainty and class 0.5 varh meters with <0.3/sinϕ% uncertainty.
1A	Class 0.2 CTs, VTs, Wh meters; class 0.5 varh meters; the total installation to 0.5%. Wh with < 0.2% uncertainty at unity *power factor*; 1.0% for varh with <0.4% uncertainty at zero *power factor*.
2C	Class 0.5 CTs with < 0.2% uncertainty.
2V	Class 0.5 VTs with < 0.2% uncertainty.
2M	Class 0.5 Wh meters with < 0.2/cosϕ% uncertainty and class 1.0 varh meters with <0.4/sinϕ% uncertainty.
2A	Class 0.5 CTs, VTs, Wh meters; class 1.0 varh meters; the total installation to 1.0%. Wh with < 0.4% uncertainty at unity *power factor*; 2.0% for varh with <0.5% uncertainty at zero *power factor*.

Table S7.4.2 Categories of registration for accreditation

Category	Competency
3M	Class 1.0 Wh meters with < 0.3/cosϕ% uncertainty and class 2.0 varh meters with <0.5/sinϕ% uncertainty.
3A	Class 0.5 CTs, VTs; class 1.0 Wh meters; class 2.0% varh meters; the total installation to 1.5%. Wh with < 0.5% uncertainty at unity *power factor*; 3.0% for varh with <0.6% uncertainty at zero *power factor*.
4M	Class 1.0 Wh meters and class 1.5 Wh meters with <0.3/cosϕ% uncertainty

Table S7.4.3 Categories of registration for accreditation

Category	Competency
L	Approved Communication Link Installer

S7.4.3 Capabilities of Metering Providers for metering installations types 1, 2, 3 and 4

Category 1A, 2A, 3A and 4M *Metering Providers* must be able to exhibit the following capabilities to the reasonable satisfaction of *NEMMCO*:

(a) Detailed design and specification of *metering* schemes, including:

(1) knowledge and understanding of this Chapter 7;

(2) knowledge of equipment (*meters*, *current transformers* and where applicable *voltage transformers*);

(3) design experience including knowledge of *current transformers* and where applicable *voltage transformers* and the effect of burdens on performance;

(4) ability to calculate summation scheme values, multipliers, etc; and

(5) ability to produce documentation, such as single line diagrams, panel layouts and wiring diagrams.

(b) Programming and certification requirements for *metering installations* to the required accuracy, including:

(1) licensed access to *metering* software applicable to all equipment being installed by the *Metering Provider*;

(2) ability to program requirements by setting variables in *meters*, summators, modems, etc;

(3) management of the testing of all equipment to the accuracy requirements specified in this Chapter 7;

(4) certifications that all calibration and other *meter* parameters have been set, verified and recorded prior to *meters*, *data loggers*, etc., being released for installation;

(5) all reference/calibration equipment to be tested to ensure full traceability to *Australian Standards* through *verifying authorities* or directly from the National Measurements Laboratory; and

(6) compliance with ISO/IEC Guide 25 "General Requirements for the Competence of Calibration and Testing Laboratories" with regard to the calculation of uncertainties and accuracy.

(c) Installation and commissioning of *metering installations* including the remote accessing of data, including:

(1) the use of calibrated test equipment to perform primary injection tests and field accuracy tests;

(2) the availability of trained and competent staff to install and test *metering installations* to determine that installation is correct; and

(3) the use of test procedures to confirm that the *metering installation* is correct and that *metering* constants are recorded and/or programmed correctly.

(d) Inspection and maintenance of *metering installations* and equipment, including:

(1) regular readings of the measurement device where external *data loggers* or recorders to be used (6 monthly) and verification with *NEMMCO* records;

(2) approved test and inspection procedures to perform appropriate tests as detailed in this Chapter 7;

(3) calibrated field test equipment for primary injection and *meter* testing to the required levels of uncertainty; and

(4) secure documentation system to maintain *metering* records for all work performed on a *metering installation*, including details of the security method used.

(e) Verification of *revenue metering data* and *check metering data*, as follows:

(1) on commissioning *metering data*, verification of all readings, constraints (adjustments) and multipliers to be used for converting raw data to consumption data; and

(2) on inspection, testing and/or maintenance, verification that readings, constants and multipliers are correct by direct conversion of *meter readings* and check against the *metering database*.

(f) Quality System as AS 9000 series standards, including:

(1) a quality system to AS/NZ ISO 9000 series applicable to the work to be performed:

Type 1	-	full implementation of AS/NZ ISO 9002;
Type 2	-	full implementation of AS/NZ ISO 9002;
Type 3	-	implementation of AS/NZ ISO 9002 to a level agreed with *NEMMCO*;
Type 4	-	implementation of AS/NZ ISO 9002 to a level agreed with *NEMMCO*;

(2) the calculations of accuracy based on test results are to include all reference standard errors;

(3) an estimate of Testing Uncertainties which must be calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement"; and

(4) a knowledge and understanding of the appropriate standards and guides, including those in the *Rules*.

S7.4.4 Capabilities of Metering Providers for metering installations types 5, 6 and 7

Metering Providers, who apply for categories of *Metering Provider* accreditation of *metering installations* types 5, 6 and / or 7, must be able to exhibit, to the reasonable satisfaction of *NEMMCO*:

(a) all of the capabilities relevant to that type of *metering installation* which are included in clause S7.4.3;

(b) any relevant capabilities required for data processing specified in the relevant *metrology procedure*; and

(c) an acceptable standard of performance, determined by reference to the relevant *metrology procedure*, for each of the processes and devices identified in the relevant *metrology procedure*.

Schedule 7.5 - Metering Register

S7.5.1. General

(a) The *metering register* forms part of the *metering database* and holds static *metering* information associated with *metering installations* defined by the *Rules* that determines the validity and accuracy of *metering data*.

(b) The purpose of the *metering register* is to facilitate:

(1) the registration of *connection points*, *metering points* and affected *Registered Participants*;

(2) the verification of compliance with the *Rules*; and

(3) the auditable control of changes to the registered information.

(c) The data in the *metering register* is to be regarded as confidential and would only be released to the appropriate party in accordance with clause 7.7.

S7.5.2. Metering register information

Metering information to be contained in the *metering register* should include, but is not limited to the following:

(a) *Connection* and *metering point* reference details, including:

(1) agreed locations and reference details (eg drawing numbers);

(2) loss compensation calculation details;

(3) site identification names;

(4) details of *Market Participants* and *Local Network Service Providers* associated with the *connection point*;

(5) nomination of the *responsible person*; and

(6) transfer date for *Second-Tier Customer* and *Non-Registered Second-Tier Customer metering data* (i.e. to another *Market Customer*).

(b) The identity and characteristics of *metering* equipment (ie *instrument transformers*, *revenue metering installation* and *check metering installation*), including:

(1) serial numbers;

(2) *metering installation* identification name;

(3) *metering installation* types and models;

(4) *instrument transformer* ratios (available and connected);

(5) current test and calibration programme details, test results and references to test certificates;

(6) asset management plan and testing schedule;

(7) calibration tables, where applied to achieve *metering installation* accuracy;

(8) *Metering Provider(s)* details;

(9) summation scheme values and multipliers; and

(10) data register coding details.

(c) Data communication details, including:

(1) telephone number(s) for access to data;

(2) communication equipment type and serial numbers;

(3) communication protocol details or references;

(4) data conversion details;

(5) user identifications and access rights; and

(6) 'write' password (to be contained in a hidden or protected field).

(d) Data validation and substitution processes agreed between affected parties, including:

(1) algorithms;

(2) data comparison techniques;

(3) processing and alarms (eg *voltage* source limits; phase-angle limits);

(4) *check metering* compensation details; and

(5) alternate data sources.

(e) Data processing prior to the *settlement* process, including algorithms for:

(1) *generation* half-hourly 'sent-out' calculation;

(2) customer half-hourly *load* calculation; and

(3) *Local Retailer* net *load* calculation.

CHAPTER 8

8. Administrative Functions

8.1.1 [Deleted]

8.1.2 [Deleted]

8.1.3 Purpose

This Chapter describes some of the key processes associated with the administration of the *Rules*, being the following:

(a) the procedures for resolving certain disputes;

(b) **[Deleted]**

(c) **[Deleted]**

(d) **[Deleted]**

(e) confidentiality provisions governing *Registered Participants* and *NEMMCO*;

(f) monitoring and reporting requirements; and

(g) the structure and responsibilities of the *Reliability Panel*.

8.2 Dispute Resolution

8.2.1 Application and guiding principles

(a) This clause 8.2 applies to any dispute which may arise between two or more *Registered Participants* about:

(1) the application or interpretation of the *Rules*;

(2) the failure of any *Registered Participants* to reach agreement on a matter where the *Rules* require agreement or require the *Registered Participants* to negotiate in good faith with a view to reaching agreement;

(3) *augmentation* of a *network* of a kind referred to in clause 5.6.6(h);

(4) the proposed access arrangements or *connection agreements* of an *Intending Participant* or a *Connection Applicant*;

(5) the payment of moneys under or concerning any obligation under the *Rules*;

(6) any other matter relating to or arising out of the *Rules* to which a contract between two or more *Registered Participants* provides that the dispute resolution procedures under the *Rules* are to apply;

(7) any other matter relating to or arising out of the *Rules* in respect of which two or more *Registered Participants* have agreed in writing that this clause 8.2 should apply; or

(8) any other matter that the *Rules* provide may or must be dealt with under this clause 8.2,

but does not apply to those disputes described in clause 8.2.1(h).

(a1) For the purposes of this clause 8.2 only, "*Registered Participant*" is deemed to include not just *Registered Participants* but also *NEMMCO* and *Connection Applicants* who are not otherwise *Registered Participants*, except that this will not be the case where the term "Registered Participant":

(1) is used in clauses 8.2.2(b)(4), 8.2.2(d), 8.2.3(a), 8.2.3(b)(5) and 8.2.5(e);

(2) first occurs in clauses 8.2.3(b), (b)(3), (b)(4) or (c); or

(3) last occurs in clauses 8.2.4(a) or 8.2.9(c).

(b) **[Deleted]**

(c) **[Deleted]**

(d) The dispute resolution regime in this clause 8.2 provides procedures to resolve disputes between parties, not sanctions for breach of the *Rules*. The dispute resolution processes may indicate that a breach of the *Rules* has occurred and the resolution or determination of the dispute may take account of the damage thereby caused to a party. Any action for breach of the *Rules* may only be taken by the *AER* acting in accordance with the *National Electricity Law*.

(e) It is intended that the dispute resolution regime set out in or implemented in compliance with the *Rules* and described in detail in this clause 8.2 should to the extent possible:

(1) be guided by the *market objective*;

(2) be simple, quick and inexpensive;

(3) preserve or enhance the relationship between the parties to the dispute;

(4) take account of the skills and knowledge that are required for the relevant procedure;

(5) observe the rules of natural justice;

(6) place emphasis on conflict avoidance; and

(7) encourage resolution of disputes without formal legal representation or reliance on legal procedures.

(f) Except as provided in the *National Electricity Law* and clause 8.2.1(g), where any dispute of a kind set out in clause 8.2.1(a) arises, the parties concerned must comply with the procedures set out in clauses 8.2.4 to 8.2.10 and 8.2.12 and, where the dispute is referred to a *DRP*, a determination of the *DRP* is final and binding on the parties.

(g) Notwithstanding clause 8.2.1(f), a party may seek an urgent interlocutory injunction from a court of competent jurisdiction.

(h) Clause 8.2 does not apply to:

(1) a decision by *NEMMCO* regarding an exemption under clause 2.2.1(c);

(2) a decision by *NEMMCO* under clause 2.2.2 not to approve the classification of a *generating unit* as a *scheduled generating unit*;

(3) a decision by *NEMMCO* under clause 2.2.3 not to approve the classification of a *generating unit* as a *non-scheduled generating unit*;

(4) a decision by *NEMMCO* under clause 2.9.2(b);

(5) a decision by *NEMMCO* to reject a notice from a *Market Customer* under clause 2.10.1(d);

(6) a determination by *NEMMCO* under clause 3.3.8 of the *maximum credit limit* for a *Market Participant*;

(7) a decision by *NEMMCO* under clause 3.8.3 to refuse an application for aggregation;

(8) a decision by *NEMMCO* under clause 3.15.11 to reject a *reallocation request* or a *reallocation termination request*;

(9) a decision by *NEMMCO* to issue a notice under clause 4.11.1(d);

(10) a decision by *NEMMCO* under clause 7.1.4(b) to refuse to permit a *Market Participant* to participate in the *market* in respect of a *connection point*; or

(11) a decision by *NEMMCO* whether or not to deregister a *Metering Provider* under clause 7.4.3(a), (aa) or (b), to suspend a *Metering Provider* from a category of registration under clause 7.4.3(aa) or to impose agreed constraints on the continued operation of a *Metering Provider*.

8.2.2 The Dispute Resolution Adviser

(a) The *AER* must appoint a person or persons from time to time to perform the functions of the Dispute Resolution Adviser (the "*Adviser*"), on such terms and conditions as the *AER* may determine.

(b) The *Adviser* must:

(1) have a detailed understanding and experience of dispute resolution practice and procedures which do not involve litigation (alternative dispute resolution);

(2) have the capacity to determine the most appropriate alternative dispute resolution procedures in particular circumstances;

(3) have an understanding of the electricity industry or the capacity to quickly acquire such an understanding; and

(4) not be a *Registered Participant* or *NEMMCO* or be associated, directly or indirectly, with a *Registered Participant*, *NEMMCO* or the *AER*.

(c) The primary function of the *Adviser* is to attend to any matters necessary to ensure the effective operation of:

(1) the Stage 1 dispute resolution process set out in clause 8.2.4; and

(2) the Stage 2 dispute resolution process set out in clauses 8.2.5 and 8.2.6A to 8.2.6D.

(d) The *Adviser* must take reasonable steps to keep *Registered Participants* and *NEMMCO* informed, and in any case must report at least quarterly to *Registered Participants* and *NEMMCO*, about the operation of the dispute resolution processes established under the *Rules*.

(e) The *Adviser* must establish and maintain a pool of persons from which members of a *dispute resolution panel* (“*DRP*”) may be selected in accordance with clause 8.2.6A.

(f) In selecting persons for the pool, the *Adviser* must have regard to:

(1) the need for members of a *DRP* to have an appropriate range of skills; and

(2) the need for persons in the pool to be drawn from all *participating jurisdictions*.

(g) The *Adviser* must review the composition of the pool at least every two years.

(h) The *Adviser* may issue guidance notes relating to:

(1) the form and content of a *dispute management system* ("*DMS*"); and

(2) the use and conduct of mediation in the Stage 1 dispute resolution process.

8.2.3 Dispute management systems of Registered Participants and NEMMCO

(a) Each *Registered Participant* and *NEMMCO* must adopt and implement a *DMS*.

(b) The *DMS* of a *Registered Participant* or *NEMMCO* must:

(1) be consistent with guidance notes of the *Adviser* relating to the form and content of a *DMS*;

(2) nominate a *DMS Contact* to be the first point of contact for the notification of disputes;

(3) provide that the *Registered Participant* or *NEMMCO* (as the case may be) must respond to a request for information (being information that is relevant to any of the matters set out in clause 8.2.1(a)) from another *Registered Participant* within 5 *business days* of receiving the request;

(4) set out the procedures of the *Registered Participant* or *NEMMCO* (as the case may be) for responding to requests for information from other *Registered Participants*; and

(5) set out any requirements and procedures necessary to ensure that the *Registered Participant* or *NEMMCO* (as the case may be) is able to comply with the requirements and time limits set out in clause 8.2.4.

(c) A *Registered Participant* or *NEMMCO* must provide a copy of its *DMS* upon being requested to do so by another *Registered Participant* or the *Adviser*.

8.2.4 Stage 1 - dispute resolution through Registered Participants' DMS

(a) A *Registered Participant* may activate the dispute resolution mechanisms in this clause by serving a *DMS referral notice* on the *DMS Contact* of one or more other *Registered Participants* or *NEMMCO* (as the case may be).

(b) Except where the *Rules* provides for another time period to apply, and subject to clause 8.2.4(k), a *DMS referral notice* must be served no later than 60 *business days* after the date on which the making of a disputed decision or the occurrence of disputed conduct could reasonably have become known to a *Registered Participant* affected by it.

(c) A *DMS referral notice*:

(1) must be in a form approved and published by the *Adviser*;

(2) must contain a statement setting out the circumstances giving rise to the dispute; and

(3) may request the person on whom it is to be served to provide information that is relevant to any of the matters set out in clause 8.2.1(a).

(d) Within 5 *business days* of service of a *DMS referral notice*, representatives of:

(1) the *Registered Participant* that served the notice; and

(2) every person on whom the notice was served,

must meet to determine, by agreement, the further conduct of the dispute.

(e) A meeting of *Registered Participants'* representatives:

(1) may be conducted in person, by telephone, video-conference or like method of real time communication;

(2) may agree that the dispute should be conducted by any consensual means, including by direct discussions between *Registered Participants* or by mediation; and

(3) must consider whether any other *Registered Participant* should be served with a *DMS referral notice*.

(f) Subject to clause 8.2.4(g), a meeting of *Registered Participants'* representatives may agree to keep confidential:

(1) the fact that a dispute exists between them; and

(2) any information exchanged between them for the purposes of attempting to resolve the dispute.

(g) *NEMMCO* must immediately notify the *Adviser* if:

(1) it serves a *DMS referral notice* on the *DMS Contact* of another *Registered Participant*, or

(2) it is served with a *DMS referral notice* by another *Registered Participant.*

The notification to the *Adviser* must include a list setting out each *Registered Participant* that *NEMMCO* considers may have an interest in the dispute, together with an indication as to whether *NEMMCO* has served a *DMS referral notice* in relation to the dispute on that *Registered Participant*, or has otherwise made the *Registered Participant* aware of the dispute.

(h) If *Registered Participants'* representatives, meeting in accordance with clauses 8.2.4(d) and (e), all agree that a *Registered Participant* that was not previously a party to the dispute should be served with a *DMS referral notice*, any one or more of them may serve a *DMS referral notice* on that other *Registered Participant*. Where a *Registered Participant* is served with such a notice, that *Registered Participant* must meet with the other parties to the dispute to determine the further conduct of the dispute in accordance with clauses 8.2.4(d), (e) and (f).

(i) If:

(1) a *Registered Participant* on whom a *DMS referral notice* is served does not agree to become a party to the dispute; or

(2) the dispute is not resolved within 20 *business days* (or such lesser period as is agreed by all the parties) after the day on which a *DMS referral notice* was last served on a *Registered Participant*,

any *Registered Participant* that has served a *DMS referral notice* in relation to the dispute or that has agreed to become a party to the dispute may, no later than 60 *business days* after the day on which a *DMS referral notice* was last served on a *Registered Participant*, refer the matter to the *Adviser* in accordance with clause 8.2.5.

(j) If the dispute has not been referred to the *Adviser* within 60 *business days* after the day on which a *DMS referral notice* was last served on a *Registered Participant*, any obligations or requirements arising under this clause 8.2.4 in relation to that dispute cease to have effect.

(k) Despite clauses 8.2.4(b) and 8.2.4(i) and any other provision of the *Rules* that specifies a time limit for the raising of a dispute, where:

(1) a *DMS referral notice* has not been served within the period specified in clause 8.2.4(b);

(2) a dispute has not been referred to the *Adviser* within the time specified in clause 8.2.4(i); or

(3) any other dispute to which clause 8.2 applies has not been raised within the time limit specified in the *Rules* for the raising of such a dispute,

the dispute may be referred to the *Adviser*, and a *DRP* may determine the dispute if, in the opinion of the *DRP*, any prejudice suffered by any *Registered Participant* as a result of the dispute being referred outside the specified period would not, having regard to the circumstances giving rise to the failure to refer the dispute within the specified period, be unreasonable.

8.2.5 Stage 2 - dispute resolution process

(a) A dispute may be referred to the *Adviser* by serving on the *Adviser* an *Adviser referral notice* in accordance with this clause 8.2.5. An *Adviser referral notice* must:

(1) be in a form approved and published by the *Adviser*;

(2) contain the names of all the parties to the dispute; and

(3) if the *Registered Participant* serving the *Adviser referral notice* does not agree to the *Adviser* attempting to resolve the dispute in accordance with clause 8.2.5(c)(1) and requires the *Adviser* to refer the dispute to a *DRP* for determination, must contain a statement to that effect.

(b) Where a dispute is referred to the *Adviser*, the *Adviser* must immediately notify each *Registered Participant* that is party to the dispute of that fact. Each *Registered Participant* must, within 5 *business days* of being so notified, provide to the *Adviser* a statement setting out:

(1) a brief history of the dispute and the circumstances giving rise to it; and

(2) a statement of its issues in relation to the dispute.

(c) The *Adviser* must, within 10 *business days* of being served with the *Adviser referral notice*, either:

(1) if the parties so agree, attempt to resolve the dispute by any means the *Adviser*, having regard to the principles set out in clause 8.2.1(e), considers appropriate; or

(2) if the parties do not agree to the *Adviser* attempting to resolve the dispute in accordance with clause 8.2.5(c)(1), refer the dispute to a *DRP* for determination in accordance with clauses 8.2.6A to 8.2.6D.

(d) If the *Adviser*, having attempted to resolve the dispute in accordance with clause 8.2.5(c)(1), considers that such attempt is unlikely to result in resolution of the dispute within a reasonable time, the *Adviser* may, at any time, refer the dispute to a *DRP* for determination in accordance with clauses 8.2.6A to 8.2.6D.

(e) Where the *Adviser* refers a dispute to a *DRP*, the *Adviser* must promptly *publish* to all *Registered Participants*, as well as promptly notify *NEMMCO*, the *AER* and the *AEMC* of, the fact that the referral has been made.

8.2.6A Establishment of Dispute Resolution Panel

(a) Where the *Adviser* decides to refer a dispute for resolution by a *DRP*, the *Adviser* must establish the *DRP* to determine the dispute.

(b) **[Deleted]**

(c) The *Adviser* must consult with the parties to the Stage 1 dispute resolution process on the composition of the *DRP*. For the avoidance of doubt, the requirement to consult on the composition of the *DRP* does not apply with respect to a party that is later joined as, or that later opts to become, a party to the dispute.

(d) Despite the requirement to consult set out in clause 8.2.6A(c), a decision of the *Adviser* as to the composition of the *DRP* is final and binding upon all parties to the dispute.

(e) A *DRP* must comprise three members or, if the parties agree that the circumstances and nature of the dispute warrant a panel comprised of one or two members, the number so agreed.

(f) The *Adviser* may appoint as a member of the *DRP* any person who is a member of the pool established under clause 8.2.2(e) and who in the reasonable opinion of the *Adviser* is either:

(1) expert in the field to which the dispute relates; or

(2) experienced or trained in dispute resolution techniques.

(g) A person, whether a member of the pool established under clause 8.2.2(e) or not, is not eligible for appointment to a *DRP* if that person has any interest which may conflict with, or which may be seen to conflict with, the impartial resolution of the dispute. Where a person becomes aware of such a conflict after the *DRP* commences the determination of a dispute, the person must advise the parties to that effect.

(h) Where:

(1) a *Registered Participant* who is a party to the dispute believes that a person appointed to a *DRP* has an interest which may conflict with the impartial resolution of the dispute; or

(2) a person appointed to a *DRP* discloses the existence of such an interest:

the person must not continue as a member of the *DRP*, except with the written consent of all parties to the dispute.

(i) The *Adviser* may, if in his or her reasonable opinion no member of the pool established under clause 8.2.2(e) is:

(1) eligible for appointment to a *DRP*; or

(2) sufficiently skilled and experienced to resolve the dispute,

appoint to the *DRP* another person whom he or she considers to be eligible and sufficiently skilled and experienced, but who is not a member of the pool. A person so appointed is deemed to be a member of the pool on and from his or her appointment to the *DRP*.

(j) Any person who has previously been a member of a *DRP* is eligible for appointment to another *DRP*.

(k) The *Adviser* must nominate one of the *DRP* members to be the chairperson.

8.2.6B Parties to DRP Proceedings

(a) The following persons are parties to the dispute before a *DRP*:

(1) the parties to the Stage 1 dispute resolution process referred by the *Adviser* to the *DRP*;

(2) any other *Registered Participant* that the *DRP* directs to become a party to the dispute in accordance with clause 8.2.6B(b); and

(3) any other *Registered Participant* that has opted to become a party to the dispute in accordance with clause 8.2.6B(c).

(b) If the *DRP* considers that a *Registered Participant* should become a party to the dispute, it may direct the *Registered Participant* to become a party by giving that *Registered Participant's DMS Contact* written notice setting out:

(1) the names of the other parties to the dispute;

(2) a brief history of the dispute and the circumstances giving rise to it;

(3) the results of any previous dispute resolution processes undertaken pursuant to the *Rules* in respect of the dispute; and

(4) the grounds on which the *DRP* considers the *Registered Participant* should be made a party to the dispute.

(c) Any *Registered Participant* that has an interest in a dispute may opt to become a party to the dispute by giving notice to the *DRP* that it wishes to do so. When a *Registered Participant* opts to become a party to the dispute in accordance with this clause 8.2.6B(c), the *DRP* must give that *Registered Participant's DMS Contact* written notice setting out:

(1) the names of the other parties to the dispute;

(2) a brief history of the dispute and the circumstances giving rise to it; and

(3) the results of any previous dispute resolution processes undertaken pursuant to the *Rules* in respect of the dispute.

8.2.6C Proceedings of the DRP

(a) The *DRP* may give to the parties such directions as it considers necessary for the proper conduct of the proceedings, including, without limitation, a direction:

(1) that the proceedings be conducted at a specified venue or venues (including the premises of a party) at a specified time or times;

(2) requiring the parties to prepare and exchange written submissions;

(3) requiring the parties to exchange documents; and

(4) limiting or prohibiting the cross examination of witnesses.

(b) The *DRP* may direct the parties that the proceedings, or part of the proceedings, are to be conducted solely on the basis of documentary evidence and written submissions.

(c) The *DRP* may give to the parties such directions relating to the use and disclosure of information obtained from other parties to the dispute

(including a direction to keep information confidential) as it considers necessary in the circumstances.

(d) At any time before it determines a dispute, the *DRP* may, with the consent of all parties, refer the dispute for mediation.

(e) The *DRP* must observe the rules of natural justice.

(f) Subject to clause 8.2.6C(e), the *DRP* is not bound by the rules of evidence and may inform itself in any manner it thinks fit.

8.2.6D Decisions of the DRP

(a) A decision of a *DRP* on any matter may be made by a majority of the members comprising the *DRP*. Where a *DRP* comprising two members is unable to reach a unanimous decision, the decision of the chairperson will be the decision of the *DRP*.

(b) Subject to clause 8.2.6D(c), a *DRP* must determine a dispute as quickly as possible, and in any case must do so:

(1) in the case of disputes involving two parties, within 30 *business days* after the dispute is referred to the *DRP*; and

(2) in the case of disputes involving more than two parties, within 70 *business days* after the dispute is referred to the *DRP*.

(c) A *DRP* may extend either of the periods specified in clause 8.2.6D(b) for determination of a dispute if:

(1) all parties to the dispute agree in writing;

(2) the *AER* agrees in writing; or

(3) the dispute is referred to mediation under clause 8.2.6C(d).

(d) A determination of the *DRP* may, without limitation of the *DRP's* power, require a party to do any or all of the following in such manner and within such time or times as is specified in the determination:

(1) take specified action;

(2) refrain from taking specified action; or

(3) pay a monetary amount to another party.

(e) Each party to a dispute that is required by a determination of the *DRP* to take specified action, to refrain from taking specified action or to pay a monetary amount must:

(1) do so within such period after being notified of the determination as is specified in the determination; and

(2) report to the *Adviser* as soon as practicable after doing so.

8.2.6 [Deleted]

8.2.7 Legal representation

(a) In any meeting, negotiation or mediation forming part of the Stage 1 dispute resolution process, a party is entitled to be legally represented, but must not use a legal representative as its primary advocate except with the agreement of all other parties.

(b) A *DRP* may give any direction it considers appropriate in relation to the role the parties' legal representatives may take in the proceedings.

8.2.8 Cost of dispute resolution

(a) The costs of any dispute resolution processes (other than legal costs of one or more parties), including the costs incurred by the *Adviser* in performing functions of the *Adviser* under clauses 8.2.5, 8.2.6A, 8.2.6B, 8.2.6C or 8.2.6D and the costs of the *DRP* and its members, are to be borne equally by the parties to the dispute unless:

(1) clause 8.2.8(b) applies; or

(2) otherwise agreed between the parties.

(b) Costs of the dispute resolution processes (including legal costs of one or more parties) may be allocated by the *DRP* for payment by one or more parties as part of any determination. Subject to clause 8.2.8(c), in deciding to allocate costs against one or more parties to a dispute, the *DRP* may have regard to any relevant matters, including (but not limited to) whether the conduct of that party or those parties unreasonably prolonged or escalated the dispute or otherwise increased the costs of the *DRP* proceedings.

(c) A party that disagrees with another party about the number of persons comprising a *DRP* is not to be taken, by reason only of that disagreement, to have unreasonably prolonged or escalated a dispute or otherwise increased the costs of the *DRP* proceedings.

8.2.9 Effect of resolution

(a) Where the parties to a dispute reach agreement (whether or not the matter is before a *DRP*), the parties may execute a written agreement recording that a party has or parties have agreed:

(1) to take certain action;

(2) not to take certain action; or

(3) to make a monetary payment.

(b) An agreement that is recorded in accordance with clause 8.2.9(a) and a determination of the *DRP* are binding on the parties to the dispute.

(c) A requirement that a *Registered Participant* pay moneys, imposed on the *Registered Participant* under:

(1) a determination of the *DRP*; or

(2) an agreement that is recorded in accordance with clause 8.2.9(a),

is an obligation under the *Rules* to pay such amounts. A *Registered Participant* or *NEMMCO* entitled to such amount may recover the amount in accordance with section 72 of the *National Electricity Law*.

(d) A *Registered Participant* must comply with a requirement or determination of the *DRP* and any agreement that is recorded in accordance with clause 8.2.9(a). Failure to do so is a breach of the *Rules* in respect of which the *AER* may take action in accordance with the *National Electricity Law*.

8.2.10 Recording and publication

(a) Where a *DRP* makes a determination, a copy of the determination must be forwarded to the *Adviser*.

(b) The *DRP* must provide a copy of its determination (save to the extent that it contains confidential information), to the *AER* for publication.

(c) The *AER* must, in accordance with the *Rules consultation procedures*, develop and issue guidelines relating to the confidentiality of information obtained, used or disclosed for the purposes of resolving a dispute to which clause 8.2 applies.

8.2.11 Appeals on questions of law

A party to a dispute may appeal on a question of law against a decision or determination of a *DRP* in accordance with section 71 of the *National Electricity Law*.

8.2.12 Limitation of Liability

(a) To the extent permitted by law, none of:

(1) the *Adviser*;

(2) **[Deleted]**

(3) a person serving as a member of a *DRP*; or

(4) a person to whom a dispute is referred for mediation or other form of resolution under a provision of clause 8.2,

is liable for any loss, damage or liability suffered or incurred by a *Registered Participant* or any other person as a consequence of any act or omission of those persons which was done in good faith in connection with the dispute.

(b) Each of the *Adviser*, a person serving as a member of a *DRP* and a person to whom a dispute is referred for mediation or other form of resolution may, before acting in relation to the dispute, require the parties to the dispute (or any one of them) to execute a release and indemnity in relation to any loss, damage or liability that that person would, but for the release or indemnity, suffer or incur as a consequence of any act or omission done in good faith in connection with the dispute.

8.2.13 [Deleted]

8.2.14 [Deleted]

8.2A B2B Determination Disputes

8.2A.1 Application of clause 8.2

Clause 8.2 applies to *B2B Determination Disputes* but with the modifications set out in clause 8.2A.2.

8.2A.2 How clause 8.2 applies

For the purposes of it application to a *B2B Determination Dispute*, clause 8.2 is modified as follows:

(a) For clause 8.2.1(a) substitute:

"(a) This clause 8.2 applies to a *B2B Determination Dispute*.".

(b) In clause 8.2.1(a1) delete "and *Connection Applicants* who are otherwise *Registered Participants*" and substitute "clause 8.2.9(c)" for "clauses 8.2.4(a) or 8.2.9(c)".

(c) For clause 8.2.1(e)(1) substitute:

"(1) be guided by the *B2B Objective* and the *B2B Principles*;".

(d) In clause 8.2.1(f):

(i) after "clause 8.12" insert "(as modified by clause 8.2A.2)"; and

(ii) insert a new sentence at the end of the clause as follows:

"The subject matter of a *B2B Determination Dispute* which has been determined by the *DRP* cannot be the subject of further review."

(e) For the avoidance of doubt, clause 8.2.3 does not apply to the *Information Exchange Committee.*

(f) The contact for the *Information Exchange Committee* in relation to disputes will be the *DMS Contact* for *NEMMCO.*

(g) Clause 8.2.4 does not apply.

(h) Clauses 8.2.5(a), (b), (c) and (d) do not apply.

(i) Insert new clauses 8.2.5(d1) to (d4) as follows:

"(d1) A *Market Customer*, *Local Retailer* or *Distribution Network Service Provider* adversely affected by an *Information Exchange Committee Recommendation* or a *B2B Decision* may apply to the *Adviser* for review of that *Information Exchange Committee Recommendation* or that *B2B Decision*. The application must be made within 10 *business days* of *publication* of the *Information Exchange Committee Recommendation* or the *B2B Decision*, state grounds for the review and give full particulars of where the applicant believes the *Information Exchange Committee Recommendation* or *B2B Decision* is in error.

(d2) Where an application for review of an *Information Exchange Committee Recommendation* is made, *NEMMCO* must not take any further action in relation to that *Information Exchange Committee Recommendation* until the *DRP* has made its decision in relation to the dispute.

(d3) An application for review of a *B2B Decision* stays the *B2B Decision*.

(d4) On receiving the application the *Adviser* must refer the dispute to a *DRP* for determination in accordance with clauses 8.2.6A to 8.2.6D.".

(j) In clause 8.2.6A(a), for "decides to refer" substitute "refers".

(k) In clause 8.2.6A(c), for "the parties to the Stage 1 dispute resolution process" substitute "the parties to the dispute".

(l) In clause 8.2.6A(h)(1) before "a *Registered Participant*" insert "the *Information Exchange Committee* or".

(m) For clause 8.2.6B(a)(1) substitute:

"(1) the *Registered Participant* making application for a review of the *Information Exchange Committee Recommendation* or the *B2B Decision*, a *Registered Participant* affected by the *Information Exchange Committee Recommendation* or the *B2B Decision* the subject of the application for review and the *Information Exchange Committee* or, if the *Information Exchange Committee* is unable to act as a party, any other *Registered Participant* wishing to support the position of the *Information Exchange Committee*;".

(n) At the end of clause 8.2.6B(a) insert:

"*NEMMCO* is a party to an application for review of a *B2B Decision* and may be a party, in accordance with clauses 8.2.6B(b) and 8.6.2(B)(c), to an application for review of an *Information Exchange Committee Recommendation*. In addition:

(1) where the *Information Exchange Committee* is unable to act as a party to a *B2B Determination Dispute*, and another *Registered Participant* is a party to support the position of the *Information Exchange Committee*, the *Information Exchange Committee* must give to that party all assistance including access to both documents and *Members*. A *Registered Participant* of which a *Member* is an employee must ensure that *Member* is available to provide such assistance; and

(2) where *NEMMCO* is a party to a *B2B Determination Dispute*, the *Information Exchange Committee* must give *NEMMCO* all assistance including access to both documents and *Members*. A *Registered Participant* of which a *Member* is an employee must ensure that *Member* is available to provide such assistance.".

(o) Clause 8.2.6C(d) does not apply.

(p) Insert a new clause 8.2.6C(g) as follows:

"(g) In considering a *B2B Determination Dispute*, the *DRP* must conduct a full reconsideration of the *Information Exchange Committee Recommendation* or *B2B Decision* and:

(1) can rely on any material available and is not confined to only considering material that was before the *Information Exchange Committee* in relation to an *Information Exchange Committee Recommendation* or *NEMMCO* in relation to a *B2B Decision*; and

(2) may exercise all powers and discretions that are conferred on the *Information Exchange Committee* in relation to an *Information Exchange Committee Recommendation* or *NEMMCO* in relation to a *B2B Decision*.".

(q) Insert a new clause 8.2.6D(da) as follows:

"(da) The *DRP* must make a decision in writing:

(1) affirming the *Information Exchange Committee Recommendation* or the *B2B Decision*;

(2) varying the *Information Exchange Committee Recommendation* or the *B2B Decision*; or

(3) setting aside the *Information Exchange Committee Recommendation* or the *B2B Decision* and substituting its own decision.".

(r) Clause 8.2.7(a) does not apply.

(s) In clause 8.2.8(a) after "8.2.6D" insert "(as modified by clause 8.2A.2)".

(t) Clauses 8.2.9(a), (b) and (c)(2) do not apply.

(u) In clause 8.2.9(d) after "*Registered Participant*" insert "and the *Information Exchange Committee*", and delete "and any agreement that is recorded in accordance with clause 8.2.9(a)".

(v) In clause 8.2.12(a), after "*Registered Participant*" insert "or the *Information Exchange Committee*".

8.3 [Deleted]

8.4 [Deleted]

8.5 [Deleted]

8.6 Confidentiality

8.6.1 Confidentiality

(a) Each *Registered Participant* and *NEMMCO* (each being a "Recipient" for the purposes of this clause 8.6) must use all reasonable endeavours to keep confidential any *confidential information* which comes into the possession or control of that Recipient or of which that Recipient becomes aware.

(b) A Recipient:

(1) must not disclose *confidential information* to any person except as permitted by the *Rules*;

(2) must only use or reproduce *confidential information* for the purpose for which it was disclosed or another purpose contemplated by the *Rules*; and

(3) must not permit unauthorised persons to have access to *confidential information*.

(c) Each Recipient must use all reasonable endeavours:

(1) to prevent unauthorised access to *confidential information* which is in the possession or control of that Recipient; and

(2) to ensure that any person to whom it discloses *confidential information* observes the provisions of this clause 8.6 in relation to that information.

(d) The officers of a *Transmission Network Service Provider* participating in *transmission service* pricing must not be involved in or associated with competitive electricity trading activities of any other *Registered Participant*.

(e) A *Transmission Network Service Provider* participating in *transmission service* pricing must provide to any *Transmission Network Service Provider* or *Registered Participant* which supplies information for *transmission service* pricing an undertaking that the *Transmission Network Service Provider* to which that information was supplied will comply with the confidentiality requirements set out in clause 6.9.2.

8.6.2 Exceptions

This clause 8.6 does not prevent:

(a) **(public domain)**: the disclosure, use or reproduction of information if the relevant information is at the time generally and publicly available other than as a result of breach of confidence by the Recipient who wishes to disclose, use or reproduce the information or any person to whom the Recipient has disclosed the information;

(b) **(employees and advisers)**: the disclosure of information by a Recipient or the Recipient's *Disclosees* to:

(1) an employee or officer of the Recipient or a *related body corporate* of the Recipient; or

(2) a legal or other professional adviser, auditor or other consultant (in this clause 8.6.2(b) called "Consultants") of the Recipient,

which require the information for the purposes of the *Rules*, or for the purpose of advising the Recipient or the Recipient's *Disclosee* in relation thereto;

(c) **(consent)**: the disclosure, use or reproduction of information with the consent of the person or persons who provided the relevant information under the *Rules*;

(d) **(law)**: the disclosure, use or reproduction of information to the extent required by law or by a lawful requirement of:

(1) any government or governmental body, authority or agency having jurisdiction over a Recipient or its *related bodies corporate*; or

(2) any stock exchange having jurisdiction over a Recipient or its *related bodies corporate*;

(d1) **(ombudsman scheme)**: the disclosure, use or reproduction of information, but not end-use consumer information, if required by an Ombudsman acting under a duly constituted industry dispute resolution ombudsman scheme of which a *Registered Participant* is a participant, for the purpose of carrying out a function of that scheme in respect of a complaint made by a customer of the *Registered Participant* against a *Registered Participant* under that scheme;

(e) **(disputes)**: the disclosure, use or reproduction of information if required in connection with legal proceedings, arbitration, expert determination or other dispute resolution mechanism relating to the *Rules*, or for the purpose of advising a person in relation thereto;

(f) **(trivial)**: the disclosure, use or reproduction of information which is trivial in nature;

(g) **(safety)**: the disclosure of information if required to protect the safety of personnel or equipment;

(h) **(potential investment)**: the disclosure, use or reproduction of information by or on behalf of a Recipient to the extent reasonably required in connection with the Recipient's financing arrangements, investment in that Recipient or a disposal of that Recipient's assets;

(i) **(regulator)**: the disclosure of information to the *AER*, the *AEMC* or the *ACCC* or any other regulatory authority having jurisdiction over a Recipient, pursuant to the *Rules* or otherwise;

(j) **(reports)**: the disclosure, use or reproduction of information of an historical nature in connection with the preparation and giving of reports under the *Rules*;

(k) **(aggregate sum)**: the disclosure, use or reproduction of information as an unidentifiable component of an aggregate sum;

(l) **(profile)**: the publication of a *profile*; or

(m) **(modelling)**: the disclosure, use or reproduction of data held by *NEMMCO* or a *Network Service Provider* for the purpose of modelling the operation of the *power system*, to the extent reasonably necessary to enable a *Network User* to develop an *application to connect*.

8.6.3 Conditions

In the case of a disclosure under clauses 8.6.2(b), 8.6.2(d1) or 8.6.2(h), prior to making the disclosure the Recipient who wishes to make the disclosure must inform the proposed recipient of the confidentiality of the information and must take appropriate precautions to ensure that the proposed recipient keeps the information confidential in accordance with the provisions of this clause 8.6 and does not use the information for any purpose other than that permitted under clause 8.6.1.

8.6.4 [Deleted]

8.6.5 Indemnity to AER, AEMC and NEMMCO

Each *Registered Participant* must indemnify the *AER*, the *AEMC* and *NEMMCO* against any claim, action, damage, loss, liability, expense or outgoing which the *AER*, the *AEMC* or *NEMMCO* pays, suffers, incurs or is liable for in respect of any breach by that *Registered Participant* or any officer, agent or employee of that *Registered Participant* of this clause 8.6.

8.6.6 NEMMCO information

NEMMCO must develop and, to the extent practicable, implement a policy:

(a) to protect information which it acquires pursuant to its various functions from use or access which is contrary to the provisions of the *Rules*;

(b) to disseminate such information in accordance with its rights, powers and obligations in a manner which promotes the orderly operation of any *market*; and

(c) to ensure that *NEMMCO*, in undertaking any trading activity except the procurement of *ancillary services*, does not make use of such information unless the information is also available to other *Registered Participants*.

8.6.7 Information on Rules Bodies

NEMMCO must, in consultation with the *AEMC*, develop and implement policies concerning:

(a) the protection of information which *Rules bodies* acquire pursuant to their various functions from use or access by *Registered Participants* or *Rules bodies* which is contrary to the provisions of the *Rules*; and

(b) the dissemination of such information where appropriate to *Registered Participants*.

8.7 Monitoring and Reporting

8.7.1 Monitoring

(a) **[Deleted]**

(b) The AER must, for the purpose of performing its monitoring functions:

(1) determine whether *Registered Participants* and *NEMMCO* are complying with the *Rules*;

(2) assess whether the dispute resolution and *Rules* enforcement mechanisms are working effectively in the manner intended; and

(3) **[Deleted]**

(4) collect, analyse and disseminate information relevant and sufficient to enable it to comply with its reporting and other obligations and powers under the *Rules*.

(c) The AER must ensure that, to the extent practicable in light of the matters set out in clause 8.7.1(b), the monitoring processes which it implements under this clause 8.7:

(1) are consistent over time;

(2) do not discriminate unnecessarily between *Registered Participants*;

(3) are cost effective to both the *AER*, all *Registered Participants* and *NEMMCO*; and

(4) are publicised or information relating thereto is available to any person, subject to any requirements as a result of the confidentiality obligations in clause 8.6.

8.7.2 Reporting requirements and monitoring standards for Registered Participants and NEMMCO

(a) For the purpose of performing its monitoring functions, the *AER* must establish:

(1) reporting requirements which apply to all or particular categories of *Registered Participants* in relation to matters relevant to the *Rules* ;

(2) reporting requirements for *NEMMCO* in relation to matters relevant to the *Rules*;

(3) procedures and standards generally applicable to *Registered Participants* relating to information and data received by them in relation to matters relevant to the *Rules*;

(4) procedures and standards applicable to *NEMMCO* relating to information and data received by it in relation to matters relevant to the *Rules*; and

(5) procedures and standards applicable to the *AER* relating to information and data received by the *AER* from *Registered Participants* or *NEMMCO* in relation to matters relevant to the *Rules*.

(b) The *AER* must:

(1) after consultation with the *AEMC*, *NEMMCO* and *Registered Participants* in accordance with the *Rules consultation procedures*, establish the requirements and standards and procedures referred to in clause 8.7.2(a)(1), (3), (4) and (5); and

(2) after consultation with the *AEMC*, *NEMMCO* and such *Registered Participants* as the *AER* considers appropriate, establish the requirements referred to in clause 8.7.2(a)(2).

In formulating such requirements or procedures and standards, the *AER* must take into consideration the matters set out in clause 8.7.1(c).

(c) Subject to clause 8.7.2(d), the *AER* must notify to *NEMMCO* and all *Registered Participants* particulars of the requirements and procedures and standards which it establishes under this clause 8.7.2.

(d) For the purpose of performing its monitoring functions, the *AER* may establish additional or more onerous requirements or procedures and standards which do not apply to all or a particular category of *Registered Participants*. In formulating such requirements or procedures and standards, the *AER* must take into consideration the matters set out in clause 8.7.1(c) and is not required to consult in accordance with the *Rules*

consultation procedures but must consult with the relevant *Registered Participants*. In such a case, and if the *AER* considers it appropriate to do so, the *AER* may choose to notify only those *Registered Participants* to whom these additional or more onerous requirements or procedures and standards apply.

(e) Each *Registered Participant* and *NEMMCO* must comply with all requirements, procedures and standards established by the *AER* under this clause 8.7 to the extent that they are applicable to it within the time period specified for the requirement, procedure or standard or, if no such time period is specified, within a reasonable time. Each *Registered Participant* and *NEMMCO* must bear its own costs associated with complying with these requirements, procedures and standards.

(f) In complying with its obligations or pursuing its rights under the *Rules*, neither a *Registered Participant* nor *NEMMCO* must recklessly or knowingly provide, or permit any other person to provide on behalf of that *Registered Participant* or *NEMMCO* (as the case may be), misleading or deceptive data or information to any other person (including the *AER*).

(g) Any *Registered Participant* or *NEMMCO* may ask the *AER* to impose additional or more onerous requirements, procedures or standards under clause 8.7.2(d) on a *Registered Participant* in order to monitor or assess compliance with the *Rules* by that *Registered Participant*. When such a request is made, the *AER* may but is not required to impose the additional or more onerous requirements, procedures or standards.

If the *AER* decides to impose additional or more onerous requirements, procedures or standards on a *Registered Participant*, the *AER* may determine the allocation of costs of any additional compliance monitoring undertaken between the relevant *Registered Participants* and/or *NEMMCO* (as the case may be). The relevant *Registered Participants* and (to the extent relevant) *NEMMCO* must pay such costs as allocated. In the absence of such allocation, the *Registered Participant* which is subject to the additional or more onerous requirements, procedures or standards must bear its own costs of compliance.

(h) The *AER* must develop and implement guidelines in accordance with the *Rules consultation procedures* governing the exercise of the powers conferred on it by clause 8.7.2(g) which guidelines must set out the matters to which the *AER* must have regard prior to deciding the allocation of costs of any additional or more onerous requirements, procedures or standards imposed pursuant to clause 8.7.2(g) between the relevant *Registered Participants* and/or *NEMMCO* (as the case may be).

8.7.3 [Deleted]

8.7.4 [Deleted]

8.7.5 [Deleted]

8.7.6 Recovery of reporting costs

Where, under the *Rules*, *NEMMCO* is entitled or required to publish or give information, notices or reports to:

(a) any *Registered Participant*, any court, the *ACCC* or a *Jurisdictional Regulator*, unless the context otherwise requires, *NEMMCO* must not charge those persons a separate fee for providing them with a copy of the information or report and the costs in providing that service must be recovered through the *Participant fees* described in clause 2.12;

(b) any other person, *NEMMCO* may charge that person a fee which is appropriate to cover the costs of providing that service.

8.8 Reliability Panel

8.8.1 Purpose of the Reliability Panel

(a) The functions of the *Reliability Panel* are to:

(1) monitor, review and report on the performance of the *market* in terms of *reliability* of the *power system*;

(2) review and, on the advice of *NEMMCO*, determine the *power system security and reliability standards*;

(2a) for the purposes of clause 4.2.6(b), develop and *publish* principles and guidelines that determine how *NEMMCO* should maintain *power system security* while taking into account the costs and benefits to the extent practicable;

(3) while *NEMMCO* has power to issue *directions* in connection with maintaining or re-establishing the *power system* in a *reliable operating state*, determine guidelines governing the exercise of that power;

(4) while *NEMMCO* has power to enter into contracts for the provision of *reserves*, determine policies and guidelines governing *NEMMCO's* exercise of that power;

(5) report to the *AEMC* and *participating jurisdictions* on overall *power system reliability* matters concerning the *power system* and on the

matters referred to in clauses 8.8.1(a)(2) and (3), and make recommendations on *market* changes or changes to the *Rules* and any other matters which the *Reliability Panel* considers necessary;

(6) monitor, review and *publish* a report on the *system standards* in terms of whether they appropriately and adequately describe the expected technical performance conditions of the *power system*;

(7) monitor, review and *publish* a report on the implementation of *automatic access standards* and *minimum access standards* as *performance standards* in terms of whether:

(i) their application is causing, or is likely to cause, a material adverse effect on *power system security*; and

(ii) the *automatic access standards* and *minimum access standards* should be amended or removed; and

(8) consider requests made in accordance with clause 5.3.3(b2) and, if appropriate, determine whether an existing Australian or international standard, or a part thereof, is to be adopted as a *plant standard* for a particular class of *plant.*

(9) **[Deleted]**

(b) In performing its functions set out in clause 8.8.1(a)(1) the *Reliability Panel* must not monitor, review or report on the performance of the *market* in terms of *reliability* of *distribution networks*, although it may collate, consider and report information in relation to the *reliability* of *distribution networks* as measured against the relevant standards of each *participating jurisdiction* in so far as the *reliability* of those *networks* impacts on overall *power system reliability*.

(c) The principles and guidelines *published* under clause 8.8.1(a)(2a):

(1) must be developed, and may only be amended, in accordance with the consultation process set out in clause 8.8.3;

(2) must include transitional arrangements which take into account the need to allow for the development and testing of an appropriate methodology by *NEMMCO*; and

(3) must take into account the results of any decision to revise *network constraints*.

(d) **[Deleted]**

(e) **[Deleted]**

8.8.2 Constitution of the Reliability Panel

(a) The *Reliability Panel* must consist of:

(1) a commissioner of the *AEMC* appointed by the *AEMC* to act as chairperson for a period of up to three years;

(2) the chief executive officer or a delegate of *NEMMCO*; and

(3) at least 5 but not more than 8 other persons appointed by the *AEMC* for a period of up to three years, such persons to include:

(A) a person representing *Generators*;

(B) a person representing *Market Customers*;

(C) a person representing *Transmission Network Service Providers*;

(D) a person representing *Distribution Network Service Providers*; and

(E) a person representing the interests of end use customers for electricity.

(b) Subject to clause 8.8.2(d) any person who has previously served on the *Reliability Panel* is eligible for reappointment to the *Reliability Panel* in accordance with this clause 8.8.2.

(c) In making appointments to the *Reliability Panel* under clause 8.8.2(a)(3), the *AEMC* must, to the extent reasonably practicable and subject to clause 8.8.2(c1), give effect to the intention that the persons so appointed:

(1) should be broadly representative, both geographically and by reference to *Registered Participants* and *participating jurisdictions*, of those persons with direct interests in *reliability* of electricity *supply* under the *market* arrangements;

(2) may include *Registered Participants* or their *representatives* or *participating jurisdictions*;

(3) must be independent of *NEMMCO*; and

(4) must, except in the case of the person representing *Transmission Network Service Providers* appointed under clause 8.8.2(a)(3)(C), be independent of all *System Operators*,

and if at any time:

(5) a person on the *Reliability Panel*, other than the chief executive officer or a delegate of *NEMMCO*, ceases to be independent of *NEMMCO*; or

(6) a person on the *Reliability Panel*, other than the person representing *Transmission Network Service Providers* appointed under clause 8.8.2(a)(3)(C), ceases to be independent of any *System Operator*,

the *AEMC* must remove that person from the *Reliability Panel*.

(c1) The persons referred to in clauses 8.8.2(a)(3)(A), (B), (C) and (D) must be appointed and removed by the *AEMC* after consultation with the class of *Registered Participants* the person is to represent, and the *AEMC* must:

(1) appoint a person agreed to by at least one third in number of the relevant class of *Registered Participants*; and

(2) commence consultation on the removal of such a person if requested to do so by a member of the relevant class of *Registered Participants*, and must remove that person if so agreed by at least one third in number of the relevant class of *Registered Participants*.

(d) The *AEMC* may remove any member of the *Reliability Panel*, including the chairperson, at any time during his or her term in the following circumstances:

(1) the person becomes insolvent or under administration;

(2) the person becomes of unsound mind or his or her estate is liable to be dealt with in any way under a law relating to mental health;

(3) the person resigns or dies;

(4) the *AEMC* is required to remove the person under clause 8.8.2(c) or 8.8.2(c1)(2); or

(5) the person fails to discharge the obligations of that office imposed by the *Rules*.

(d1) The person referred to in clause 8.8.2(a)(3)(E) must be appointed and removed by the *AEMC* after consultation with such bodies representing the interests of end use customers for electricity and other persons as the *AEMC* considers appropriate and, subject to such consultation, may be removed at any time for any reason.

(e) A person may resign from the *Reliability Panel* by giving notice in writing to that effect to the *AEMC*.

(f) The *Reliability Panel* must meet and regulate its meetings and conduct its business in accordance with the *Rules*.

(g) A decision of the *Reliability Panel* on any matter may be made by a majority of the members comprising the *Reliability Panel*. Where the members of the *Reliability Panel* are equally divided on any matter, the chairperson has a casting vote.

8.8.3 Reliability review process

(a) As soon as practicable, the *Reliability Panel* must determine:

(1) the *power system security and reliability standards*;

(2) the guidelines referred to in clause 8.8.1(a)(3); and

(3) the policies and guidelines referred to in clause 8.8.1(a)(4),

in accordance with this clause 8.8.3.

(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 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.

(c) The *AEMC* must advise the *Reliability Panel* of the terms of reference for any determination or review by the *Reliability Panel*. The *AEMC* may advise the *Reliability Panel* of standing terms of reference in relation to the annual reviews described in clause 8.8.3(b) from time to time.

(d) The *Reliability Panel* must give notice to all *Registered Participants* of a determination or review. The notice must give particulars of the terms of reference for the determination or review (as the case may be), the deadline for the receipt of any submissions to the *Reliability Panel* and the date and place for the meeting referred to in clause 8.8.3(f). The notice must be given at least 8 weeks prior to the meeting or such other time specified by the *AEMC* in any request for a review.

(e) The deadline for receipt of submissions must not be earlier than 4 weeks prior to the meeting or such other time specified by the *AEMC* in any request for a review.

(f) The *Reliability Panel* must hold a meeting open to all *Registered Participants*.

(g) The meeting referred to in clause 8.8.3(f) must be held in the capital city of one of the *participating jurisdictions*. Selection of the relevant capital city in a particular case will be determined by the *Reliability Panel* on a rotating basis.

(h) The *Reliability Panel* may obtain such technical advice or assistance from time to time as it thinks appropriate including, without limitation, advice or assistance from *NEMMCO* and any *Registered Participant*.

(i) In undertaking any review and preparing any report and recommendations, the *Reliability Panel* must take into consideration the policy statements, directions or guidelines published by the *AEMC* from time to time.

(j) Following the conclusion of the meeting and consideration by the *Reliability Panel* of any submissions or comments made to it, the *Reliability Panel* must submit a written report to the *AEMC* on the review setting out its recommendations or determinations, its reasons for those recommendations or determinations and the procedure followed by the *Reliability Panel* in undertaking the review or determination. The report must be submitted to the *AEMC* no later than 6 weeks after the meeting referred to in clause 8.8.3(f) or such other deadline for reporting specified by the *AEMC* in any request for a review.

(k) The *AEMC* must, within 10 *days* of receiving the written report of the *Reliability Panel*, make the report publicly available, subject to the confidentiality provisions of clause 8.6.

(l) The recommendations of the *Reliability Panel* may include (without limitation) recommended *changes* to the *Rules* in relation to matters concerning *reliability* of the *power system*.

(m) **[Deleted]**

8.8.4 [Deleted]

8.9 Rules Consultation Procedures

(a) These provisions apply wherever in the *Rules* any person ("the *consulting party*") is required to comply with the *Rules consultation procedures*. For the avoidance of doubt, the *Rules consultation procedures* are separate from, and do not apply to, the process for changing the *Rules* under Part 7 of the *National Electricity Law*.

(b) The *consulting party* must give a notice to all persons nominated (including *Intending Participants* in the class of persons nominated) by the relevant provision as those with whom consultation is required or, if no persons are specifically nominated, *NEMMCO*, all *Registered Participants* and *interested parties*, ("Consulted Persons") giving particulars of the matter under consultation.

(c) Except where the *consulting party* is the *AEMC*, the *AER* or the *Advocacy Panel*, the *consulting party* must provide a copy of the notice referred to in clause 8.9(b) to *NEMMCO*. Within 3 *business days* of receipt of the notice *NEMMCO* must publish the notice on its website. Where the *AEMC* or the *Advocacy Panel* is the *consulting party*, the *AEMC* must publish the notice referred to in clause 8.9(b) on its website. Where the *AER* is the *consulting party*, the *AER* must publish the notice referred to in clause 8.9(b) on its website.

(d) The notice must invite interested Consulted Persons to make written submissions to the *consulting party* concerning the matter.

(e) A written submission may state whether a Consulted Person considers that a meeting is necessary or desirable in connection with the matter under consultation and, if so, the reasons why such a meeting is necessary or desirable. To be valid, a submission must be received not later than the date specified in the notice (not to be less than 25 *business days* after the notice referred to in clause 8.9(b) is given).

(f) The *consulting party* must consider all valid submissions within a period of not more than a further 20 *business days*. If the *consulting party*, after having considered all valid submissions, concludes that it is desirable or necessary to hold any meetings, the *consulting party* must use its best endeavours to hold such meetings with Consulted Persons who have requested meetings within a further 25 *business days.*

(g) Following the conclusion of any meetings held in accordance with clause 8.9(f) and the *consulting party's* consideration of a matter under consultation, the *consulting party* must publish a draft report, available to all Consulted Persons, setting out:

(1) the conclusions and any determinations of the *consulting party;*

(2) its reasons for those conclusions;

(3) the procedure followed by the *consulting party* in considering the matter;

(4) summaries of each issue, that the *consulting party* reasonably considers to be material, contained in valid written submissions received from Consulted Persons or in meetings, and the *consulting party's* response to each such issue; and

(5) in a notice at the front of the draft report, an invitation to Consulted Persons to make written submissions to the *consulting party* on the draft report,

and, subject to the provisions of clause 8.6, the *consulting party* must make available to all Consulted Persons, on request, copies of any material submitted to the *consulting party*.

(h) Except where the *consulting party* is the *AEMC*, the *AER* or the *Advocacy Panel*, the *consulting party* must provide a copy of the draft report referred to in clause 8.9(g) to *NEMMCO*. Within 3 *business days* of receipt of the draft report *NEMMCO* must publish the draft report on its website. Where the *AEMC* or the *Advocacy Panel* is the *consulting party*, the *AEMC* must publish the draft report referred to in clause 8.9(g) on its website. Where the *AER* is the *consulting party*, the *AER* must publish the draft report referred to in clause 8.9(g) on its website.

(i) To be valid, a submission invited in a notice referred to in clause 8.9(g)(5) must be received not later than the date specified in the notice (not to be less than 10 *business days* after the publication of the draft report pursuant to clause 8.9(h) or such longer period as is reasonably determined by the *consulting party* having regard to the complexity of the matters and issues under consideration).

(j) The *consulting party* must consider all valid submissions within a period of not more than a further 30 *business day*s.

(k) Following the conclusion of the *consulting party's* consideration of all valid submissions the *consulting party* must publish a final report, available to all Consulted Persons, setting out:

(1) the conclusions and any determinations of the *consulting party* on the matter under consultation;

(2) its reasons for those conclusions;

(3) the procedure followed by the *consulting party* in considering the matter;

(4) summaries required pursuant to clause 8.9(g)(4); and

(5) summaries of each issue, that the *consulting party* reasonably considers to be material, contained in valid written submissions received from Consulted Persons on the draft report and the *consulting party's* response to each such submission,

and, subject to the provisions of clause 8.6, the *consulting party* must make available to all Consulted Persons, on request, copies of any material submitted to the *consulting party*.

(l) Except where the *consulting party* is the *AEMC*, the *AER* or the *Advocacy Panel*, the *consulting party* must provide a copy of the final report referred to in clause 8.9(k) to *NEMMCO*. Within 3 *business days* of receipt of the final report *NEMMCO* must publish the final report on its website. Where the *AEMC* or the *Advocacy Panel* is the *consulting party*, the *AEMC* must publish the final report referred to in clause 8.9(k) on its website. Where the *AER* is the *consulting party*, the *AER* must publish the final report referred to in clause 8.9(k) on its website.

(m) The *consulting party* must not make the decision or determination in relation to which the *Rules consultation procedures* apply until the *consulting party* has completed all the procedures set out in this clause.

(n) Notwithstanding clause 8.9(m), substantial compliance by a *consulting party* with the procedures set out in this clause is sufficient.

8.10 Advocacy Panel

8.10.1 Establishment of the Advocacy Panel

(a) The *AEMC* must establish an *Advocacy Panel*. The *Advocacy Panel* must:

(1) determine the annual funding requirements for end-user advocacy;

(2) develop and publish criteria for the allocation of funding for end-user advocacy;

(3) develop and publish guidelines for applications for funding for end-user advocacy;

(4) allocate funding to individual projects; and

(5) ensure appropriate auditing arrangements.

8.10.2 Constitution of the Advocacy Panel

(a) The *Advocacy Panel* must consist of:

(1) a person appointed by the *AEMC*, following consultation with representatives of end-users and industry sectors, to act as the chairperson for a period of three years. Such chairperson will have a casting vote in all decisions of the *Advocacy Panel*;

(2) two representatives of end-users appointed by the chairperson in accordance with clause 8.10.2(f); and

(3) a representative of *Market Participants* and a representative of *Market Generators* appointed by the chairperson in accordance with the guidelines prepared pursuant to clause 8.10.2(e).

(b) In appointing a chairperson to the *Advocacy Panel* under clause 8.10.2(a)(1), the *AEMC* must, to the extent reasonably practicable, ensure that the person so appointed is independent of the *AEMC, NEMMCO* and all *Registered Participants* and, if at any time the chairperson of the *Advocacy Panel* ceases to be independent of the *AEMC, NEMMCO* and all *Registered Participant*s, the *AEMC* must remove that person from the *Advocacy Panel.*

(c) Subject to clause 8.10.2(d) any person who has previously served as chairperson of the *Advocacy Panel* is eligible for reappointment to the *Advocacy Panel* in accordance with this clause 8.10.2.

(d) The *AEMC* may remove the chairperson of the *Advocacy Panel* at any time during his or her term in the following circumstances:

(1) the person becomes insolvent or under administration;

(2) the person becomes of unsound mind or his or her estate is liable to be dealt with in any way under a law relating to mental health;

(3) the person resigns or dies;

(4) the person ceases to be independent of the *AEMC, NEMMCO* and all *Registered Participant*s; or

(5) the person fails to discharge the obligations of that office imposed by the *Rules* or the terms and conditions developed pursuant to clause 8.10.2(e).

(e) The chairperson of the *Advocacy Panel* must develop and publish guidelines and terms and conditions for the appointment of representatives to the *Advocacy Panel*, in accordance with the *Rules consultation procedures*. The guidelines must be developed having regard to the need to ensure that representatives selected are capable of reflecting the viewpoints and concerns of the constituencies they represent and to the need for the chairperson to consult with relevant consumer organisations and industry bodies.

(f) In appointing the two representatives of end-users under clause 8.10.2(a)(2), the chairperson must appoint one representative of domestic end-users and one representative of business end-users and must, to the extent reasonably practicable, have regard to the guidelines prepared in accordance with clause 8.10.2(e).

(g) A person may resign from the *Advocacy Panel* by giving notice in writing to that effect to the chairperson of the *Advocacy Panel* and the *AEMC*.

(h) The *Advocacy Panel* must meet and regulate its meetings and conduct its business in accordance with the *Rules*.

8.10.3 Functions of the Advocacy Panel

(a) The *Advocacy Panel* must determine the provisional funding requirements for end-user advocacy in accordance with the *Rules consultation procedure*s.

(b) Not later than 31 March each year the *Advocacy Panel* must prepare and publish an annual report which:

(1) includes details of its funding determination pursuant to clause 8.10.3(a);

(2) summarises the submissions received from *interested parties* regarding the funding requirements for end-user advocacy and the *Advocacy Panel's* response to each such submission;

(3) details expenditure in the current *financial year* and the individual projects to which funding was allocated for the current *financial yea*r; and

(4) details the extent to which the allocation of funding in the current *financial year* satisfies the principles in clause 8.10.3(d).

(c) The *AEMC* must provide to the *Advocacy Panel* in respect of each *financial year* the funds for which provision is made in the *Advocacy Panel's* annual report for that year.

(c1) *NEMMCO* must pay to the *AEMC* such amounts as are necessary to enable the *AEMC* to comply with clause 8.10.3(c) in respect of the *Advocacy Panel's* funding requirements for the *financial year* ending on 30 June 2006.

(d) The *Advocacy Panel* must develop and publish funding criteria for use by the *Advocacy Panel* in allocating funding based on applications for funding for end-user advocacy, in accordance with the *Rules consultation*

*procedure*s. The funding criteria should, to the extent practicable, be consistent with the following principles:

(1) there should be diversity in the allocation of funding with respect to the number of end-users represented, the nature of the interests represented and the issues which are the subject of the application for funding;

(2) a project proposed in an application for funding should:

(i) relate to the development, design or policy behind the national electricity market or the *Rules*;

(ii) relate directly to:

(A) the responsibilities of the *AEMC* or *NEMMCO* under the *National Electricity Law* and the *Rules*; or

(B) the monitoring, investigation or enforcement responsibilities of the *AER*, or functions of the *AER* relating to the exemption from registration of *Network Service Providers*, under the *National Electricity Law* and the *Rules*; or

(iii) have implications for the national electricity market as a whole;

(3) the applicant for funding must represent the interests of a reasonable number of end-users;

(4) the applicant for funding must fund a share of the project costs from a source other than funding provided by the *Advocacy Panel*. In considering the contribution made by an applicant the *Advocacy Panel* may consider non-financial contributions, for example staff time, in lieu of a direct pecuniary contribution. An applicant may seek to waive the requirement to fund a share of the project costs but the *Advocacy Panel* has discretion as to whether or not to grant the waiver;

(5) the applicant for funding must provide a project plan, outlining the purpose of the project, the project category, budget estimates and the amount of funding sought from the *Advocacy Panel*;

(6) the successful applicant for funding must maintain and make available to the *Advocacy Panel* appropriate records, accounts and reports on the expenditure of funding provided by the *Advocacy Panel* on the project; and

(7) the successful applicant for funding must within 2 months of the completion of the project or as soon as reasonably practicable after receipt of a written request for a report from the *Advocacy Panel* publish a report setting out:

(i) the purpose of the project;

(ii) the issues considered and outcomes of the project; and

(iii) the costs and expenses of the project.

(e) The *Advocacy Panel* must develop and publish guidelines for applications to the *Advocacy Panel* for funding for end-user advocacy, in accordance with the *Rules consultation procedure*s.

(f) The *Advocacy Panel* must determine applications for funding on a quarterly basis, having regard to the criteria prepared in accordance with clause 8.10.3(d). The individual projects to which funding is to be allocated and disbursed in the next quarter of the *financial year* must be determined prior to the commencement of that quarter.

(g) The *Advocacy Panel* must ensure, to the extent reasonably practicable, that the financial records and accounts of the *Advocacy Panel*, and the financial records and accounts and expenditure reports prepared and maintained by a successful applicant for funding, are audited by an independent auditor appointed by the *Advocacy Panel* and approved by the *AEMC*.

8.10.4 Funding of Advocacy Panel

The obligation of the *AEMC* to fund the expenditure requirements of the *Advocacy Panel* under clause 8.10.3(c) ceases on 30 June 2006.

CHAPTER 8A

8A. Participant Derogations

Purpose of the Chapter

This Chapter contains the *participant derogations* for the purposes of the *National Electricity Law* and the *Rules.*

Part 1 - Derogations Granted to South Australian Generators

[Deleted]

Part 2 - Derogations Granted to New South Wales Generators

[Deleted]

Part 3 - Derogations Granted to Snowy Hydro Trading Pty Ltd

[Deleted]

Part 4 - Time-Varying Loss Factor Derogation Granted to NEMMCO

[Deleted]

Part 5 [Deleted]

Part 6 - Derogations Granted to Victorian Market Participants

[Deleted]

Part 7 - Provision of Non-Scheduled Reserves by NEMMCO

1. Definitions

In this *participant derogation*:

"non-scheduled reserve" means the amount of surplus or unused capacity:

(a) of *generating units* (other than *scheduled generating units*); or

(b) arising out of the ability to reduce demand (other than a *scheduled load*).

"non-scheduled reserve contract" means a contract entered into by *NEMMCO* for the provision of *non-scheduled reserve*.

"activate", "activated", "activation" mean operation of a *generating unit* (other than a *scheduled generating unit*) at an increased *loading level* or reduction in demand (other than a *scheduled load*) undertaken in response to a request by *NEMMCO* in accordance with a *non-scheduled reserve contract*.

2. Derogation

Chapters 3, 4 and 10 apply to *NEMMCO* as modified and varied in the following manner:

(a) for clause 3.2.5 there was substituted:

"3.2.5 Reserves

NEMMCO must trade in *reserves* by negotiating and entering into contracts to secure the availability of *reserves* under *reserve contracts* or *non-scheduled reserve contracts* in accordance with clause 3.12."

(b) for clause 3.8.1(b) there was substituted:

"(b) The *central dispatch* process should aim to maximise the value of *spot market* trading i.e. to maximise the value of *dispatched load* based on *dispatch bids* less the combined cost of *dispatched generation* based on *generation dispatch offers*, *dispatched network services* based on *network dispatch offers*, and *dispatched market ancillary services* based on *market ancillary service offers* subject to:

(1) *dispatch offers*, *dispatch bids* and *market ancillary service offers*;

(2) *constraints* due to availability and *commitment*;

(3) *non-scheduled load* requirements in each *region*;

(4) *power system security* requirements determined as described in Chapter 4 and the *power system security and reliability standards*;

(5) *intra-regional network constraints* and *intra-regional losses*;

(6) *inter-regional network constraints* and *inter-regional losses*;

(7) *constraints* consistent with *registered bid and offer data*;

(8) current levels of *dispatched generation*, *load* and *market network services*;

(9) *constraints* imposed by *ancillary services* requirements;

(10) *constraints* designed to ensure pro-rata loading of tied *registered bid and offer data*; and

(11) ensuring that as far as reasonably practical, in relation to a *direction* or *dispatch* of *plant* under a *reserve contract* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract*:

(A) the number of *Affected Participants* is minimised; and

(B) the effect on *inter-connector* flows is minimised."

(c) for clause 3.8.14 there was substituted:

"3.8.14 Dispatch under conditions of supply scarcity

During times of projected *supply* scarcity, *NEMMCO* must use its reasonable endeavours to ensure that the actions set out below occur in the following sequence:

(a) subject to any adjustments which may be necessary to implement action under clause 3.8.14(c), and subject to any inflexibilities associated with *reserves* under *reserve contracts* or *non-scheduled reserve contracts*, all valid *dispatch bids* and *dispatch offers* submitted by *Scheduled Generators* or *Market Participants* are *dispatched*, including those priced at *VoLL*;

(b) subject to any adjustments which may be necessary to implement action under clause 3.8.14(c), and subject to any inflexibilities associated with *reserves* under *reserve contracts* or *non-scheduled reserve contracts*, after all valid *dispatch bids* and *dispatch offers* submitted by *Scheduled Generators* and *Market Participants* have been exhausted:

(1) *dispatch bids* or *dispatch offers* submitted by *NEMMCO* in respect of *plant* or *scheduled network services* under *reserve contracts* for the provision of *reserves* are *dispatched*; and

(2) *generating units* or *loads* are *activated* under *non-scheduled reserve contracts*; and

(c) any further corrective actions required are implemented in accordance with clauses 4.8.5B and 4.8.9."

(d) [Deleted]

(e) for clause 3.9.3 there was substituted:

"3.9.3 Pricing in the event of intervention by NEMMCO

(a) In respect of a *dispatch interval* in which:

(1) *NEMMCO dispatches plant* provided under a *reserve contract*;

(2) a *direction* is in effect; or

(3) *generating units* or *loads* under *non-scheduled reserve contracts* have been *activated*,

NEMMCO must declare that *dispatch interval* to be an *intervention price dispatch interval*.

(a1) Subject to clauses 3.9.3(a2) and 3.9.3(a3), *NEMMCO* must in accordance with the methodology or assumptions *published* pursuant to clause 3.9.3(b) set the *dispatch price* and *ancillary service prices* for an *intervention price dispatch interval* at the value which *NEMMCO*, in its reasonable opinion, considers would have applied as the *dispatch price* and *ancillary service prices* for that *dispatch interval* in the relevant *region* had:

(1) the *plant* provided under the *reserve contract* not been *dispatched*;

(2) the *direction* not been issued; or

(3) the *generating units* or *loads* under the *non-scheduled reserve contract* not been *activated*.

(a2) *NEMMCO* may continue to set *dispatch prices* pursuant to clause 3.9.2 and *ancillary service prices* pursuant to clause 3.9.2A until the later of:

(1) the second *dispatch interval* after the first *dispatch interval* in which:

(i) the *direction* has effect;

(ii) *NEMMCO dispatches plant* provided under a *reserve contract*; or

(iii) *generating units* or *loads* are *activated* under a *non-scheduled reserve contract*; or

(2) if applicable, the second *dispatch interval* after the restoration of the *power system* to a *secure operating state* after the *direction* was issued,

provided that *NEMMCO* must use its reasonable endeavours to set *dispatch prices* and *ancillary service prices* pursuant to clause 3.9.3 as soon as reasonably practicable following:

(3) a *direction*;

(4) *dispatch* of *plant* provided under a *reserve* contract; or

(5) *activation* of *generating units* or *loads* under a *non-scheduled reserve contract*.

(a3) *NEMMCO* must continue to set *dispatch prices* pursuant to clause 3.9.2 and *ancillary service prices* pursuant to clause 3.9.2A if a *direction* given to a *Registered Participant* in respect of *plant* at the *regional reference node* would not in *NEMMCO's* reasonable opinion have avoided the need for the *direction* issued.

(b) *NEMMCO* must develop in accordance with the *Rules consultation procedures* and *publish* details of the methodology it will use, and any assumptions it may be required to make, to determine *dispatch prices* and *ancillary service prices* for the purposes of clause 3.9.3(a1). The methodology must wherever reasonably practicable:

(1) be consistent with the principles for *spot price* determination set out in clause 3.9.l;

(2) enable *NEMMCO* to determine and *publish* such prices in accordance with clause 3.13.4; and

(3) be consistent with the principles for *ancillary service price* determination set out in clauses 3.9.2 and 3.9.2A.

(c) **[Deleted]**

(d) *NEMMCO* must develop in accordance with the *Rules consultation procedures* and *publish* details of the methodology it will use to request that *generating units* or *loads* under *non-scheduled reserve contracts* be *activated*, and any assumptions it may be required to make, to determine the prices described in clause 3.9.3(a1) in relation to *generating units* or *loads* being *activated* in accordance with *non-scheduled reserve contracts*. In developing this methodology, *NEMMCO* must consult *Registered Participants* on measures to be adopted in order to reduce the possibility that *generating units* or *loads* likely to be *activated* under *non-scheduled*

reserve contracts are otherwise encumbered at the time *non-scheduled reserve contracts* are entered into by *NEMMCO*."

(f) for clause 3.12.1 there was substituted:

"3.12.1 Reliability Safety Net

(a) *NEMMCO* may, prior to 1 July 2006, enter into *reserve contracts* or *non-scheduled reserve contracts* in accordance with this clause 3.12 and the relevant guidelines and policies developed by the *Reliability Panel* as described in clause 8.8.1. *NEMMCO* must not enter into such contracts thereafter.

(b) The *Reliability Panel* must, at the same time as it conducts a review of *VoLL* under clause 3.9.4(c), recommend whether the reliability safety net provided for by the power granted to *NEMMCO* under this clause 3.12.1 to enter into *reserve contracts* or *non-scheduled reserve contracts* can be removed from the *Rules* prior to 1 July 2006.

(c) In consultation with persons nominated by the relevant jurisdictions *NEMMCO* may determine to enter into *reserve contracts* or *non-scheduled reserve contracts* for the provision of *reserve* to ensure that the *reliability* of *supply* in a *region* meets the reliability standard established by the *Reliability Panel*.

(d) In entering into *reserve contracts* or *non-scheduled reserve contracts* under 3.12.1(c) *NEMMCO* must agree with the relevant nominated persons cost-sharing arrangements between the *regions* for the purposes of determining charges under clause 3.15.9.

(e) If, at any time *NEMMCO* deems it necessary to commence contract negotiations for the provision of:

(1) *reserves* under *reserve contracts* or *non-scheduled reserve contracts*; or

(2) *market network services* to make *reserves* available where required,

NEMMCO must *publish* a notice of its intention to do so.

(f) When contracting for the provision of *reserves* under *reserve contracts*, *NEMMCO* must not enter contracts in relation to capacity of *generating units*, *scheduled network services* or *scheduled loads* for which *dispatch offers* or *dispatch bids* have been submitted or are considered by *NEMMCO* to be likely to be submitted or be otherwise available for *dispatch* in the *trading intervals* to which the contract relates.

(g) When contracting for the provision of:

(1) *reserves* under *reserve contracts* or *non-scheduled reserve contracts*; or

(2) *market network services* to make *reserves* available where required,

NEMMCO must give first priority to facilities which, if called upon, would result in the least distortion of the *spot price*.

(h) If *NEMMCO* requests a *Scheduled Generator* or *Market Participant* to enter into a *reserve contract* in relation to a *scheduled generating unit, scheduled network service*, a *scheduled load* or *non-scheduled reserve*, then the *Scheduled Generator* or *Market Participant* must negotiate with *NEMMCO* in good faith as to the terms and conditions of that contract."

(g) for clause 3.12.8 there was substituted:

"3.12.8 NEMMCO's risk management and accounts relating to the reliability safety net

(a) *NEMMCO* may enter into insurance arrangements with an insurance provider with a view to minimising potential financial losses in respect of *NEMMCO's reserve* trading activities described in this clause 3.12.

(b) *NEMMCO* must ensure that, as described in clause 1.11, it maintains in its books separate accounts relating to the reliability safety net provided for by the powers granted to *NEMMCO* under clause 3.12.1 to enter into *reserve contracts* or *non-scheduled reserve contracts*."

(h) for clause 3.12.10(a) there was substituted:

"(a) *NEMMCO* must use reasonable endeavours to complete and fulfil its obligations set out in clauses 3.12.11, 3.12.11A, 3.15.7, 3.15.7A, 3.15.7B, 3.15.8 and 3.15.10C as soon as practicable and no later than:

(1) 100 *business days* after the end of the *direction* or *dispatch* of *plant* under a *reserve contract* or *activation of generating units* or *loads* under a *non-scheduled reserve contract* or the end of a series of related *directions* or a related series of *dispatch* of *plant* under a *reserve contract* or a related series of *activation* of *generating units* or *loads* under a *non-scheduled reserve contract* if *NEMMCO* is not required to appoint an independent expert pursuant to clause 3.15.7A; and

(2) 150 *business days* after the end of the *direction* or *dispatch* of *plant* under a *reserve contract* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract* or the end of a series of related *directions* or a related series of *dispatch* of *plant* under a *reserve contract* or a related series of *activation* of *generating units* or *loads* under a *non-scheduled reserve contract* if *NEMMCO* is required to appoint an independent expert pursuant to clause 3.15.7A."

(i) for clause 3.12.11 there was substituted:

"3.12.11 Affected Participants and Market Customers entitlements to compensation in relation to directions and reserve contracts

(a) In respect of each *intervention price trading interval*:

(1) an *Affected Participant* is entitled to receive from *NEMMCO,* or must pay to *NEMMCO*, an amount as determined in accordance with clause 3.12.11 that will put the *Affected Participant* in the position that the *Affected Participant* would have been in regarding the *scheduled generating unit* or *scheduled network service,* as the case may be, had:

(i) the *direction* not been issued;

(ii) the *plant* under the *reserve contract* not been *dispatched*; or

(iii) the operation of resources under a *non-scheduled reserve contract* not been *activated*,

as appropriate, taking into account solely the items listed in clause 3.12.11(d);

(2) a *Market Customer*, other than a *Market Customer* which was the subject of that *direction*, in respect of one or more of its *scheduled loads,* is entitled to receive an amount calculated by applying the following formula:

$DC = ((RRP \text{ X } LF) - BidP) \times QD$

where:

DC (in dollars) is the amount the *Market Customer* is entitled to receive in respect of that *scheduled load* for the relevant *intervention price trading interval*;

RRP (in dollars per MWh) is the *regional reference price* in the relevant *intervention price trading interval* determined in accordance with clause 3.9.3;

LF where the *scheduled load's connection point* is a *transmission connection point*, is the *intra-regional loss factor* at that *connection point* or where the *scheduled load's connection point* is a *distribution network connection point,* is the product of the *distribution loss factor* at that *connection point* multiplied by the *intra-regional loss factor* at the *transmission connection point* to which it is assigned;

BidP (in dollars per MWh) is the price of the highest priced *price band* specified in a *dispatch offer* for the *scheduled load* in the relevant *intervention price trading interval;*

QD (in MWh) is the difference between the amount of electricity consumed by the *scheduled load* during the relevant *intervention price trading interval* determined from the *metering data* and the amount of electricity which NEMMCO reasonably determines would have been consumed by the *scheduled load* if the *direction* had not been issued or the *plant* under the *reserve contract* not been *dispatched* or the operation of resources under a *non-scheduled reserve contract* not been *activated*, as appropriate,

provided that if DC is negative for the relevant *intervention price trading interval*, then the adjustment that the *Market Customer* is entitled to claim in respect of that *scheduled load* for that *intervention price trading interval* is zero.

(a1) In respect of a single *intervention price trading interval*, an *Affected Participant* or *Market Customer* is not entitled to receive from, or obliged to pay to, *NEMMCO* an amount pursuant to this clause 3.12.11 if such an amount is less than $5,000.

(b) In respect of each *intervention price trading interval*, *NEMMCO* must, in accordance with the *intervention settlement timetable*, notify, in writing:

(1) each *Affected Participant* (except *eligible persons*) of:

(i) the estimated level of *dispatch* in MW that its *plant* would have been *dispatched* at had the *direction* not been issued or the *plant* under the *reserve contract* not been *dispatched* or the operation of resources under a *non-scheduled reserve contract* not been *activated*; and

(ii) an amount equal to:

(A) the estimated *trading amount* that it would have received had the *direction* not been issued or the *plant* under the *reserve contract* had not been *dispatched* or the operation of resources under a *non-scheduled reserve contract* not been *activated* based on the level of *dispatch* in clause 3.12.11(b)(i), less:

(B) the *trading amount* for that *Affected Participant* (excluding from that *trading amount* the amount referred to in clause 3.15.10C(a)) as set out in its final statement

provided pursuant to clause 3.15.14 for the *billing period* in which the *intervention price trading interval* occurs;

(2) each *eligible person* of:

(i) the estimated level of flow in MW of all relevant *directional interconnectors* that would have occurred had the *direction* not been issued or the *plant* under *reserve contract* not been *dispatched* or the operation of resources under a *non-scheduled reserve contract* not been *activated;* and

(ii) an amount equal to:

(A) the estimated amount that person would have been entitled to receive pursuant to clause 3.18.1(b) had the *direction* not been issued or the *plant* under *reserve contract* not been *dispatched* or the operation of resources under a *non-scheduled reserve contract* not been *activated* based upon the flows referred to in clause 3.12.11(b)(2)(i); less

(B) the actual entitlement of that person under clause 3.18.1(b); and

(3) each *Market Customer*, the amount calculated by *NEMMCO* in accordance with clause 3.12.11(a)(2) for that *Market Customer.*

(b1) *NEMMCO* must include in an *Affected Participant's* or *Market Customer's* final statement provided pursuant to clause 3.15.1 for a *billing period* in which one or more *intervention price trading intervals* occurred:

(1) the amount notified by *NEMMCO* pursuant to clause 3.12.11(b) if the absolute value of such amount is greater than $5,000; and

(2) in all other cases no amount in relation to compensation pursuant to clause 3.12.11.

(b2) If the figure calculated pursuant to clause 3.12.11(b) is:

(1) negative, the absolute value of that amount is the amount payable to *NEMMCO* by the relevant person; and

(2) positive, the absolute value of that amount is the amount receivable from *NEMMCO* by the relevant person.

(c) Subject to clauses 3.12.11(c2) and 3.12.11(c3), within 7 *business days* of receipt of the notice referred to in clause 3.12.11(b) an *Affected Participant or Market Customer* may make a written submission to *NEMMCO* in accordance with clause 3.12.11(c1) claiming that the amount set out in the

notice is greater than, less than, or equal to its entitlement pursuant to clause 3.12.11(a)(1) as an *Affected Participant* or clause 3.12.11(a)(2) as a *Market Customer*, as the case may be.

(c1) A written submission made by an *Affected Participant* or *Market Customer* pursuant to clause 3.12.11(c) must:

(1) itemise each component of the claim;

(2) contain sufficient data and information to substantiate each component of the claim;

(3) if the *Affected Participant* claims that the amount calculated by *NEMMCO* pursuant to clauses 3.12.11(b)(1) or 3.12.11(b)(2) is less than the amount the *Affected Participant* is entitled to receive pursuant to clause 3.12.11(a)(1), specify the difference between such amounts (such difference being the "*affected participant's adjustment claim");*

(4) if the *Market Customer* claims that the amount calculated by *NEMMCO* pursuant to clause 3.12.11(b)(3) is less than the amount the *Market Customer* is entitled to receive pursuant to clause 3.12.11(a)(2), specify the difference between such amounts (such difference being the "*market customer's additional claim"*); and

(5) be signed by an authorised officer of the *Affected Participant* or *Market Customer* certifying that the written submission is true and correct.

(c2) If an *Affected Participant* or *Market Customer* does not deliver to *NEMMCO* a written submission in accordance with clause 3.12.11(c) it shall cease to have an entitlement to compensation under this clause 3.12.11.

(c3) In respect of a single *intervention price trading interval* an *Affected Participant* or *Market Customer* may only make a claim pursuant to clause 3.12.11(c) in respect of that *intervention price trading interval* if it claims that its entitlement or liability pursuant to clause 3.12.11 is greater than $5,000.

(d) In determining the amount for the purposes of clause 3.12.11(a)(1), the following must, as appropriate, be taken into account:

(1) the direct costs incurred or avoided by the *Affected Participant* in respect of that *scheduled generating unit* or *scheduled network service,* as the case may be, as a result of the *direction,* or the *dispatch* of *plant* provided under the contract for the provisions of *reserves* or the operation of resources under a *non-scheduled reserve contract*, as appropriate, including without limitation:

(i) fuel costs in connection with the *scheduled generating unit* or *scheduled network service*;

(ii) incremental maintenance costs in connection with the *scheduled generating unit* or *scheduled network service*; and

(iii) incremental manning costs in connection with the *scheduled generating unit* or *scheduled network service*;

(2) any amounts which the *Affected Participant* is entitled to receive under clauses 3.15.6 and 3.15.6A; and

(3) the *regional reference price published* pursuant to clause 3.13.4(m).

(e) *NEMMCO* must in accordance with the *intervention settlement timetable* calculate the "*additional intervention claim*" being the total of:

(1) the sum of the *affected participant's adjustment claims* and *market customer's additional claims* in respect of a *direction* or *dispatch* of *plant* provided under a *reserve contract* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract*, or in respect of, in *NEMMCO's* reasonable opinion, a series of related *directions* or *dispatch* of *plant* provided under a *reserve contract* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract*; plus

(2) the total claims by *Directed Participants* pursuant to clauses 3.15.7B(a), 3.15.7B(a1) and 3.15.7B(a2) in respect of that *direction* or *dispatch* of that *plant* provided under a *reserve contract* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract*, or in respect of that series of related *directions* or *dispatch* of *plant* provided under a *reserve contract* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract*.

(f) *NEMMCO* must in accordance with the *intervention settlement timetable*:

(1) refer an *affected participant's adjustment claim* or *market customer's additional claim* to an independent expert to determine such claim in accordance with clause 3.12.11A if the claim is equal to or greater than $20,000 and the *additional intervention claim* that includes that claim is equal to or greater than $100,000; and

(2) determine in its sole discretion whether all other *affected participants' adjustment claims* and *market customers' additional claims* are reasonable and if so pay the amounts claimed in accordance with clause 3.15.10C.

(g) If *NEMMCO* determines pursuant to clause 3.12.11(f) that an *affected participant's adjustment claim* or *market customer's additional claim* in respect of a *direction* or *dispatch* of *plant* provided under a *reserve contract* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract* is unreasonable, it must in accordance with the *intervention settlement timetable:*

(1) advise the *Affected Participant* or *Market Customer*, as the case may be, in writing of its determination including its reasons for the determination; and

(2) refer the matter to an independent expert to determine the claim for compensation in accordance with clause 3.12.11A.

(h) For the purposes of clauses 3.15.8 and 3.15.10C(b) any payment pursuant to clause 3.12.11(a) must include interest on the sum of that amount less the payment made in accordance with 3.15.10C(1), computed at the average *bank bill rate* for the period from the date on which payment was required to be made under clauses 3.15.16 and 3.15.17 in respect of the *final statement* for the *billing period* in which the *direction* was issued or *plant* provided under a *reserve contract* was *dispatched* or *generating units* or *loads* under a *non-scheduled reserve contract* were *activated* pursuant to clause 4.8.6 to the date on which payment is required to be made pursuant to clause 3.15.10C."

(j) for clause 3.12.11A(b1) there was substituted:

"(b1) To the extent reasonably practicable, all claims arising out of a single *direction* or *dispatch* of *reserve plant* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract* or arising out of, in *NEMMCO's* reasonable opinion, a series of related *directions* or *dispatch* of *plant* provided under a *reserve contract* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract*, should be determined by the same independent expert as part of the same process."

(k) for clause 3.12A.5(a) there was substituted:

"(a) In a *dispatch interval NEMMCO* may only *dispatch* the capacity of a *scheduled generating unit* or *scheduled network service* in accordance with the procedures for the *rebidding* and *dispatch* of capacity the subject of an *accepted restriction offer* developed by *NEMMCO* in consultation with *Registered Participants*. Such procedures must as far as reasonably practical incorporate the following principles:

(i) *dispatch* of *accepted restriction offers* only after all the capacity of *scheduled loads*, *scheduled generating units* and *scheduled network services* contained in valid *dispatch offers* and *dispatch bids* have been *dispatched*;

(ii) recognise any requirement for advance notice or action for generators to operate at minimum generation, provide advance notice to *loads* or obtain capacity of *market network services* that are under *direction* or *reserve contracts* or *non-scheduled reserve contracts*;

(iii) be consistent with the price of *accepted restriction offers* in accordance with clause 3.12A.6; and

(iv) minimise the *restriction shortfall amount*."

(l) for clause 3.13.6 there was substituted:

"3.13.6 Reserve trading by NEMMCO

(a) If any *plant* under a *reserve contract* with *NEMMCO* is *dispatched* or *generating units* or *loads* are *activated* under a *non-scheduled reserve contract*, then *NEMMCO* must, as soon as practicable thereafter, *publish* a report outlining:

(1) the circumstances giving rise to the need for *dispatch* of *reserves* or *activation* of *non-scheduled reserves*;

(2) the basis on which it determined the latest time for that *dispatch* of *reserves* or *activation* of *non-scheduled reserves* and on what basis it determined that a *market* response would not have avoided the need for the *dispatch* of *reserves*;

(3) details of the changes in *dispatch* outcomes due to the *dispatch of reserves* or *activation* of *non-scheduled reserves;*

(4) the processes implemented by *NEMMCO* to *dispatch* the *reserves* or *activate* the *non-scheduled reserves*;

(5) if applicable, reasons why *NEMMCO* did not follow any or all of the processes set out in clause 4.8 either in whole or in part prior to the *dispatch* of *reserves* or the *activation* of the *non-scheduled reserves*; and

(6) if applicable, the basis upon which *NEMMCO* considered it impractical to set *spot prices* and *ancillary service prices* in accordance with clause 3.9.3(a1).

(a1) As soon as reasonably practicable after *NEMMCO* has, in accordance with clause 3.15.9, included the amounts arising under a *reserve contract* or *non-scheduled reserve contract* in a *final statement* provided under clause 3.15.15, *NEMMCO* must *publish* details of:

(1) the payments under the *reserve contract* or *non-scheduled reserve contract* for the relevant *billing periods*; and

(2) a breakdown of the recovery of those costs by each category of *Registered Participant*, as determined by *NEMMCO*, in each *region*.

(b) Within 30 *days* of the end of each *financial year*, *NEMMCO* must *publish* a report detailing:

(1) each occasion on which it intervened to secure *reserve* availability;

(2) each occasion during the financial year when *plant* under a *reserve contract* was *dispatched* or *generating units* or *loads* under a *non-scheduled reserve contract* were *activated*; and

(3) its costs and finances in connection with its *reserve* trading activities according to appropriate accounting standards including profit and loss, balance sheet, sources and applications of funds."

(m) for clause 3.15.6 there was substituted:

"3.15.6 Spot market transactions

(a) In each *trading interval,* in relation to each *connection point* and to each *virtual transmission node* for which a *Market Participant* is *financially responsible*, a *spot market transaction* occurs, which results in a *trading amount* for that *Market Participant* determined in accordance with the formula:

$$TA = AGE \times TLF \times RRP$$

where:

TA is the *trading amount* to be determined (which will be a positive or negative dollar amount for each *trading interval*);

AGE is the *adjusted gross energy* for that *connection point* or *virtual transmission node* for that *trading interval*, expressed in MWh;

TLF for a *transmission network connection point* or *virtual transmission node,* is the *intra-regional loss factor* at that *connection point* or *virtual transmission node respectively*, and for any other *connection point,* is the *intra-regional loss factor* at the *transmission network connection point* or *virtual transmission node* to which it is assigned in accordance with clauses 3.6.3(a) or 3.6.3(a1); and

RRP is the *regional reference price* for the *regional reference node* to which the *connection point* or *virtual transmission node* is assigned, expressed in dollars per MWh.

(b) *NEMMCO* is entitled to the *trading amount* resulting from the *dispatch* of *plant* under a *reserve contract* or the *activation* of *generating units* or *loads*

under a *non-scheduled reserve contract* pursuant to clause 4.8.6 or a *direction* pursuant to clause 4.8.9(a) and for the purposes of determining *settlement amounts*, any such *trading amount* is not a *trading amount* for the relevant *Market Participant*.

(c) A *Directed Participant* is entitled to the *trading amount* resulting from any service, other than the service the subject of the *direction* or the *dispatch of plant* under a *reserve contract* or *activation* of *generating units* or *loads* under a *non-scheduled reserve contract*, rendered as a consequence of that *direction*, *dispatch* under a *reserve contract* or *activation* under a *non-scheduled reserve contract*."

(n) for clause 3.15.9 there was substituted:

"3.15.9 Reserve settlements

(a) *NEMMCO's* costs incurred in contracting for the provision of *reserves* are to be met by fees imposed on *Market Customers* in accordance with this clause 3.15.9.

(b) Included in the statements to be provided under clauses 3.15.14 and 3.15.15, *NEMMCO* must give each *Market Participant* a statement setting out:

(1) the aggregate of the amounts payable by *NEMMCO* under *reserve contracts* and *non-scheduled reserve contracts*;

(2) any amounts determined as payable by *NEMMCO* by the independent expert under clause 3.12.11 or, in the case of *reserve contracts* and *non-scheduled reserve contracts,* as a result of *plant* under a *reserve contract* being *dispatched* or *generating units* or *loads* under a *non-scheduled reserve contract* being *activated*, in respect of the relevant *billing period*; and

(3) the aggregate of the amounts receivable by *NEMMCO* under the *Rules* in respect of *reserve contracts* and *non-scheduled reserve contracts* during the relevant *billing period*.

(c) Separate statements must be provided under clause 3.15.9(b):

(1) for *reserve contracts* and *non-scheduled reserve contracts* entered into by *NEMMCO* specifically in respect of the *Market Participant's region* in accordance with clause 3.15.9(d)*;* and

(2) for *reserve contracts* and *non-scheduled reserve contracts* other than those entered into for and allocated to a specific *region* or *regions*.

(d) Where either:

(1) without the intervention in the *market* of *NEMMCO* a *region* would otherwise, in *NEMMCO's* reasonable opinion, fail to meet the minimum *power system security and reliability standards*; or

(2) a *region* requires a level of *power system reliability* or *reserves* which, in *NEMMCO's* reasonable opinion, exceeds the level required to meet the minimum *power system security and reliability standards*,

then *NEMMCO* must recover its net liabilities, or distribute its net profits, under the terms of *reserve contracts* or *non-scheduled reserve contracts* entered into to meet these requirements, from or to the *Market Customers* in that *region* in accordance with 3.15.9(e).

(e) In respect of *reserve contracts* or *non-scheduled reserve contracts* entered into by *NEMMCO, NEMMCO* must calculate in relation to each *Market Customer* for each *region* in respect of each *billing period* a sum determined by applying the following formula:

$$MCP = \frac{E \text{ x } RRC}{\Sigma \text{E}}$$

where:

MCP is the amount payable by a *Market Customer* for a *region* in respect of a *billing period;*

E is the sum of all that *Market Customer's adjusted gross energy amounts* in a *region* (the **"relevant region"**) in each *trading interval* which commences between 0800 hours and 1930 hours on a *business day* in the *billing period* excluding any loads in that *region* in respect of which the *Market Customer* submitted a *dispatch bid* for any such *trading interval;*

RRC is the total amount payable by *NEMMCO* under *reserve contracts* or *non-scheduled reserve contracts* which relate to the relevant *region* in the *billing period* as agreed under clause 3.12.1(d); and

$\sum$E is the sum of all amounts determined as "E" in accordance with this clause 3.15.9(e) in respect of that *region.*

(f) A *Market Customer* is liable to pay *NEMMCO* an amount equal to the sum calculated under clause 3.15.9(e) in respect of that *Market Customer*.

(g) **[Deleted]**

(h) **[Deleted]**

(i) **[Deleted]**

(j) **[Deleted]**

(k) Operational and administrative costs incurred by *NEMMCO* in arranging for the provision of *reserves*, other than its liabilities under the terms of the *reserve contracts* or *non-scheduled reserve contracts* into which it has entered, are to be recovered by *NEMMCO* from all *Market Participants* as part of the fees imposed in accordance with clause 2.11.

(l) **[Deleted]**

(m) For the purposes of clause 3.15.19, a re-determination by a panel established under clause 3.12.11 is to be taken to be an agreement between *NEMMCO* and each of the *Market Participants* and *Scheduled Generators*."

(o) for clause 4.8.5A there was substituted:

"4.8.5A Determination of the latest time for intervention by direction or dispatch of reserve contract or activation of non-scheduled reserve contract

(a) *NEMMCO* must immediately *publish* a notice of any foreseeable circumstances that may require *NEMMCO* to issue a *direction, dispatch reserves* or *activate non-scheduled reserves* it has available under clause 4.8.6.

(a1) Any such notice must include the forecast circumstances creating the need to issue a *direction, dispatch reserves* or *activate non-scheduled reserves*.

(b) *NEMMCO* must, as soon as reasonably practicable after the *publication* of a notice pursuant to clause 4.8.5A(a), estimate and *publish* the latest time at which it would need to intervene to issue a *direction* under clause 4.8.9, or *dispatch reserves* it has available under *reserve contracts* or *activate non-scheduled reserves* it has available under *non-scheduled reserve contracts* under clause 4.8.6, should the response from the *market* not be such as to obviate the need to issue a *direction, dispatch reserves* or *activate non-scheduled reserves*.

(c) In order to estimate the time referred to in clause 4.8.5A(b), *NEMMCO* may request information from a *Scheduled Network Service Provider, Scheduled Generator* or *Market Customer* and may specify the time within which that information is to be provided. Such information may include, but is not limited to:

(1) *plant* status;

(2) any expected or planned *plant outages* and the MW capacity affected by the *outage*, proposed start date and time and expected end date and

time associated with the *outage* and an indication of the possibility of deferring the *outage*;

(3) estimates of the relevant costs to be incurred by the *Scheduled Network Service Provider, Scheduled Generator* or *Market Customer* should it be the subject of a *direction*, but only if *NEMMCO* considers it reasonably likely that such *Scheduled Network Service Provider, Scheduled Generator* or *Market Customer* will be subject to a *direction*.

(d) A *Scheduled Network Service Provider, Scheduled Generator* or *Market Customer* must use reasonable endeavours

(1) to comply with a request for information pursuant to clause 4.8.5A(c); and

(2) to provide *NEMMCO* with the information required in the time specified by *NEMMCO*.

(e) *NEMMCO* must regularly review its estimate of the latest time at which it would need to intervene to issue a *direction* under clause 4.8.9, or to *dispatch reserves* it has available under *reserve contracts* or *activate non-scheduled reserves* it has available under *non-scheduled reserve contracts* under clause 4.8.6, and *publish* any revisions to the estimate.

(f) *NEMMCO* must treat any information provided in response to a request under clause 4.8.5A(c) as *confidential information* and use it for the sole purpose of assessing to which *Scheduled Network Service Provider, Market Customer* or *Scheduled Generator* it should issue *directions*."

(p) for clause 4.8.5B there was substituted:

"4.8.5B Notifications of last time of intervention

If the latest practicable time for the *dispatch* of *reserves* or *activation* of *non-scheduled reserves*, as estimated by *NEMMCO* under clause 4.8.5A, is reached and, taking into account any *reserve contracts* and *non-scheduled reserve contracts*, the circumstances described under clause 4.8.5A(a) has not been alleviated, *NEMMCO* must to the extent reasonably practicable immediately:

(1) *publish* a notice that *NEMMCO*:

(i) considers the time for the negotiation of further *reserve contracts* and *non-scheduled reserve contracts* in accordance with clause 3.12.1 has elapsed; and

(ii) intends to issue *directions* under clause 4.8.9 or *dispatch reserve* available under *reserve contracts* or *activate non-scheduled reserves*

available under *non-scheduled reserve contracts* under clause 4.8.6; and

(2) amend the *pre-dispatch schedule* to ensure that it is a physically realisable schedule for all periods in which *NEMMCO* intends to issue *directions*, *dispatch reserves* available under *reserve contracts* or *activate non-scheduled reserves* available under *non-scheduled reserve contracts*."

(q) for clause 4.8.6 there was substituted:

"4.8.6 NEMMCO utilisation of reserves or non-scheduled reserves under contract

(a) Notwithstanding clauses 4.8.4, 4.8.5, 4.8.5A and 4.8.5B, if in *NEMMCO's* opinion the latest time for intervention by *dispatch* of *reserves* it has available under *reserve contracts* or *activation* of *non-scheduled reserves* it has available under *non-scheduled reserve contracts* has arrived, then *NEMMCO* may *dispatch* such *reserves* or *activate* such *non-scheduled reserves.*

(b) *NEMMCO* must follow the relevant procedures in clause 4.8 prior to *dispatching plant* the subject of a *reserve contract* or *activating generating units* or *loads* the subject of a *non-scheduled reserve contract* unless it is not reasonably practicable to do so.

(b1) Subject to clause 4.8.6(b), *NEMMCO* must only *dispatch plant* the subject of a *reserve contract* or *activate generating units* or *loads* the subject of a *non-scheduled reserve contract* in accordance with the procedures developed pursuant to clause 4.8.6(c).

(b2) In order to effect the *dispatch* of *plant* the subject of a *reserve contract* or the *activation* of *generating units* or *loads* the subject of a *non-scheduled reserve contract NEMMCO* may:

(1) submit, update or vary *dispatch bids* or *dispatch offers* in relation to all or part of such a *scheduled generating unit*, *scheduled network service* or *scheduled load* which is the subject of a *reserve contract*; or

(2) change other inputs to the *dispatch process* to give effect to the *dispatch* of *reserves* or the *activation* of *generating units* or *loads* the subject of a *non-scheduled reserve contract*.

(c) *NEMMCO* must develop, and may amend from time to time, in accordance with the *Rules consultation procedures*, procedures for the *dispatch* of *reserves* it has available under *reserve contracts* or the *activation* of *non-scheduled reserves* it has available under *non-scheduled reserve contracts* pursuant to clause 4.8.6(a). Such procedures must reflect the following principles:

(1) *NEMMCO* must use its reasonable endeavours to minimise the cost of *dispatching reserves* and/or *activating non-scheduled reserves* and compensation to *Affected Participants* and *Market Customers* pursuant to clause 3.12.11 and compensation to *Directed Participants* pursuant to clauses 3.15.7 and 3.15.7A;

(2) the instruction to *dispatch reserves* or *activate non-scheduled reserves* is to be revoked as soon as *NEMMCO* determines the *dispatch* of such *reserves* or *activation* of such *non-scheduled reserves* is no longer required; and

(3) *NEMMCO* must take into account the procedures developed pursuant to clause 4.8.9(b).

(d) **[Deleted]**

(e) *NEMMCO* must take into account any guidelines and policies for the provision of *reserves* issued by the *Reliability Panel* pursuant to clause 8.8.1(a)(4)."

(r) NEMMCO must interpret each and every reference to the term "Affected Participant" as including a reference to:

(1) a *Scheduled Generator* or *Scheduled Network Service Provider*, which was not the subject of *activation* under the *non-scheduled reserve contract*, that had its *dispatched* quantity affected by *activation* of *generating units* or *loads* under that *non-scheduled reserve contract*; or

(2) an *eligible person* entitled to receive an amount from *NEMMCO* pursuant to clause 3.18.1(b)(1) where there has been a change in flow of a *directional interconnector*, for which the *eligible person* holds units, as a result of the *activation* of *generating units* or *loads* under a *non-scheduled reserve contract*.

(s) for the definition of "reserve" in Chapter 10 there was substituted:

"*Short term capacity reserve*, *medium term capacity reserve* and *non-scheduled reserve* as contracted by *NEMMCO* under clause 3.12."

3. End of Derogation

This *participant derogation* applies until the end of 30 June 2006.

Part 8 – Network Constraint Formulation

(a) Despite any other provision of the *Rules* to the contrary, including without limitation clauses 3.6.4(a), 3.6.4(a1), 3.6.4(b), 3.7.2(c)(3), 3.7.3(d)(3), 3.8.1(b)(5), 3.8.1(b)(6), 3.13.4(o) and 3.13.8(a)(5), *network* limitations may occur which impact on both *intra-regional* and *inter-regional* power flows.

(b) *NEMMCO* must determine and represent *network constraints* in *dispatch* which may result from limitations on both *intra-regional* and *inter-regional* power flows.

(c) If the use of a *network constraint* in *dispatch* developed under clause (b) substantially creates, in *NEMMCO's* reasonable opinion, a significant *inter-regional* power flow from a *region* with a *dispatch price* that is greater than the *dispatch price* of the importing *region* (a 'significant counter price power flow'), *NEMMCO* must, without prejudicing its obligations to maintain *power system security*, use reasonable endeavours to apply an alternative formulation for that *network constraint* for the expected duration of the significant counter price power flow. That alternative form of the *network constraint* must apply for the expected period of the significant counter price power flow if the original formulation of the *network constraint* were used.

(d) *NEMMCO* must develop and *publish* a procedure for determining when an *inter-regional* power flow referred to in clause (c) is considered to be significant for the purposes of that clause.

(e) This *participant derogation* will cease to apply on:

(1) 31 July 2007;

(2) the implementation of the first regional boundary review by the *AEMC*; or

(3) as otherwise determined by the *AEMC*.

(e1) Clauses (f) to (p) commence on 1 October 2005.

(f) *NEMMCO* must determine and *publish* a list of *network constraints* (the 'Murray/Tumut constraint list') developed pursuant to clause (b) that relate directly to managing power flows in either a northward or southward direction between the *network* nodes to which the following *power station*s are directly connected:

(1) Lower Tumut;

(2) Upper Tumut;

(3) Murray; and

(4) Guthega.

(g) For the purpose of clauses (f) to (p), constraint "k" in the Murray/Tumut constraint list must be expressed in the following generic form:

$$\alpha_k \times LT + \beta_k \times UT + \delta_k \times MURR + \lambda_k \times GUTH + \gamma_k \times V\text{-}Sn + \eta_k \times Sn\text{-}NSW \leq RHS_k$$

Where:

LT is the *dispatch* target for MW from Lower Tumut *power station*;
UT is the *dispatch* target for MW from Upper Tumut *power station*;
MURR is the *dispatch* target for MW from Murray *power station*;
GUTH is the *dispatch* target for MW from Guthega *power station;*
Sn-NSW is the *dispatch* target for MW flow on the Snowy to NSW *interconnector*;
V-Sn is the *dispatch* target for MW flow on the Victoria to Snowy *interconnector*; and
RHS includes a line rating term with an effective coefficient of 1.

(h) (1) Subject to clause (h)(3), if in any *dispatch interval* of a *trading interval* any of the *constraints* in the Murray/Tumut constraint list have bound, then congestion fund payments must be determined for Lower Tumut and Upper Tumut *power station*s pursuant to clauses (i) to (o).

(2) If in any *trading interval* clause (h)(1) does not apply, then no congestion fund payments need be determined pursuant to clauses (i) to (o) for that *trading interval*.

(3) If in any *trading interval* an *administered price period* is declared pursuant to clause 3.14.2, in any one of the Victorian, Snowy or NSW *regions*, no congestion fund payments are to be determined for that *trading interval* pursuant to this *participant derogation*.

(i) If congestion fund payments must be determined for Lower Tumut and Upper Tumut *power station*s pursuant to clause (h)(1) then, for each relevant *trading interval*, *NEMMCO* must determine power flows between Murray and Tumut as either northwards or southwards as follows.

Let:

X be, for each *dispatch interval* in a *trading interval*, the sum of the absolute value of all RHS values of binding *constraints* in the Murray/Tumut constraint list where the *constraint* has bound on flows in the direction from Tumut to Murray; and
Y be, for each *dispatch interval* in a *trading interval*, the sum of the absolute value of all RHS values of binding *constraints* in the Murray/Tumut constraint list where the *constraint* has bound on flows in the direction from Murray to Tumut.

If:

$X < Y$ then power flows for the *trading interval* between Murray and Tumut must be determined as northwards and congestion fund payments must be determined for Lower Tumut and Upper Tumut *power station*s pursuant to clause (n); and

$X \geq Y$ then power flows for the *trading interval* between Murray and Tumut must be determined as southwards and congestion fund payments must be determined for Lower Tumut and Upper Tumut *power station*s pursuant to clause (o).

(j) In any *trading interval* where any of the *constraints* in the Murray/Tumut constraint list have bound for one or more *dispatch intervals*, *NEMMCO* must perform the following calculation for every *dispatch interval* in the relevant *trading interval*:

$$SPd_p = \left[DP_{Snowy} \times TLF_p \right] - \left[\sum_k (CSPa_k \times Coeff_{p,k}) \right] \text{ for p = Lower Tumut and Upper Tumut}$$

Where:

SPd_p is the substitute price for each *dispatch interval* for *generation* from *power station* "p";

DP_{Snowy} is the *dispatch price* that applies to the Snowy *region* for the relevant *dispatch interval*;

TLF_p is the *transmission loss factor* for *power station* "p";

$CSPa_k$ is the *constraint* marginal value ($/MWh) as determined by the *dispatch* engine for each *dispatch interval* of relieving binding *constraint* "k" by a marginal amount; and

$Coeff_{p,k}$ is the coefficient (α, β, δ, λ, γ or η) assigned to element "p" in *constraint* "k" from the Murray/Tumut constraint list developed pursuant to clause (g),

and subject to the following:

(1) if the SPd_p determined pursuant to this clause is calculated as an amount less than the *market floor price* it must be deemed to be equal to the *market floor price*; and

(2) if the SPd_p determined pursuant to this clause is calculated as an amount greater than *VoLL* it must be deemed to be equal to *VoLL*.

(k) A substitute price (SP) for each *trading interval* must be determined by *NEMMCO* for generation from *power station* "p" as follows:

SP_p is the substitute price being the arithmetic average for a *trading interval* of each relevant *dispatch interval* of SPd_p; and

SPd_p is as determined pursuant to clause (j).

(l) *NEMMCO* must determine for each relevant *trading interval* an *energy* value differential (EVD) as follows:

$$EVD_p = SP_p - (TLF_p \times RRP_{Snowy}) \text{ for p = Lower Tumut and Upper Tumut}$$

Where:

EVD_p is the per unit *energy* value differential for a *trading interval* for *power station* "p";
TLF_p is the *transmission loss factor* for *power station* "p";
SP_p is the substitute price determined pursuant to clause (k); and
RRP_{Snowy} is the *regional reference price* for a *trading interval* that applies to the Snowy *region*.

(m) A CSC allocation factor is determined as follows:

$$\text{CSC allocation factor} = (A - B) / A$$

Where:

A is nominal *transmission* limit between Murray and Tumut which is to be taken as 1350 MW for the purpose of this *participant derogation*; and
B is nominal *interconnector* capacity from the NSW *region* to the Snowy *region* which is to be taken as 800 MW for the purpose of this *participant derogation*.

In clauses (n) and (o), the following conventions apply:

- **a "trading amount" (TA) is a payment to or from a *Market Participant* or inter-regional settlement residue fund;**
- **if TA > 0, then this represents a payment *to* the *Market Participant* or inter-regional settlement residue fund as appropriate;**
- **if TA < 0, then this represents a payment *from* the *Market Participant* or inter-regional settlement residue fund as appropriate.**

(n) If power flows between Murray and Tumut for a *trading interval* have been determined as northwards pursuant to clause (i), *NEMMCO* must determine the following amounts:

(1) An *energy* value adjustment determined as follows:

$$EVA_N = \sum_p (AGE_p \times EVD_p) \text{ for p = Lower Tumut and Upper Tumut}$$

Where:

EVA_N is the *energy* value adjustment for northward flows between Murray and Tumut that is to be applied to the determination of the trading amount pursuant to this clause (n);

AGE_p is the adjusted gross *energy* for a *trading interval* for *generation* from *power station* "p"; and

EVD_p is the *energy* value differential determined pursuant to clause (l) for *generation* from *power station* "p";

(2) *Trading amounts* determined as follows:

$$TA_1 = \text{Min} (EVA_N, IRSR_{Sn\text{-}NSW})$$
$$TA_2 = -1 \times TA_1$$

Where:

TA_1 is a *trading amount* for Snowy Hydro Limited;

$IRSR_{Sn–NSW}$ is the inter-regional settlement residue allocated to flows **from the Snowy *region* to the NSW *region*** for the relevant *trading interval*; and

TA_2 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Snowy *region* to the NSW *region***.

(o) If power flows between Murray and Tumut for a *trading interval* have been determined as southwards pursuant to clause (i), *NEMMCO* must determine the following amounts:

(1) A *trading amount* determined as follows:

$$TA_3 = \sum_p (AGE_p \times EVD_p) \text{ for p = Lower Tumut and Upper Tumut}$$

Where:

TA_3 is a *trading amount* for Snowy Hydro Limited;

AGE_p is the adjusted gross *energy* for a *trading interval* for *generation* from *power station* "p"; and

EVD_p is the *energy* value differential determined pursuant to clause (l) for *generation* from *power station* "p";

(2) A *settlements residue trading amount* determined as follows:

$$TA_4 = -1 \times IRSR_{Sn–NSW}$$

Where:

TA_4 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Snowy *region* to the NSW *region***; and

$IRSR_{Sn-NSW}$ is the inter-regional settlement residue allocated to flows **from the Snowy *region* to the NSW *region*** for the relevant *trading interval*;

(3) A *trading amount* to determined as follows:

$$TA_5 = (IRSR_{NSW-Sn} - TA_3 - TA_4) * \text{CSC allocation factor}$$

Where:

TA_5	is a *trading amount* for Snowy Hydro Limited;
$IRSR_{NSW-Sn}$	is the inter-regional settlement residue allocated to flows **from the NSW *region* to the Snowy *region*** for the relevant *trading interval*; and
CSC allocation factor	is the CSC allocation factor determined pursuant to clause (m).

(4) A *settlements residue trading amount* determined as follows:

$$TA_6 = (-1 \times TA_3) - TA_4 - TA_5$$

Where:

TA_6 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the NSW *region* to the Snowy *region***.

(p) *NEMMCO* must *publish* all *trading amounts* arising from application of this *participant derogation* (if any) using the current settlement cycle.

Part 9 – Participant Derogation Granted to Hydro Tasmania

1. Scope of Derogation

This *participant derogation* operates to modify or vary the obligations that apply to Hydro Tasmania under clauses S7.2.2 and S7.2.3 of schedule 7.2 in relation to the *metering installations* referred to in paragraph 2, in the manner specified in paragraph 3 and subject to the reporting requirements set out in paragraph 5.

1A. Commencement of Derogation

This *participant derogation* commences on the date that Tasmania becomes a *participating jurisdiction* (for the purposes of this *participant derogation*, such date is referred to as the "commencement date").

2. Metering Installations to which the Derogation Applies

The modifications or variations to clauses S7.2.2 and S7.2.3 of schedule 7.2 specified in paragraph 3 apply to the *metering installations* in respect of any *generating unit* operated by Hydro Tasmania and located in Tasmania, where the relevant *metering installation*:

(a) was originally commissioned by Hydro Tasmania prior to the time at which section 6 of the *Electricity National Scheme (Tasmania) Act 1999* commenced; and

(b) as at the commencement date, does not comply with the provisions of clauses S7.2.2 or S7.2.3 of schedule 7.2.

3. Scope of Derogation

The accuracy levels of the *metering installations* referred to in paragraph 2 will be calculated by multiplying the values in Tables S7.2.3.1, S7.2.3.2, S7.2.3.3, S7.2.3.4 and S7.2.3.5 of schedule 7.2 by a factor of 3.

4. Cessation of Derogation

This *participant derogation* ceases to apply on the day which is the earlier of:

(a) the day on which the last of the *metering installations* referred to in paragraph 2 complies with the provisions of clauses S7.2.2 and S7.2.3 of schedule 7.2; or

(b) the day which is 12 months after the commencement date.

5. Reporting

Within 5 *business days* after the commencement date Hydro Tasmania must provide to the *AEMC* a plan showing a current scheduled *metering installations* works programme and thereafter must provide the *AEMC* with quarterly updates showing actual progress against that plan.

Part 10 – Statement of Opportunities

[Deleted]

Part 11 - Transitional Arrangement for Market Ancillary Services for Tasmanian Entry

(a) This *participant derogation* has effect in *trading intervals* following a declaration by *NEMMCO* of the readiness of *market* systems to implement this *participant derogation*.

(b) The total amount calculated by *NEMMCO* under clause 3.15.6A(a) for each of the *regulation services* in respect of each *dispatch interval* which falls within the *trading interval* must be allocated to each *region* in accordance with the following procedure and the information provided under clause 3.9.2A(b). *NEMMCO* must:

(1) allocate for each *region* and for each *dispatch interval* within the relevant *trading interval* the proportion of the total amount calculated by *NEMMCO* under clause 3.15.6A(a) for each of the relevant *market ancillary services* between *global market ancillary service requirements* and *local market ancillary service requirements* pro-rata to the respective marginal prices for each such service;

(2) calculate for each relevant *dispatch interval* the sum of the costs of acquiring the *global market ancillary service requirements* for all *regions* and the sum of the costs of acquiring each *local market ancillary service requirement* for all *regions*, as determined pursuant to clause (b)(1);

(3) allocate for each relevant *dispatch interval* the sum of the costs of each *local market ancillary service requirement* relevant only to the Tasmanian *region* calculated in clause (b)(2) to *Market Customers* and *Market Generators* in the Tasmanian *region* only in accordance with the principles set down under clause 3.15.6A (h) to (n). For this purpose the following terms used in clauses 3.15.6A (h) and (i) are deemed to be defined as below instead of as set out in clause 3.15.6A(h) and (i):

TSFCAS (in $) = the total of all amounts allocated under this clause (b)(3);

MPF (a number) = the factor last set by *NEMMCO* for the *Market Generator* or *Market Customer* as the case may be under clause 3.15.6A(j) for the purposes of this clause (b)(3);

AMPF (a number) = the aggregate of all the MPF figures last set for the purposes of this clause (b)(3);

TCE (in MWh) = the *customer energy* for the *Market Customer* in the Tasmanian *region* for the *trading interval*; and

ATCE (in MWh) = the aggregate of the *customer energy* figures for all *Market Customers* in the Tasmanian *region*, for whom the *trading amount* is not calculated in accordance with the formula in clause 3.15.6A (h), for the *trading interval*;

(4) allocate for each relevant *dispatch interval* the sum of the costs of each *local market ancillary service requirement* not relevant to the Tasmanian *region* calculated in clause (b)(2) to *Market Customers* and *Market Generators* in all *regions* except the Tasmanian *region* in accordance with the principles set down under clause 3.15.6A (h) to (n). For this purpose the following terms used in clauses 3.15.6A (h) and (i) are deemed to be defined as below instead of as set out in clause 3.15.6A(h) and (i) respectively:

TSFCAS (in $) = the total of all amounts allocated under this clause (b)(4);

MPF (a number) = the factor last set by *NEMMCO* for the *Market Generator* or *Market Customer* as the case may be under clause 3.15.6A(j) for the purposes of this clause (b)(4);

AMPF (a number) = the aggregate of all the MPF figures last set for the purposes of this clause (b)(4);

TCE (in MWh) = the *customer energy* for the *Market Customer* in all *regions* except the Tasmanian *region* for the *trading interval*; and

ATCE (in MWh) = the aggregate of the *customer energy* figures for all *Market Customers* in all *regions* except the Tasmanian *region*, for whom the *trading amount* is not calculated in accordance with the formula in clause 3.15.6A (h), for the *trading interval*; and

(5) allocate for each relevant *dispatch interval* the sum of the costs of each *global market ancillary service requirement* and each *local market ancillary service requirement* relevant to the Tasmanian *region* and also relevant to at least one other region calculated in clause (b)(2) as follows:

(i) the sum of the costs is to be divided into two amounts being "AT" and "AM" being in proportion to the *customer energy* in the Tasmanian *region* and the total *customer energy* in all other regions respectively;

(ii) the amount "AT" is to be allocated to *Market Customers* and *Market Generators* in the Tasmanian *region* only in the same manner as for clause (b)(3); and

(iii) the amount "AM" is to be allocated to *Market Customers* and *Market Generators* in all *regions* except the Tasmanian *region* in the same manner as for clause (b)(4).

(c) Until such time as *NEMMCO* has acquired sufficient data to enable the initial calculation and publication of the factors referred to in clauses 3.15.6A(h) and 3.15.6A(i) *regulation services* costs in Tasmania must be recovered from *Market Generators* and *Market Customers* in Tasmania pro-rata to estimated average customer or generator energy as appropriate. *NEMMCO* may determine these estimates based upon historical information. *NEMMCO* may initiate the accumulation of data at any time prior to Tasmania becoming a *participating jurisdiction* and may use any data so gathered to calculate the initial causer pays factors notwithstanding that Tasmania was not a *participating jurisdiction* at that time.

(d) This *participant derogation* expires on the earlier of 31 December 2006 and the time specified in a *market* notice whereby *NEMMCO* declares that changes to its *market* systems to implement *Rules* changes that permit the regional recovery of *regulation services* costs will become effective.

Part 12 - Ancillary Services Provisions

1. Transitional Arrangements

(a) The Invitation to Tender issued by *NEMMCO* on 18 October 2000 (as amended from time to time) (called the "Third ITT") is to be taken as having been a call for offers under clause 3.11.5 notwithstanding anything else in the *Rules* or the fact that the description and the procedure contemplated by clause 3.11.3 did not exist at the time the Third ITT was issued.

(b) Notwithstanding anything else in the *Rules*:

(1) the description of each *ancillary service* included in the Third ITT is deemed to be the description contemplated by clause 3.11.3; and

(2) the quantities specified as indicative *NEMMCO* requirements in schedule A to the Third ITT in respect of the *power system* are to be taken to have been determined by applying a procedure developed under clause 3.11.3.

2. Extension of Existing Ancillary Services Agreements

(a) Notwithstanding clause 3.11.5, if *NEMMCO* is a party to an agreement for the provision to *NEMMCO* of *ancillary services* and one or more schedules to that agreement is due to terminate, then *NEMMCO* may, by agreement with the service provider under that agreement, extend the period during which the service provider is obliged to provide the kind of *ancillary services* to which the schedule relates or those schedules relate on terms and conditions agreed between *NEMMCO* and the service provider.

(b) This clause 2 ceases to apply on 30 June 2007.

CHAPTER 9

9. Jurisdictional Derogations and Transitional Arrangements

9.1 Purpose and Application

9.1.1 Purpose

(a) This Chapter contains the *jurisdictional derogations* that apply in relation to each *participating jurisdiction*.

(b) This Chapter prevails over all other Chapters of the *Rules*.

9.1.2 Jurisdictional Derogations

The *jurisdictional derogations* that apply in relation to each *participating jurisdiction* are set out in this Chapter as follows:

(a) Part A - Victoria;

(b) Part B - New South Wales;

(c) Part C - Australian Capital Territory;

(d) Part D - South Australia;

(e) Part E - Queensland; and

(f) Part F – Tasmania.

Part G sets out the Schedules to this Chapter 9.

Part A – Jurisdictional Derogations for Victoria

9.2 [Deleted]

9.3 Definitions

9.3.1 General Definitions

For the purposes of this Part A:

(1) a word or expression defined in the glossary in Chapter 10 has the meaning given to it in the glossary unless it is referred to in column 1 of the following table; and

(2) a word or expression referred to in column 1 of the following table has the meaning given to it in column 2 of the table:

Column 1	Column 2
Counterparties	In relation to the *Smelter Agreements*, means Portland Smelter Services Pty Ltd, Alcoa of Australia Limited or any other party to one or more of the *Smelter Agreements* (other than *SEC*).
CPI	The Consumer Price Index: All Groups Index Number Melbourne compiled by the Australian Bureau of Statistics.
distribution licence	A *licence* to distribute and supply electricity.
Distributor	A person who holds a *distribution licence*.
EI Act	Electricity Industry Act 2000 (Vic).
EI (RP) Act	Electricity Industry (Residual Provisions) Act 1993 (Vic).
ESC	The Essential Services Commission established under section 7 of the *ESC Act*.
ESC Act	The Essential Services Commission Act 2001 (Vic).
Information requirements guidelines	The guidelines set out in the Statement of Principles for the Regulation of Transmission Revenues Information Requirements Guidelines published by the *ACCC* on 5 June 2002 (as amended from time to time), or any other guidelines published by the *AER* pursuant to Chapter 6 that substitute those guidelines (as amended from time to time).
licence	A licence within the meaning of the *EI Act* or deemed to be issued under the *EI Act* by operation of clause 5 of Schedule 4 to the *EI (RP) Act*.
maximum allowable aggregate revenue	The maximum allowable aggregate revenue for a *financial year* or *relevant regulatory period* (as the case may be) determined under clause 9.8.4C(d), as adjusted from time to time under clause 9.8.4C(g3) or (g4).

Column 1	Column 2
Quarter	The respective 3 monthly periods adopted by the Australian Bureau of Statistics for the compilation and issue of the CPI.
Regulated owner	An owner (whether *SPI PowerNet* or any other person) of the *Victorian Transmission Network* or a part of the *Victorian Transmission Network*: (a) who transmits electricity pursuant to a *transmission exemption* or *transmission licence;* (b) who is subject to the operation of the *Rules*; and (c) whose *aggregate annual revenue requirement* for *transmission services* is regulated under Chapter 6.
relevant regulatory period	A period comprising not less than 5 *financial years*.
SEC	State Electricity Commission of Victoria established under the State Electricity Commission Act 1958 (Vic).
shared network services	Services relating to the use of the *Victorian Transmission Network* or a part of the *Victorian Transmission Network* provided by a *Regulated owner* to *VENCorp*, whether in accordance with a *transmission exemption* or *transmission licence* or under an agreement with *VENCorp*.
shared transmission network use charges	*Customer TUOS usage charges, Customer TUOS general charges* and/or *common service charges* and any other charges through which *VENCorp* is allowed, under Part C of Chapter 6 as modified by clause 9.8.4F, to recover any proportion of its *maximum allowable aggregate revenue*.
Smelter Agreements	Agreements, contracts and deeds referred to in Part A of schedule 3 to the *EI (RP) Act* in their form as at 1 July 1996 other than the Portland and Point Henry Flexible Tariff Deeds between *SEC* and the State Trust Corporation of Victoria.
Smelter Trader	*SEC* in its capacity as *Smelter Trader*.
SPI PowerNet	SPI PowerNet Pty Ltd (ACN 079 798 173), or any successor or assignee of any asset of SPI PowerNet used for the provision of *transmission services*.

Column 1	Column 2
statutory electricity transmission-related costs	In relation to *VENCorp*, the sum of the following costs for a *relevant regulatory period*: (1) *VENCorp's* aggregate actual costs in operating and planning the *Victorian Transmission Network*; (2) all *network* charges payable by *VENCorp* to *SPI PowerNet* or any other owner of the *Victorian Transmission Network* or a part of the *Victorian Transmission Network*, including charges relating to *augmentations*; (3) all other charges payable by *VENCorp* to providers of *network* support services and other services which *VENCorp* uses to provide *network services* that are *transmission services*; and (4) any other costs that directly arise out of *VENCorp's* functions under the *EI Act* relating to the transmission of electricity, the application of the *Rules* to *VENCorp* or the conditions imposed on *VENCorp* under its *transmission licence* relating to the transmission of electricity, for which there is no alternative method (legislative or contractual) for the recovery of those costs.
System Code	The code of that name sealed by the Office of the Regulator-General under the Office of the Regulator-General Act 1994 (Vic) on 3 October 1994 and saved and continued in operation by section 67 of the *ESC Act*.
Tariff Order	Has the same meaning as in the *EI Act*.
transmission exemption	An exemption granted under section 17 of the *EI Act* under which the person to whom it has been granted is exempted from the requirement to obtain a *licence* to transmit electricity.
transmission licence	A *licence* to transmit electricity.
VENCorp	Victorian Energy Networks Corporation established under Division 2A of Part 2 of the Gas Industry Act 1994 (Vic) and continued under Part 8 of the Gas Industry Act 2001 (Vic).
Victorian Distribution Network	In relation to a person that holds a *distribution licence*, the *distribution systems* in Victoria to which that *licence* relates and includes any part of those systems.
Victorian Minister	The Minister who, for the time being, administers the National Electricity (Victoria) Act 1997 (Vic).
Victorian Switching Operator	The person or persons who operate the Victorian Network Switching Centre.

Column 1	Column 2
Victorian Transmission Network	The *transmission systems* situated in whole or in part in Victoria in respect of which *VENCorp* (or any successor entity appointed by Victoria to carry out those functions) exercises the functions specified in clause 9.3.2(a)(1)(i) and part 1 of the table in clause 9.3.2, and includes any part of those *transmission systems*.
Wholesale Metering Code	The code of that name sealed by the Office of the Regulator-General under the Office of the Regulator-General Act 1994 (Vic) on 3 October 1994, as in force immediately before *market commencement*.

9.3.2 Network Service Provider

(a) For a provision of the *Rules* that refers to a *Network Service Provider*, in determining the *Network Service Provider* in relation to the *Victorian Transmission Network* or a part of the *Victorian Transmission Network*, the following rules apply:

(1) subject to this clause and to anything to the contrary in the *Rules* or this Part A, the *Network Service Provider* is:

(i) *VENCorp*, if the provision relates to:

(A) the planning, development or *augmentation* of a *transmission network* or part of a *transmission network*; or

(B) the provision of *common services* or *network services* that are *transmission services* (other than *entry services* or *exit services*);

(ii) *SPI PowerNet* or any other owner of the *Victorian Transmission Network* or a part of the *Victorian Transmission Network*, if the provision relates to:

(A) the *connection* to, or modification of a *connection* to, a *transmission system*; or

(B) the provision of *connection services*;

(iii) *SPI PowerNet*, if the provision relates to any function of, or service provided by, the *Victorian Switching Operator* in respect of the *Victorian Transmission Network* or a part of the *Victorian Transmission Networ*k;

(2) in the case of each clause of the *Rules* referred to in part 1 of the following table, as modified by the description in that table, the *Network Service Provider* is *VENCorp*;

(3) in the case of each clause of the *Rules* referred to in part 2 of the following table, as modified by the description in that table, the *Network Service Provider* is *SPI PowerNet* or any other owner of the *Victorian Transmission Network* or part of the *Victorian Transmission Network*; and

(4) in the case of each clause of the *Rules* referred to in part 3 of the following table, as modified by the description in that table, the *Network Service Provider* is the *Victorian Switching Operator*.

Clause	Clause Description
Part 1 (*VENCorp*)	
3.13.3(d), (e), (f)(1), (f)(2), (g)(so far as it applies to clauses 3.13.3(f)(1) and (f)(2) and (i))	Standing data concerning expected network capability
4.5.1(b) and (c)	Determining the limits of the operation of the *power system* associated with *voltage* failure and translation of limits into key location operational settings or limits
4.7.1(a)	Submission of settings for *plant* required to maintain *power system* stability
5.2.3(b)	*Power system* performance and quality of *supply* standards of *transmission network*
5.2.3(d)(12), 5.6.2(n)	Reports about *network augmentation*
5.6.1	Forecasts for *connection points* to *transmission network*
5.6.2	Development of *networks* within a *region*
5.6.2A (except 5.6.2A(b)(2))	*Annual Planning Reports* for that part of the *transmission network* used for the provision of *common services* or *network services* that are *transmission services* (other than *entry services* or *exit services*)
5.6.6	Planning for the development, construction or *augmentation* of *new large transmission network assets* that are not *connection assets*
5.6.6A	Planning for the development, construction or *augmentation* of *new small transmission network assets* that are not *connection assets*

Clause	Clause Description
5.6.6B	Planning for the development, construction or *augmentation* of *funded augmentations* that are not *connection assets*
5.7.6	Tests of *generating units* requiring changes to normal operation
5.7.7 (except 5.7.7(e))	Inter-regional *power system* tests
Schedule 5.1, clause S5.1.2.3	*Power transfer capability* between *regions*
Schedule 5.3, clause S5.3.5	Power factor requirements of *loads*

Clause	Clause Description
Part 2 (*SPI PowerNet* or any other owner of the *Victorian Transmission Network* or part of the *Victorian Transmission Network*)	
4.6.5	Partial outage of power protection systems
4.11.1	Remote control and monitoring devices
4.11.2(a) and (d)	Provision and maintenance of communications facilities for control, operational metering and indications from local sites
5.2.3(e) and (e1) (except 5.2.3(e1)(2))	Management, maintenance, operation and restoration of *network*

Clause	Clause Description
Part 3 (*Victorian Switching Operator*)	
4.3.1(d)	High voltage switching procedures and arrangements
5.9.3	Involuntary disconnection
5.9.4	Disconnection to implement a court order
5.9.6	Obligation to reconnect
Schedule 5.1, clause S5.1.10.3(a)	Functional testing of *load shedding facilities*
Schedule 5.2, clause S5.2.3(h)	Switching and *isolation facilities*

(b) Notwithstanding anything in clause 9.3.2(a), the obligations of *VENCorp*, *SPI_PowerNet* and any other owner of the *Victorian Transmission Network* or part of the *Victorian Transmission Network* under the *Rules* are several, and not joint nor joint and several.

(c) *VENCorp*:

(1) is a *Network Service Provider* in respect of the provisions of the *Rules* as set out in clause 9.3.2(a), even when *VENCorp* does not own, control or operate a *transmission system*; and

(2) is required to be registered by *NEMMCO* as a *Network Service Provider* under clause 2.5, even when *VENCorp* does not own, control or operate a *transmission system*.

9.4 Transitional Arrangements for Chapter 2 - Registered Participants, Registration and Cross Border Networks

9.4.1 [Deleted]

9.4.2 Smelter Trader

(a) For the purposes of the *Rules*:

(1) *Smelter Trader* is deemed to be entitled to register as a *Customer* in respect of the *connection points* used to supply the electricity supplied under the *Smelter Agreements*;

(2) *Smelter Trader* is deemed to be registered as a *Customer* and as a *Market Customer* in relation to the electricity supplied under the *Smelter Agreements;*

(3) the electricity supplied under the *Smelter Agreements* is deemed to have been classified as a *market load* and the *connection points* used to supply that electricity are deemed to have been classified as *Smelter Trader's market connection points*;

(4) *Smelter Trader* is deemed to be the person that must register as the *Generator* in relation to the *generating systems* forming part of Anglesea Power Station;

(5) *Smelter Trader* is deemed to be registered as a *Generator* and a *Market Generator* in relation to the *generating systems* forming part of the Anglesea Power Station;

(6) *Smelter Trader* is only a *Market Generator* in respect of the *generating systems* forming part of the Anglesea Power Station to the extent to which the electricity generated by those *generating systems* is available to the *Smelter Trader* for sale under the *Smelter Agreements*;

(7) none of the *Counterparties* is or is to be taken to be entitled to become a *Market Participant*, an *Intending Participant* or a *Customer* in respect of the electricity supplied under the *Smelter Agreements*;

(8) none of the *Counterparties* or any person that operates or controls the *generating systems* forming part of the Anglesea Power Station (other than *Smelter Trader*) is or is to be taken to be entitled to register as a *Generator* in relation to the *generating systems* forming part of the Anglesea Power Station; and

(9) each of the Counterparties and any person that owns, controls or operates the *generating systems* forming part of the Anglesea Power Station (other than *Smelter Trader*) is taken to have been exempted from the requirement to register as a *Generator* in relation to the *generating systems* forming part of the Anglesea Power Station.

(b) This clause 9.4.2 ceases to have effect upon the termination of the last of the *Smelter Agreements*.

9.4.3 Smelter Trader: compliance

(a) If complying with a requirement of the *Rules* (the "Rules Requirement") would result in the *Smelter Trader* being in breach of a provision of one or more of the *Smelter Agreements* (the "Contractual Requirement"), then the *Smelter Trader* is not required to comply with the Rules Requirement to the extent of the inconsistency between the Rules Requirement and the Contractual Requirement.

(b) If the *Smelter Trader* does not comply with a Rules Requirement in the circumstances described in clause 9.4.3(a), then the *Smelter Trader* must:

(1) give written notice to the *AER* of:

(i) the Rules Requirement which has not been complied with;

(ii) details of each act or omission which partly or wholly constitutes non-compliance with that Rules Requirement; and

(iii) details of each Contractual Requirement which is said by the *Smelter Trader* to be inconsistent with the Rules Requirement,

as soon as practicable and in any event within 30 *days* after the non-compliance with the Rules Requirement occurs or commences; and

(2) provide the *AER* with any documents or information in the possession or control of the *Smelter Trader* which evidence the matters referred to in clause 9.4.3(b)(1) within 14 *days* (or any longer period agreed by the *AER*) of receiving a written request from the *AER*.

(c) If:

(1) the *Smelter Trader* requires the co-operation of a *Counterparty* to a *Smelter Agreement* to comply with a requirement of the *Rules*;

(2) the *Smelter Trader* has used reasonable endeavours to obtain the *Counterparty's* co-operation in order to enable the *Smelter Trader* to comply with that requirement; and

(3) under the *Smelter Agreements, SEC* has no ability to require the *Counterparty* to so co-operate with *SEC* and the *Counterparty* is not in breach of the *Smelter Agreements* by refusing to so co-operate with *SEC*,

then the *Smelter Trader* is not required to comply with that requirement.

(d) If the *Smelter Trader* does not comply with a requirement of the *Rules* in the circumstances described in clause 9.4.3(c), then the *Smelter Trader* must:

(1) give written notice to the *AER* of:

(i) the requirement of the *Rules* that has not been complied with;

(ii) details of each act or omission which partly or wholly constitutes non-compliance with that requirement of the *Rules*; and

(iii) details of the endeavours made by the *Smelter Trader* to obtain the co-operation of the *Counterparty* to enable the *Smelter Trader* to comply with the requirement of the *Rules*,

as soon as reasonably practical and in any event before the expiration of 30 *days* after the non-compliance with the requirement of the *Rules* occurs or commences; and

(2) provide the *AER* with any documents or information in the possession or control of the *Smelter Trader* which evidence the matters referred to in clause 9.4.3(d)(1) within 14 *days* (or any longer period agreed by the *AER*) of receiving a written request from the *AER*.

(e) To avoid any doubt, if:

(1) after reviewing any written notice provided by the *Smelter Trader* under clause 9.4.3(b)(1) and any additional documents or information provided by the *Smelter Trader* under clause 9.4.3(b)(2), the *AER* forms the view that compliance with the relevant Rules Requirement would not have resulted in the *Smelter Trader* being in breach of the relevant Contractual Requirement; or

(2) after reviewing any written notice provided by the *Smelter Trader* under clause 9.4.3(d)(1) and any additional documents or information provided by the *Smelter Trader* under clause 9.4.3(d)(2), the *AER* forms the view that any of the requirements of clause 9.4.3(c) were not satisfied in respect of the subject of the notice,

then the matter may be dealt with by the *AER* as a breach of the *Rules.*

(f) The *Smelter Trader* must give any notice or other information required to be given under this clause 9.4.3 (called in this clause "required information") in advance if it becomes aware of the potential for the circumstances giving rise to its obligation to give the required information to arise. If any required information is given under this clause 9.4.3(f), then:

(1) the required information is taken to have been given in accordance with this clause 9.4.3; and

(2) notwithstanding clause 9.4.3(f)(1), notice must be given of the non-compliance and further information provided to the *AER* upon request under clause 9.4.3(b) or clause 9.4.3(d) (as the case may be) after the non-compliance occurs or commences.

(g) If non-compliance with the *Rules* is continuing, the notice of non-compliance with the *Rules* provided under clause 9.4.3(b) or clause 9.4.3(d) (as the case may be) will be effective in relation to that non-compliance until that non-compliance ends if the relevant notice specifies that the non-compliance is continuing. The *Smelter Trader* must notify the *AER* of the end of the non-compliance no later than 30 *days* after the non-compliance ends.

(h) Clauses 9.4.3(a) and 9.4.3(c) do not affect *SEC's* obligations with respect to registration with *NEMMCO* or making payments in respect of *Participant fees*, *prudential requirements* or *settlement amounts*.

9.4.4 Report from AER

Within 30 *days* of the end of each *Quarter*, the *AER* must prepare a report for the previous *Quarter* and make it available on request to all *Registered Participants* and to those *participating jurisdictions* that participated in the *market* during the *Quarter* covered by the report. The report must include:

(a) a summary of the acts or omission of the *Smelter Trader* constituting non-compliance with any requirement of the *Rules*, as disclosed in written notices received by the *AER* under clause 9.4.3 during the *Quarter* covered by the report; and

(b) an assessment by the *AER* of the effect that those acts or omissions have had on the efficient operation of the *market* during the *Quarter* covered by the report.

9.4.5 Cross Border Networks

(a) If:

(1) the *Victorian Minister* considers that a *transmission network* or *distribution network* situated in Victoria is a continuation of a *network* situated in another *participating jurisdiction* and should be considered to be part of the *network* of that other *participating jurisdiction*; and

(2) the *Minister* for that other *participating jurisdiction* consents,

then the *Victorian Minister* and the *Minister* for that other *participating jurisdiction* may nominate that the *network* is deemed to be entirely in that other *participating jurisdiction* and the *Rules* including any relevant *jurisdictional derogations* for the other *participating jurisdiction* are deemed to apply to the *network* as if the *network* were located entirely within that other *participating jurisdiction*.

(b) If a nomination is made under clause 9.4.5(a), then the *jurisdictional derogations* for Victoria do not apply to the extended part of the relevant *network* which is situated in Victoria.

(c) If the *Minister* of another *participating jurisdiction* nominates that the *jurisdictional derogations* for Victoria should apply to a *network* part of which is situated in that other *participating jurisdiction*, then if the *Victorian Minister* consents, the *jurisdictional derogations* for Victoria are also to apply to that part of the *network* situated in the other *participating jurisdiction.*

9.5 [Deleted]

9.6 Transitional Arrangements for Chapter 4 - System Security

9.6.1 Operating Procedures (clause 4.10.1)

(a) For the purposes of clause 4.10.1(b), the System Operating Procedures as defined in the *System Code* as at 13 December 1998 (with the necessary changes to be made by *VENCorp*) are the *regional specific power system operating procedures* that apply from that date in respect of the *Victorian Transmission Network.*

(b) This clause is not to be taken as limiting in any way the operation of any other provision of the *Rules* relating to the review, updating and amendment of the *regional specific power system operating procedures.*

9.6.2 Nomenclature Standards (clause 4.12)

For the purposes of clause 4.12, the Nomenclature Standards as defined in the *System Code* as at 13 December 1998 are taken to be the *nomenclature standards* agreed between a *Network Service Provider* in respect of the *Victorian Transmission Network* or a *Victorian Distribution Network* and *NEMMCO* until *NEMMCO* and the relevant *Network Service Provider* agree otherwise under clause 4.12(a) or *NEMMCO* determines otherwise under clause 4.12(a).

9.7 Transitional Arrangements for Chapter 5 - Network Connection

9.7.1 [Deleted]

9.7.2 Application for Connection

(a) This clause applies in respect of a *transmission network* (including a part of a *transmission network*) situated in Victoria in respect of which *VENCorp* and one or more other persons that hold a *transmission licence* is a *Network Service Provider*. In this clause, such a person (not *VENCorp*) is called a *"Connection Service Provider"*.

(b) The requirements of Chapter 5 in relation to access to, *connection* to, *augmentation* of, the modification of a *connection* to, the provision of *network services* or *transmission use of system services*, or a modification to the provision of *network services* or *transmission use of system services*, in respect of, a *transmission network* to which this clause applies are subject to this clause 9.7.2.

(c) If a *Connection Service Provider* receives a *connection* enquiry or an *application to connect* in respect of a *transmission network* to which this clause applies and the *connection* enquiry or *application to connect* relates in whole or part to the provision of *network services* or *transmission use of system services*, or a modification to the provision of *network services* or *transmission use of system services*, in respect of, a *transmission network* to which this clause applies, then the *Connection Service Provider* must give *VENCorp* the information provided by the person making the enquiry or the application under Chapter 5 in relation to the enquiry or application.

(d) For the purposes of determining under clause 5.3.2(c) whether *VENCorp* or a *Connection Service Provider* is the *Network Service Provider* that should process and respond to a *connection* enquiry and provide the information required under clauses 5.3.3(b)(1) and 5.3.3(b)(2) in response to a *connection* enquiry in relation to a *transmission network* to which this clause applies, regard must be had to the following:

(1) *VENCorp* is the *Network Service Provider* in respect of those aspects of the *application* that relate to the provision of *network services* or *transmission use of system services*; and

(2) the relevant *Connection Service Provider* is the *Network Service Provider* in respect of the provision of *connection services.*

(e) For the purposes of the following provisions of the *Rules*:

(1) responses to a *connection* enquiry under clause 5.3.3;

(2) provision of information about *connection* requirements under clause 5.3.4(b);

(3) an offer to *connect* under clauses 5.3.5 and 5.3.6;

(4) the terms of a *connection agreement* under clause 5.3.7; and

(5) the requirement to enter into a *connection agreement* under clause 5.3.7(a)(2);

the *Network Service Provider* in respect of a *transmission network* to which this clause applies is:

(6) *VENCorp*, in respect of the provision of *network services* or *transmission use of system services*; and

(7) the relevant *Connection Service Provider*, in respect of the provision of *connection services*.

9.7.3 [Deleted]

9.7.4 Regulation of Distribution Network Connection

(a) The purpose of this clause is to ensure that, in respect of any *distribution network* situated in whole or in part in Victoria, the same regulator regulates all of *distribution service* pricing and access, *connection,* modifications to *connection*, *augmentation*, the provision of *network services* and *distribution use of system services* and modifications to the provision of *network services* and *distribution use of system services.*

(b) This clause 9.7.4:

(1) applies in respect of the regulation of access to, *connection* to, the modification of a *connection* to, the *augmentation* of, the provision of *network services* or *distribution use of system services*, and the modification of the provision of *network services* or *distribution use of system services*, in respect of, a *distribution network* (including any part of a *distribution network*) situated in Victoria; and

(2) ceases to have effect if a *Jurisdictional Regulator* appointed for Victoria under clause 6.10.1(b) ceases to be responsible for the regulation of *distribution service* pricing in Victoria under the *Rules*.

(c) Notwithstanding anything to the contrary in the *Rules*, the *Jurisdictional Regulator* appointed for Victoria under clause 6.10.1(b) (called the *"Victorian Regulator"*) is responsible for the regulation of access to, *connection* to, the modification of a *connection* to, the *augmentation* of, the provision of *network services* and *distribution use of system services*, and the modification of the provision of *network services* and *distribution use of system services*, in respect of, any *distribution network* to which this clause applies.

(d) For the purposes of clause 5.3.6(c), any question as to the fairness and reasonableness of an offer to *connect* in relation to a *distribution network* to which this clause applies is to be decided by the *Victorian Regulator* on the basis of the *Victorian Regulator's* opinion of the fairness and reasonableness of the offer.

(e) If a dispute arises in relation to any of access to, *connection* to, the modification of a *connection* to, the *augmentation* of, the provision of *network services* or *distribution use of system services*, or the modification of the provision of *network services* or *distribution use of system services*, in respect of, any *distribution network* to which this clause applies, then that dispute must be resolved in accordance with procedures specified by the *Victorian Regulator* and clause 8.2 does not apply to that dispute.

9.7.5 [Deleted]

9.7.6 [Deleted]

9.7.7 [Deleted]

9.8 Transitional Arrangements for Chapter 6 - Network Pricing

9.8.1 Clause 6.2 - Introductory Words

The methodologies referred to in the introductory words to clause 6.2 must also be consistent with this clause 9.8.

9.8.2 [Deleted]

9.8.3 Interim Arrangements (Clauses 6.2.1)

(a) For the purposes of the regulation of *transmission service* pricing for a *transmission network* situated in Victoria, Chapter 6 is varied by replacing, throughout Chapter 6, the words "1 July 1999" with the words "1 January 2001".

(b) **[Deleted]**

(c) **[Deleted]**

9.8.4 Transmission Network Pricing

(a) Notwithstanding Chapter 6, in determining *transmission service* pricing and revenues in respect of the *Victorian Transmission Network* or a part of the *Victorian Transmission Network*, the *AER* must:

(1) **[Deleted]**

(2) apply, as the case requires and subject to clauses 9.8.4A to 9.8.4F, Parts B and C of Chapter 6; and

(3) ensure that each *Distributor* has the benefit or burden of an equalisation adjustment for each *financial year* equal to the amount of the adjustment specified for that *Distributor* in the column headed "Equalisation Adjustment" in the following table:

TABLE	
Business	**Equalisation Adjustment ($'000) Note 2)**
TXU Electricity Ltd	(4,939)
Powercor Australia Ltd	(19,011)
AGL Electricity Limited	5,171
CitiPower Pty Ltd	5,920
United Energy Ltd	12,859

multiplied by the relevant factor determined in accordance with the following table:

TABLE	
If the *financial year* falls within the period:	**then the relevant factor is:**
1 July 2001 - 30 June 2005	.80
1 July 2005 - 30 June 2010	.60
1 July 2010 - 30 June 2015	.40
1 July 2015 - 30 June 2020	.20
thereafter	0

(b) **[Deleted]**

9.8.4A Modification of Chapter 6 in its application to Victoria

The application of Chapter 6 in respect of the *Victorian Transmission Network* or a part of the *Victorian Transmission Network* is subject to the modifications set out in clauses 9.8.4B to 9.8.4F.

9.8.4B Transmission service revenues

(a) Despite anything to the contrary in Chapter 6 or in this Chapter 9, the applicable *transmission* revenue regulatory regime for the regulation of *transmission service* revenues in respect of the *Victorian Transmission Network* or a part of the *Victorian Transmission Network* is:

(1) in relation to any *transmission services* provided by a *Regulated owner*, the *transmission* revenue regulatory regime set out in Part B of Chapter 6 and, for that purpose, every reference in Part B of that Chapter to a *Transmission Network Service Provider* is to be read as a reference to a *Regulated owner*; and

(2) in relation to any *transmission services* provided by *VENCorp*, the *transmission* revenue regulatory regime set out in Part B of Chapter 6 as modified by clauses 9.8.4B to 9.8.4E, and for that purpose every reference in Part B of that Chapter to:

(i) a *Transmission Network Service Provider* is to be read as a reference to *VENCorp*;

(ii) a *revenue cap* is to be read as a reference to the *maximum allowable aggregate revenue*;

(iii) a *regulatory control period* is to be read as a reference to a *relevant regulatory period*; and

(iv) *prescribed transmission services* is to be read as a reference to services in respect of which *VENCorp* may determine *shared transmission network use charges*.

(b) In clause 9.8.4B(a)(1), *transmission services* includes *shared network services*.

9.8.4C Transmission revenue regulatory regime for transmission services provided by VENCorp

(a) The *transmission* revenue regulatory regime that applies to *VENCorp* must comply with the following principles:

(1) the amount of *VENCorp's maximum allowable aggregate revenue* for a *relevant regulatory period* must not exceed *VENCorp's statutory electricity transmission-related costs*; and

(2) *VENCorp's maximum allowable aggregate revenue* must be determined on a full cost recovery but no operating surplus basis,

and clauses 6.2.2 and 6.2.3 do not apply in respect of *transmission services* provided by *VENCorp*.

(a1) Clause 6.2.4 does not apply in respect of *transmission services* provided by *VENCorp* with the exception of clause 6.2.4(d), (e) and (f). For the avoidance of doubt, for the purposes of clause 6.2.4(f), *transmission services* offered by *VENCorp* are not taken to be offered on a contestable basis by reason only of *VENCorp* having procured those services through a competitive tender or similar process.

(b) Not less than 7 months before the commencement of a *relevant regulatory period*, *VENCorp* must, for the purpose of enabling the *AER* to determine *VENCorp's maximum allowable aggregate revenue* for a *relevant regulatory period*, submit its revenue application for that *relevant regulatory period* to the *AER* that sets out:

(1) its proposed *maximum allowable aggregate revenue* for each *financial year* in that *relevant regulatory period*;

(2) its forecast *statutory electricity transmission-related costs* for each *financial year* in that *relevant regulatory period*; and

(3) **[Deleted]**

(4) a statement reconciling its most recent forecast of:

(i) the revenue that will be recovered by way of *shared transmission network use charges*; and

(ii) the *statutory electricity transmission-related costs*,

for the *relevant regulatory period* immediately preceding the *relevant regulatory period* to which the application relates.

(c) The application must be:

(1) consistent with the principles set out in clause 9.8.4C(a); and

(2) in a form that meets the *Information requirements guideline*s but only to the extent to which those guidelines are relevant and applicable to *VENCorp*.

(d) Subject to clause 9.8.4C(e), (f), (g), (g3) and (g4), the *AER* must determine *VENCorp's maximum allowable aggregate revenue* for a *relevant regulatory period*.

(e) A determination under clause 9.8.4C(d):

(1) must apply the principles set out in clause 9.8.4C(a);

(2) must comply with the requirements set out in clause 6.2.6(a) (and for that purpose, every reference to a *revenue cap* determination in that clause is to be read as a reference to a determination under clause 9.8.4C(d));

(3) must take into account:

(i) *VENCorp's* functions under the *EI Act*, the application of the *Rules* to *VENCorp* and the conditions imposed on *VENCorp* under its *transmission licence*; and

(ii) **[Deleted]**

(iii) the difference (if any) between the forecasts referred to in clause 9.8.4C(b)(4); and

(4) must set out the *maximum allowable aggregate revenue* for each *financial year* in that *relevant regulatory period*.

(f) If, after considering the application, the *AER* finds that there is a difference of the kind referred to in clause 9.8.4C(e)(3)(iii), the *AER* must apply that difference in any determination it makes under clause 9.8.4C(d).

(g) If the *AER* does not make a determination under clause 9.8.4C(d) before the commencement of the *relevant regulatory period* in respect of which the application was made, the *AER* is to be taken to have made a determination as to *VENCorp's maximum allowable aggregate revenue* in respect of each *financial year* in that *relevant regulatory period* on the same terms as the application.

(g1) If, at any time during a *relevant regulatory period*, a *Regulated owner* proposes to send a notice to the *AER* which could have the effect (directly or indirectly) of varying a charge, or introducing a new charge, payable by *VENCorp* to the *Regulated owner* during that *relevant regulatory period* for *shared network services*, the *Regulated owner* must first provide a copy of that notice to *VENCorp*.

(g2) If *VENCorp's statutory electricity transmission-related costs* for a *financial year* have exceeded, or *VENCorp* anticipates (as a result of receiving a notice from a *Regulated owner* under clause 9.8.4C(g1) or otherwise) that they will exceed, the amount of the *statutory electricity transmission-related*

costs for that *financial year* assumed by the *AER* in making the determination of *VENCorp's maximum allowable aggregate revenue, VENCorp* may apply to the *AER* for an adjustment to the *maximum allowable aggregate revenue* for each affected *financial year* in the *relevant regulatory period* of an amount, set out in the application, equal to the amount required to ensure that the *maximum allowable aggregate revenue* complies with the principles in clause 9.8.4C(a).

(g3) Following an application by *VENCorp* under clause 9.8.4C(g2), the *AER* must determine the amount, if any, by which *VENCorp's maximum allowable aggregate revenue* for each affected *financial year* in the *relevant regulatory period* is to be adjusted so that it complies with the principles in clause 9.8.4C(a).

(g4) If the *AER* does not make a determination under clause 9.8.4C(g3) within 30 *business days* after the application by *VENCorp* under clause 9.8.4C(g2), the *AER* is to be taken to have made a determination that *VENCorp's maximum allowable aggregate revenue* for each affected *financial year* in the *relevant regulatory period* is to be adjusted by the amount set out in *VENCorp's* application.

(h) **[Deleted]**

9.8.4D Information disclosure by VENCorp

For the purposes of clause 6.2.5:

(a) clause 6.2.5(c) is to be read as if "clauses 6.2.2, 6.2.3 and 6.2.4" was substituted with "clause 9.8.4C", and

(b) *VENCorp* must comply with clause 6.2.5 but only to the extent to which it is relevant and applicable to *VENCorp*.

9.8.4E [Deleted]

9.8.4F Pricing for connection to and use of Victorian transmission network

(a) The operation of Part C of Chapter 6, as it operates in respect the *Victorian Transmission Network* or a part of the *Victorian Transmission Network*, is modified by this clause 9.8.4F so that the allocation of the *aggregate annual revenue requirement* and its equivalent determined under clause 9.8.4C, and the allocation of transmission costs and the conversion of those allocated *transmission* costs to *transmission service* prices and charges as provided for under Part C of Chapter 6, reflects the arrangements in place in relation to the *Victorian Transmission Network* or a part of the *Victorian Transmission Network* under the *EI Act*, the *ESC Act* and the *Tariff Order*.

(b) **[Deleted]**

(c) Part C of Chapter 6 applies in respect of the *Victorian Transmission Network* or a part of the *Victorian Transmission Network* in the following manner:

(1) in clauses 6.3 and 6.4.1 and in the opening words of clause 6.5, every reference to *transmission services* is to be read as including *shared network services*;

(2) subject to clauses 9.8.4F(d) and (f), clause 6.3 applies to:

(i) where a provision of that clause relates to the provision of *transmission services* which are or form part of *transmission use of system services* or *common services*, a *Regulated owner* and *VENCorp* and, for that purpose, every reference in the provision to:

(A) a *Transmission Network Service Provider* is to be read as a reference to the *Regulated owner* or *VENCorp* (as the case requires); and

(B) *transmission use of system services* or *common services* is to be read as, in the case of a *Regulated owner*, a reference to *shared network services*; and

(C) the *aggregate annual revenue requirement* is to be read as, in the case of *VENCorp*, a reference to the *maximum allowable aggregate revenue* for the relevant *financial year*;

(ii) where a provision of that clause relates to the provision of *transmission services* which are or form part of *entry services* or *exit services*, a *Regulated owner* and, for that purpose, every reference in that provision to a *Transmission Network Service Provider* is to be read as a reference to the *Regulated owner*;

(3) clause 6.4 (other than clause 6.4.1) and clause 6.5 apply to:

(i) where a provision of either clause relates to the provision of *transmission services* which are or form part of *entry services* or *exit services*, a *Regulated owner* and, for that purpose, every reference in that provision to a *Transmission Network Service Provider* is to be read as a reference to the *Regulated owner*; and

(ii) subject to clause 9.8.4F(h), where a provision of either clause relates to the provision of *transmission services* which are or form part of *transmission use of system services* or *common services*, *VENCorp* and, for that purpose, every reference in the provision to:

(A) a *Transmission Network Service Provider* is to be read as a reference to *VENCorp*;

(B) the *aggregate annual revenue requirement* is to be read as a reference to the *maximum allowable aggregate revenue* for the relevant *financial year*; and

(C) a *revenue cap* is to be read as a reference to the *maximum allowable aggregate revenue*.

(4) subject to clause 9.8.4F(d), clause 6.4.1 applies to:

(i) a *Regulated owner*, as if in that clause:

(A) for clause 6.4.1(a)(3) and (4), there were substituted: "(3) *shared network services* assets."; and

(B) a reference to a *Transmission Network Service Provider* were a reference to the *Regulated owner*; and

(ii) *VENCorp*, as if in that clause:

(A) clause 6.4.1(a)(1) and (2), were omitted; and

(B) a reference to a *Transmission Network Service Provider* were a reference to *VENCorp*; and

(C) a reference to *aggregate annual revenue requirement* were a reference to the *maximum allowable aggregate revenue* for the relevant *financial year*; and

(5) clauses 6.7 to 6.9 apply to:

(i) where a provision of any of these clauses relates to the provision of *transmission services* which are or form part of *entry services* or *exit services*, a *Regulated owner* and, for that purpose, every reference in that provision to a *Transmission Network Service Provider* is to be read as a reference to the *Regulated owner*;

(ii) where a provision of any of these clauses relates to the provision of *transmission services* which are or form part of *transmission use of system services* or *common services*, *VENCorp* and, for that purpose, every reference in that provision to a *Transmission Network Service Provider* is to be read as a reference to *VENCorp*.

(d) A *Regulated owner* must, on allocating its *aggregate annual revenue requirement* amongst all of its assets utilised in the provision of *shared network services*, immediately notify *VENCorp* of the actual amount of the

aggregate annual revenue requirement allocated in respect of each of its assets utilised in the provision of those services.

(e) In addition to the modifications set out in clause 9.8.4F(c)(3), clause 6.5 applies to a *Regulated owner* as if:

(1) in the opening words of that clause:

(i) for clause 6.5(a)(3) to (5), there were substituted: "(3) *shared network services* cost.";

(ii) clause 6.5(b) were omitted; and

(2) after clause 6.5.1 there were inserted:

"6.5.1A Shared network services charge

The portion of the *aggregate annual revenue requirement* referable to *shared network services* is recoverable by a *Regulated owner* from *VENCorp*."

(f) *VENCorp* is to be taken to be:

(1) the *Co-ordinating Network Service Provider* appointed under clause 6.3.2 responsible for the allocation of all relevant *aggregate annual revenue requirements* relating to the provision of *transmission services* which are *transmission use of system services* or *common services* within the Victorian *region* in accordance with the relevant clauses of Part C of Chapter 6; and

(2) the *Transmission Network Service Provider* referred to in clause 6.3.3 which must liaise with *Network Service Providers* in other *interconnected regions* which are similarly responsible for the allocation of all relevant *aggregate annual revenue requirements* relating to the provision of *transmission services* which are *transmission use of system services* or *common services*.

(g) **[Deleted]**

(h) *VENCorp* must, in allocating the portion of its *shared transmission network use charges* that is to be recovered from each *Distributor* to which it provides *transmission use of system services* or *common services* in each *financial year* of a *relevant regulatory period*, adjust that portion in accordance with clause 9.8.4(a)(3).

9.8.4G Transitional provisions

Despite anything to the contrary in clauses 9.8.4A to 9.8.4D, any determination of the *ACCC* setting *VENCorp's revenue cap* that is in force immediately before 1

January 2003 is deemed to be a determination of the *AER* under clause 9.8.4C(d), and for that purpose, clauses 9.8.4A to 9.8.4D and the provisions of Part B of Chapter 6 as modified by clauses 9.8.4A to 9.8.4D, apply accordingly.

9.8.5 Distribution Network Pricing - Jurisdictional Regulator (Chapter 6 Parts D and E)

The *ESC* is the *Jurisdictional Regulator* appointed for Victoria for the purposes of clause 6.10.1(b).

9.8.6 [Deleted]

9.8.7 Distribution Network Pricing (clauses 6.10.1, 6.10.3 and 6.10.5)

(a) Any:

(1) national guidelines for *distribution service* pricing formulated under clause 6.10.1(c) as they apply to *distribution networks* situated in whole or in part in Victoria; and

(2) guidelines and rules formulated by the *Jurisdictional Regulator* for Victoria under clause 6.10.1(f),

must be consistent with clause 5.10 of the *Tariff Order*.

(b) The arrangements outlined in Parts D and E of Chapter 6 must also be applied by the *Jurisdictional Regulator* for Victoria subject to clause 5.10 of the *Tariff Order*.

(c) The value of sunk assets determined under clause 6.10.3(e)(5)(ii) must be consistent with clause 5.10(b) of the *Tariff Order*.

(d) In regulating *distribution service* pricing in respect of a *distribution network* situated in whole or in part in Victoria:

(1) the *Jurisdictional Regulator* must specify explicit price capping as the form of economic regulation to be applied in accordance with clause 6.10.5(b); and

(2) the *Jurisdictional Regulator* must comply with clause 5.10 of the *Tariff Order*.

(e) Notwithstanding clause 6.10.5(c) and subject to clause 9.4.5, the *regulatory control period* in respect of a *distribution network* situated in whole or in part in Victoria must not be less than 5 years.

9.9 Transitional Arrangements for Chapter 7 - Metering

9.9.1 Metering Installations To Which This Schedule Applies

The transitional arrangements set out in this clause 9.9 apply in relation to a *metering installation* (including a *check metering installation*) in use at *market commencement* that was required to comply with, and did comply with, the *Wholesale Metering Code* at *market commencement*.

9.9.2 [Deleted]

9.9.3 [Deleted]

9.9.4 [Deleted]

9.9.5 [Deleted]

9.9.6 [Deleted]

9.9.7 [Deleted]

9.9.8 [Deleted]

9.9.9 Periodic Energy Metering (clause 7.9.3)

(a) Subject to clause 9.9.9(b), for the purposes of clause 7.9.3, *NEMMCO*, the *Local Network Service Provider* and the *Market Participant* are taken to have agreed that the data referred to in clause 7.9.3 which is obtained from a *metering installation* to which this clause 9.9 applies may be collated in 15 minute intervals.

(b) This clause 9.9.9 ceases to apply in respect of a *metering installation* if *NEMMCO*, the relevant *Local Network Service Provider* or the relevant *Market Participant* gives notice requiring an agreement to be reached under clause 7.9.3.

9.9.10 Use of Alternate Technologies (clause 7.13)

(a) Subject to this clause 9.9.10, if at *market commencement* the *Wholesale Metering Code* provides for the use of alternate technologies or processes for the purpose of calculating the consumption of energy by a non-franchise customer (as defined in the *EI (RP) Act* and in force immediately before the commencement of section 39(a) of the Electricity Industry Act 1995 (Vic)), then the use of these technologies or processes is taken to have been agreed for the purposes of clause 7.13(a) but only to the extent to which the alternate technology or process was in use at *market commencement* in relation to that non-franchise customer.

(b) *NEMMCO*, the relevant *Local Network Service Provider* or the relevant *Market Participant* may give notice requiring agreement to be reached under clause 7.13(a) in respect of a technology or process referred to in clause 9.9.10(a) and clause 9.9.10(a) ceases to apply to that technology or process from the date specified in the notice.

9.9A Transitional Arrangements for Chapter 7 - Full Retail Competition

9.9A.1 Definitions and Application

(a) This clause 9.9A applies to *metering installations* for *connection points* located in Victoria.

(b) For the purposes of Chapter 7 and this clause 9.9A, if there is more than one *Local Network Service Provider* for a *local area*, a reference to the *Local Network Service Provider* in respect of a *metering installation* or *connection point* is a reference to the *Local Network Service Provider* that holds a *licence* or has been granted an exemption from holding a *licence* under the *EI Act* in respect of the *network* to which that *metering installation* or *connection point* is *connected*.

(c) For the purposes of clauses 9.9A.2 and 9.9A.3, a reference to a "type 5 *metering installation*" is a reference to a type 5 *metering installation* which includes an interval *meter* that is manually read.

(d) Despite anything in clause 9.9A.1(c), clauses 9.9A.2 and 9.9A.3 do not regulate the provision, installation or maintenance of a type 5 *metering installation* which includes an interval *meter* that is remotely read, regardless of the frequency with which that interval *meter* is read.

(e) In clause 9.9A.1(d), "an interval *meter* that is remotely read" means an interval *meter* that:

(i) is designed to transmit *metering data* to a remote locality for data collection; and

(ii) does not, at any time, require the presence of a person at, or near, the *meter* for the purposes of data collection or data verification (whether this occurs manually as a walk by reading or through the use of a vehicle as a close proximity drive-by reading),

and includes but is not limited to an interval *meter* that transmits *metering data* via:

(i) direct dial-up;
(ii) satellite;
(iii) the internet;

(iv) general packet radio service;
(v) power line carrier; or
(iv) any other equivalent technology.

(f) This clause 9.9A.1 ceases to apply on the date on which clause 9.9A.2 ceases to apply.

9.9A.2 Responsible Person (clauses 7.2.1, 7.2.2 and 7.2.3)

(a) The *Local Network Service Provider* is the *responsible person* for all type 5, type 6 and type 7 *metering installations*.

(b) Clause 7.2.3 does not apply in respect of type 5, type 6 or type 7 *metering installations* and the *financially responsible Market Participant* for any *market connection point* which has or is proposed to have a type 5, type 6 or type 7 *metering installation* must:

(i) request an offer from the *Local Network Service Provider* under clause 7.2.2 in relation to the *metering installation*; and

(ii) subject to the resolution of any dispute in accordance with clause 9.9A.2(d), accept an offer made by the *Local Network Service Provider* under clause 7.2.2,

for the provision, installation and maintenance of the *metering installation*.

(c) The terms of an offer made by the *Local Network Service Provider* under clause 7.2.2 in respect of a type 5, type 6 or type 7 *metering installation* must:

(i) be fair and reasonable and consistent with the Victorian regulatory instruments referred to in clause 9.9A.3(a); and

(ii) not unreasonably discriminate, or have the effect of creating unreasonable discrimination, between *Market Participants* or between customers of any *Market Participant*.

(d) Any question as to the fairness and reasonableness of the terms of an offer referred to in clause 9.9A.2(c) or whether the terms of such an offer unreasonably discriminate must be decided by the *ESC* on the basis of the *ESC's* opinion on the matter.

(e) This clause 9.9A.2 ceases to apply on 31 December 2006.

9.9A.3 Payment for Metering (clause 7.3.6)

(a) Clause 7.3.6(a) does not apply in respect of the payment to a *Local Network Service Provider* of its costs associated with the provision, installation, maintenance, routine testing and inspection of a type 5, type 6 or type 7

metering installation in accordance with the requirements of the relevant *metrology procedure*, which costs may only be recovered by the *Local Network Service Provider* in accordance with the *Tariff Order*, the *Local Network Service Provider's distribution licence* or any other applicable Victorian regulatory instrument.

(b) This clause 9.9A.3 ceases to apply on the date on which clause 9.9A.2 ceases to apply.

9.9A.4 [Deleted]

Schedule 9A1.1 – [Deleted]

Schedule 9A1.2 – [Deleted]

Schedule 9A1.3 – [Deleted]

Schedule 9A2 – [Deleted]

Schedule 9A3 – Jurisdictional Derogations Granted to Generators

1. Interpretation of tables

In this schedule 9A3:

(a) a reference to a *Generator* listed in a table is a reference to a *Generator* listed in column 1 of the relevant table;

(b) a reference to a *generating unit* listed in a table in relation to a *Generator* is a reference to each *generating unit* listed opposite the *Generator* in the relevant table;

(c) a reference to a *Network Service Provider* in relation to a *generating unit* or a *Generator* listed in a table is to be taken to be:

(1) in the case of a *generating unit connected* to a *transmission network*, a reference to *VENCorp*; and

(2) in the case of a *generating unit connected* to a *distribution network*, a reference to the person that is the *Network Service Provider* in relation to that *distribution network*; and

(d) a reference to a modification or variation of the *Rules* or an item taken to have been agreed for the purposes of the *Rules* listed in a table applies in respect of each *generating unit* listed opposite that modification, variation or agreed item in the table.

2. Continuing effect

In this schedule 9A3, a reference to:

(a) a particular *Generator* in relation to a *generating unit*; or

(b) a particular *Network Service Provider* in relation to a *Generator*,

at any time after the 13 December 1998 is to be taken as a reference to the person or persons who is or are (or who is or are deemed to be) from time to time registered with *NEMMCO* as the *Generator* in respect of that *generating unit* for the purposes of the *Rules* or the *Network Service Provider* from time to time in respect of the *transmission network* or *distribution network* to which the *generating unit* is *connected*.

3. Subsequent agreement

Where, under a provision of this schedule 9A3, a particular matter is taken to have been agreed for the purposes of schedule 5.2 of the *Rules* in relation to a *generating unit*, then that provision ceases to apply in respect of that *generating unit* if all the parties required to reach agreement in relation to that matter under the *Rules* so agree expressly in writing.

4. Additional services that may be required (clause S5.2.2 of schedule 5.2)

4.1 A *Generator* listed in Table 1 is taken to have been required by the relevant *Network Service Provider* to provide *power system* stabilising *facilities* for the *generating units* listed in Table 1.

4.2 Clause 4.1 ceases to apply in respect of a *generating unit* if the relevant *Generator*, *NEMMCO* and the relevant *Network Service Provider* so agree expressly in writing.

Table 1:

Generator	Generating Units
Generation Victoria	Jeeralang Power Station A, Units 1 to 4
Generation Victoria	Jeeralang Power Station B, Units 1 to 3

5. Reactive Power Capability (clause S5.2.5.1 of schedule 5.2)

Clause S5.2.5.1 of schedule 5.2 of the *Rules* is replaced for a *Generator* listed in Table 2 in respect of those *generating units* listed in column 2 of Table 2 by the following:

For the purpose of this clause S5.2.5.1:

'*rated active power output*' means the 'Rated MW (Generated)' (as defined in schedule 5.5.1) for the relevant *synchronous generating unit*; and

'*nominal terminal voltage*' means the 'Nominal Terminal *Voltage*' (as defined in schedule 5.5.1) for the relevant *synchronous generating unit*.

(a) Each of the *synchronous generating units*, while operating at any level of *active power* output, must be capable of:

(1) supplying at its terminals an amount of *reactive power* of at least the amount that would be supplied if the *generating unit* operated at *rated active power output*, *nominal terminal voltage* and a lagging power factor of 0.9; and

(2) absorbing at its terminals an amount of *reactive power* of at least the amount that would be absorbed if the *generating unit* operated at *rated active power output*, *nominal terminal voltage* and a leading power factor set out in respect of that *generating unit* in column 3 of Table 2.

(b) In the event that any of the relevant power factors referred to in paragraph (a) above cannot be provided in respect of a *generating unit*, the relevant *Generator* must reach a commercial arrangement under its *connection agreement* with the relevant *Network Service Provider*, or with another *Registered Participant*, for the supply of the deficit in *reactive power* as measured at that *generating unit's* terminals.

Table 2:

Generator	**Generating Units**	**Leading Power Factor**
Loy Yang Power Ltd	Loy Yang Power Station A Units 1, 3 and 4	0.944
Loy Yang Power Ltd	Loy Yang Power Station A Unit 2	0.952
Yallourn Power Ltd	Yallourn Power Station W Units 1 and 2	0.954
Yallourn Power Ltd	Yallourn Power Station W Units 3 and 4	0.941
Hazelwood Power Corporation Ltd	Hazelwood Power Station Units 1 to 8	0.989
Smelter Trader	Anglesea Power Station Unit 1	0.991
Energy Brix Australia Corporation Pty Ltd	Morwell Power Station Unit 1	(-)
Energy Brix Australia Corporation Pty Ltd	Morwell Power Station Units 2, 3 and 4	(-)
Energy Brix Australia Corporation Pty Ltd	Morwell Power Station Unit 5	0.979
Generation Victoria	Jeeralang A Power Station Units 1 to 4	0.978

Generator	Generating Units	Leading Power Factor
Southern Hydro Ltd	Dartmouth Power Station Unit 1	0.972
Edison Mission Energy Australia Limited	Loy Yang B Power Station Units 1 and 2	0.941

6. Generating unit response to disturbances (clause S5.2.5.3 of schedule 5.2)

6.1 A *Generator* listed in Table 3.1 is, in respect of a *generating unit* listed in column 2 of Table 3.1, taken to comply with the requirements of clause S5.2.5.3(a) of schedule 5.2 of the *Rules* if the *generating unit* complies with clause 6.3 below.

6.2 A *Generator* listed in Table 3.2 is, in respect of a *generating unit* listed in column 2 of Table 3.2, taken to comply with the requirements of clause S5.2.5.3(a) of schedule 5.2 of the *Rules* if the *generating unit* complies with clause 6.4 below.

6.3 The *generating unit* must be able to maintain continuous uninterrupted operation in the event of:

(a) *disconnection* of the single largest *generating unit* on the *power system* provided that system *frequency* does not fall below 49.5 Hz and recovers to above 49.9 Hz within four minutes; and

(b) a two-phase to ground line fault adjacent to the power station switch yard cleared in primary protection time.

6.4 The *generating unit* must be able to maintain continuous uninterrupted operation in the event of *disconnection* of the single largest *generating unit* on the *power system* provided that system *frequency* does not fall below 49.5 Hz and recovers to above 49.9 Hz within four minutes.

Table 3.1:

Generator	Generating Units
Loy Yang Power Ltd	Loy Yang A Power Station Units 1 to 4
Generation Victoria	Newport D Power Station Unit 1

Table 3.2:

Generator	Generating Units
Yallourn Energy Ltd	Yallourn W Power Station Units 1 to 4
Hazelwood Power Corporation Ltd	Hazelwood Power Station Units 1 to 8
Energy Brix Australia Corporation Pty Ltd	Morwell Power Station Units 1 to 5
Generation Victoria	Jeeralang A Power Station Units 1 to 4
Generation Victoria	Jeeralang B Power Station Units 1 to 3
Southern Hydro Ltd	Dartmouth Power Station Unit 1 Eildon Power Station Units 1 and 2 Clover Power Station Units 1 and 2 McKay Creek Power Station Units 1 to 6 West Kiewa Power Station Units 1 to 4
Edison Mission Energy Australia Limited	Loy Yang B Power Station Units 1 and 2

7. Partial load rejection (clause S5.2.5.4 of schedule 5.2)

7.1 For a *Generator* listed in Table 4.1, in respect of those *generating units* listed in column 2 of Table 4.1, clause S5.2.5.4(a) of schedule 5.2 of the *Rules* is modified by the addition of the following after "*nameplate rating*":

"and system *frequency* remains within 47 Hz to 52 Hz provided that system *frequency* returns to:

(i) within the range 48.5 Hz to 50.5 Hz within 60 seconds; and

(ii) within the range 49.5 Hz to 50.5 Hz within 60 minutes,"

Table 4.1:

Power Station	Generating Units
Loy Yang Power Ltd	Loy Yang A Power Station Units 1 to 4
Generation Victoria	Newport D Power Station Unit 1
Yallourn Energy Ltd	Yallourn W Power Station Units 1 to 4
Hazelwood Power Corporation Ltd	Hazelwood Power Station Units 1 to 8
Energy Brix Australia Corporation Pty Ltd	Morwell Power Station Units 1 to 5
Generation Victoria	Jeeralang A Power Station Units 1 to 4 Jeeralang B Power Station Units 1 to 3
Edison Mission Energy Australia Limited	Loy Yang B Power Station Units 1 and 2

7.2 For a *Generator* listed in Table 4.2, the application of clause S5.2.5.4(a) of schedule 5.2 of the *Rules* to those *generating units* listed in column 2 of Table 4.2 is varied by replacing "30%" with "25%".

Table 4.2

Generator	Generating Units
Loy Yang Power Ltd	Loy Yang A Power Station Units 1 to 4
Yallourn Energy Ltd	Yallourn W Power Station Units 1 to 4
Hazelwood Power Corporation	Hazelwood Power Station Units 1 to 8
Energy Brix Australia Corporation	Morwell Power Station Units 1 to 5
Edison Mission Energy Australia Limited	Loy Yang B Power Station Units 1 and 2

7.3 For a *Generator* listed in Table 4.3, in respect of a *generating units* listed in column 2 of Table 4.3, clause S5.2.5.4(a) of schedule 5.2 of the *Rules* is modified by the addition of the following after "*nameplate rating*": "and allowing that the *generating unit's* output may be manually adjusted to avoid rough running bands following automatic control action".

Table 4.3:

Generator	Generating Units
Southern Hydro Ltd	Dartmouth Power Station Unit 1 Eildon Power Station Units 1 and 2 Clover Power Station Units 1 and 2 West Kiewa Power Station Units 1 to 4

8. Minimum loading rates (clause S5.2.5.5 of schedule 5.2)

For a *Generator* listed in Table 5, the application of clause S5.2.5.5(b) of schedule 5.2 of the *Rules* to those *generating units* listed in column 2 of Table 5 is modified by deleting the figure "5%" and replacing it with the figure in column 3 of Table 5.

Table 5:

Generator	Generating Units	Loading rate
Yallourn Power Ltd	Yallourn Power Station W Units 1 to 4	0.5%
Generation Victoria	Newport Power Station D Unit 1	2%
Generation Victoria	Jeeralang B Power Station Units 1 to 3	3.7%

9. [Deleted]

10. Protection systems that impact on system security (clause S5.2.5.9 of schedule 5.2)

For the purposes of clause S5.2.5.9 of schedule 5.2 of the *Rules*, in the case of a *Generator* listed in Table 7, in respect of those *generating units* listed in column 2 of Table 7:

(a) the relevant *Network Service Provider* is taken to have agreed that the *Generator* is to provide protections for those *generating units* to perform the following functions except where indicated otherwise in column 3 of Table 7:

(1) protection for faults on the line and connections to the unit transformer of the *generating unit* and *transmission network* or *distribution network* (as the case may be);

(2) protection for faults within the generator transformer of the *generating unit*;

(3) protection for faults within the *generating unit*;

(4) protection for excitation system faults;

(5) protection for faults in the phase isolated bus or its terminations between the *generating unit* and the generator transformer of the *generating unit*; and

(6) protection for faults within the generator transformer of the *generating unit*;

(b) where indicated in column 3 of Table 7, the protection system is not required to be duplicated; and

(c) the *Generator* must ensure that only settings approved by the relevant *Network Service Provider* in writing are applied on the *protection systems* of the *generating unit* and must not change any of those settings without the prior written approval of the relevant *Network Service Provider*.

Table 7:

Power Station	Generating Units	Derogations
Hazelwood Power Corporation Ltd	Hazelwood Power Station Units 1 to 8	Not required to duplicate protections for excitation system faults.
Generation Victoria	Jeeralang A Power Station Units 1 to 4	Not required to duplicate protections for faults in the unit transformers of the *generating unit*.
Generation Victoria	Jeeralang B Power Station Units 1 to 3	Not required to duplicate protection for excitation system faults or for faults in the unit transformers of the *generating unit*.
Energy Brix Australia Corporation Pty Ltd	Morwell Power Station Units 1 to 5	Not required to duplicate any protections. Not required to provide protection for faults within transformers (and connections thereto) which do not form part of the power station.

Power Station	Generating Units	Derogations
Southern Hydro Ltd	Eildon Power Station Units 1 and 2	Not required to duplicate protections for faults within the unit transformers of the *generating unit*.
Southern Hydro Ltd	Clover Power Station Units 1 and 2	Not required to duplicate any of the protections.

11. Asynchronous operation (clause S5.2.5.10 of schedule 5.2)

A *Generator* listed in Table 8 is not required to have protection to prevent pole slipping or asynchronous operation in respect of those *generating units* listed in column 2 of Table 8.

Table 8:

Generator	Generation units
Southern Hydro Ltd	Clover Power Station Units 1 and 2

12. [Deleted]

13. Governor Systems (load control) (clause S5.2.5.11 of schedule 5.2)

For the purposes of clause S5.2.5.11 of schedule 5.2 of the *Rules*, a *Generator* listed in Table 10 is not required to include *facilities* for *load* control for those *generating units* listed in column 2 of Table 10.

Table 10:

Generator	Generating Unit
Hazelwood Power Corporation Ltd	Hazelwood Power Station Units 1 to 8
Smelter Trader	Anglesea Power Station Unit 1

14. Governor control equipment (clause S5.2.5.11 of schedule 5.2)

14.1 For the purposes of clause S5.2.5.11 of schedule 5.2 of the *Rules*, a *Generator* listed in Tables 11.1 to 11.4 is taken to have agreed the overall response requirements set out in clause 14.2 below with the relevant *Network Service Provider* in respect of those *generating units* listed in column 2 of Tables 11.1 to 11.4.

14.2 For a *Generator* listed in Tables 11.2 to 11.4, the overall response of a *generating unit* listed in the relevant Table to system *frequency* excursions must achieve an increase in the *generating unit's* generated output of 5% for a 0.1 Hz reduction in system *frequency* and a reduction in the *generating unit's* generated output of 5% for a 0.1 Hz increase in system *frequency*, subject to the following:

(a) for those *generating units* listed in Table 11.1, this clause only applies when operating in speed control mode;

(b) for those *generating units* listed in Table 11.2, the *generating unit* is only required to achieve a change in the *generating unit's* generated output in accordance with the requirements of British Standard BS EN 60045-1: 1993 with a droop setting of 4%;

(c) for those *generating units* listed in Table 11.3, the *generating unit* is only required to achieve a change in the *generating unit's* generated output in accordance with the requirements of the relevant British Standard for governors for hydro-electric generating units with an overall droop setting of 4% and a deadband of not more than 0.1 Hz; and

(d) for those *generating units* listed in Table 11.4, the requirements of this clause are subject to requirements for steam pressure control for briquette plant operation.

Table 11.1:

Generator	Generating Unit
Generation Victoria	Jeeralang A Power Station Units 1 to 4
Generation Victoria	Jeeralang B Power Station Units 1 to 3

Table 11.2:

Generator	Generating Unit
Yallourn Energy Ltd	Yallourn W Power Station Units 1 to 4
Hazelwood Power Corporation Ltd	Hazelwood Power Station Units 1 to 8
Energy Brix Australia Corporation Pty Ltd	Morwell Power Station Units 1 to 4

Table 11.3:

Generator	Generating Unit
Southern Hydro Ltd	Eildon Power Station Units 1 and 2 McKay Power Station Units 1 to 6 West Kiewa Power Stations Units 1 to 4
Southern Hydro Ltd	Clover Power Station Units 1 and 2

Table 11.4:

Generator	Generating Unit
Energy Brix Australia Corporation Pty Ltd	Morwell Power Station Units 2 to 4

15. Reactive current compensation (clause S5.2.5.13 schedule 5.2)

For the purposes of clause S5.2.5.13(d) of schedule 5.2 of the *Rules*, a *Generator* listed in Table 12 is taken to have agreed with the relevant *Network Service Provider* that in respect of those *generating units* listed in column 2 of Table 12, the *excitation control system* of the *generating unit* need not be capable of providing reactive current compensation settable for boost or droop.

Table 12:

Generator	Generating Units
Yallourn Power Ltd	Yallourn Power Station W Units 1 to 4

16. Excitation Control System (clause S5.2.5.13 of schedule 5.2)

For the purposes of clause S5.2.5.13 of schedule 5.2 of the *Rules*, a *Generator* listed in Table 13 is not required to provide *power system* stabilising action in relation to those *generating units* listed in column 2 of Table 13.

Table 13:

Power Station	Generating Units
Energy Brix Australia Corporation Pty Ltd	Morwell Power Station Units 1 to 5
Hazelwood Power Corporation Ltd	Hazelwood Power Station Units 1 to 8
Smelter Trader	Anglesea Power Station Unit 1

Part B – Jurisdictional Derogations for New South Wales

9.10 [Deleted]

9.11 Definitions

9.11.1 Definitions used in this Part B

For the purposes of this Part B:

(a) a word or expression defined in the glossary in Chapter 10 has the meaning given to it in the glossary unless it is referred to in column 1 of the following table; and

(b) a word or expression referred to in column 1 of the following table has the meaning given to it in column 2 of the table:

Column 1	Column 2
EnergyAustralia	The energy distributor known as "EnergyAustralia" and established under the Energy Services Corporations Act 1995 (NSW).
ES Act	Electricity Supply Act 1995 (NSW).
IPART	The New South Wales Independent Pricing and Regulatory Tribunal established under the *IPART Act*.
IPART Act	Independent Pricing and Regulatory Tribunal Act 1992 (NSW).
Minister	The Minister administering the *ES Act* from time to time.
Mount Piper Cross Border Leases	The various agreements, documents and deeds relating to the leasing, ownership and operation of the *generating systems* comprising the *Mount Piper Power Station* entered into at the request of, or for the benefit of, one or more of Delta Electricity, New South Wales Treasury Corporation and the State of New South Wales and whether or not any of Delta Electricity, New South Wales Treasury Corporation or the State of New South Wales is a party to those agreements, documents and deeds.

Column 1	Column 2
Mount Piper Participants	The parties to the *Mount Piper Cross Border Leases* from time to time.
Mount Piper Power Station	The *power station* known as the "Mount Piper Power Station" located at Portland, New South Wales.
Mount Piper Trader	Delta Electricity or such other of the *Mount Piper Participants* from time to time which is operating the *Mount Piper Power Station*.
NSW Electricity Market Code	The code entitled NSW State Electricity Market Code, as in force immediately before 13 December 1998.
Power Supply Agreements	Each of the following agreements in their form as at 1 July 1996: (a) Power Supply Agreement dated 23 January 1991 between Macquarie Generation, Tomago Aluminium Company Pty Ltd and others; (b) the contract known as the **BHP Port Kembla Slab and Plate Products Contract** between Delta Electricity (formerly known as First State Power) and BHP Steel (AIS) Pty Ltd ACN 000 019 625 (formerly known as Australian Iron & Steel Ltd), being the contract that arises from the two agreements dated 24 May 1955, the agreement dated 27 November 1958 and the agreement dated 1 December 1969 (as amended and supplemented before 1 July 1996); (c) the contract known as the **BHP Newcastle Rod and Bar Products Contract** between Delta Electricity (formerly known as First State Power) and The Broken Hill Proprietary Company Ltd ACN 004 028 077, being the contract that arises from the agreement dated 13 August 1959 (as amended and supplemented before 1 July 1996) .

Column 1	Column 2
Power Trader	Each of Delta Electricity (formerly known as First State Power), Macquarie Generation and such other person as may be nominated by the *Minister* to perform any obligation under a *Power Supply Agreement*.
TransGrid	The energy transmission operator known as "TransGrid" and established under the Energy Services Corporations Act 1995 (NSW).

9.12 Transitional Arrangements for Chapter 2 - Generators, Registered Participants, Registration and Cross Border Networks

9.12.1 Registration as a Generator

(a) For the purposes of the *Rules*:

(1) **[Deleted]**

(2) **[Deleted]**

(3) *Mount Piper Trader* is deemed to be the person that must register as a *Generator* in relation to the *generating systems* forming part of the *Mount Piper Power Station*; and

(4) the *Mount Piper Participants* (other than the *Mount Piper Trader*) are not to, and are not to be taken to be entitled to, and are taken to have been exempted from the requirement to, register as a *Generator* in relation to the *generating systems* forming part of *the Mount Piper Power Station*.

(b) **[Deleted]**

(c) Clause 9.12.1(a)(3) and (4) ceases to have effect upon the expiry or earlier termination of the last of the *Mount Piper Cross Border Leases.*

9.12.2 Customers

For the purposes of clause 2.3.1(e), and for the purposes of clause 2.4.2(b) in so far as it relates to *Customers*, a person satisfies the requirements of New South Wales for classification of a *connection point* of that person if that person is the holder of a retail supplier's licence issued under the *ES Act* or is a wholesale customer (as defined in the *ES Act*).

9.12.3 Power Traders

(a) Each *Power Trader* for the purpose of supplying electricity under a *Power Supply Agreement* (the "*Power Supply Agreement*") is deemed to be and at all relevant times to have been (and must register with *NEMMCO* as) a *Market Customer* in relation to electricity supplied under the *Power Supply Agreement*, which electricity is deemed to be and at all relevant times to have been a *market load*.

(b) If complying with a requirement of the *Rules* ("the Rules Requirement") would result in a *Power Trader* being in breach of a provision of a *Power Supply Agreement* to which it is a party ("the Contractual Requirement"), the *Power Trader* is not required to comply with the Rules Requirement to the extent of the inconsistency between the Rules Requirement and the Contractual Requirement.

(c) If a *Power Trader* does not comply with a Rules Requirement in the circumstances described in clause 9.12.3(b), then the *Power Trader* must:

(1) give written notice to the *AER* of:

(i) the Rules Requirement which has not been complied with;

(ii) details of each act or omission which partly or wholly constitutes non-compliance with that Rules Requirement; and

(iii) details of each Contractual Requirement which is said by the *Power Trader* to be inconsistent with the Rules Requirement,

by no later than 7 *days* after the non-compliance with the Rules Requirement occurs or commences; and

(2) provide the *AER* with any documents or information in the possession or control of the *Power Trader* which evidence the matters referred to in clause 9.12.3(c)(l), within 14 *days* (or any further period agreed to by the *AER*) of receiving a written request from the *AER*.

(d) If:

(1) a *Power Trader* requires the co-operation of any other party to a *Power Supply Agreement* (a "counterparty") to comply with a requirement of the *Rules* (the "Rules Requirement");

(2) the *Power Trader* has used all reasonable endeavours to obtain the counterparty's co-operation in order to enable the *Power Trader* to comply with the Rules Requirement; and

(3) under the *Power Supply Agreement* the *Power Trader* has no ability to require the counterparty to so co-operate with the *Power Trader* and the counterparty is not in breach of the *Power Supply Agreement* by refusing to so co-operate with the *Power Trader*,

then the *Power Trader* is not required to comply with that Rules Requirement.

(e) If a *Power Trader* does not comply with a Rules Requirement in the circumstances described in clause 9.12.3(d), then the *Power Trader* must:

(1) give written notice to the *AER* of:

(i) the Rules Requirement which has not been complied with;

(ii) details of each act or omission which partly or wholly constitutes non-compliance with that Rules Requirement; and

(iii) details of the endeavours made by the *Power Trader* to obtain the counterparty's co-operation to enable the *Power Trader* to comply with the Rules Requirement,

by no later than 7 *days* after the non-compliance with the Rules Requirement occurs or commences; and

(2) provide the *AER* with any documents or information in the possession or control of the *Power Trader* which evidence the matters referred to in clause 9.12.3(e)(1), within 14 *days* (or any further period agreed to by the *AER*) of receiving a written request from the *AER*.

(f) To avoid any doubt, if:

(1) after reviewing any written notice provided by a *Power Trader* under clause 9.12.3(c)(1) and any additional documents or information provided by the *Power Trader* under clause 9.12.3(c)(2), the *AER* forms the view that compliance with the relevant Rules Requirement would not have resulted in the *Power Trader* being in breach of the relevant Contractual Requirement; or

(2) after reviewing any written notice provided by a *Power Trader* under clause 9.12.3(e)(1) (the "Notice") and any additional documents or information provided by the *Power Trader* under clause 9.12.3(e)(2), the *AER* forms the view that any of the requirements of clause 9.12.3(d) were not in fact satisfied in respect of the subject matter of the Notice,

then the matter may be dealt with by the *AER* as a breach of the *Rules*.

(g) A *Power Trader* may provide notice and information to the *AER* as required in clauses 9.12.3(c) or (e), as the case requires, in advance if it becomes aware of the potential for the circumstances described in clauses 9.12.3(b) or (d) to arise. Such notice and information will be deemed to have been given in accordance with clauses 9.12.3(c) or (e), as the case requires.

(h) Notwithstanding the provision of notice and information in advance in accordance with clause 9.12.3(g), the *Power Trader* must give notice of non-compliance with the *Rules* and provide such other documents or information as required in accordance with clauses 9.12.3(c) or (e), as the case requires, after such non-compliance has occurred or commenced.

(i) If non-compliance with the *Rules* is continuing, the notice of non-compliance with the *Rules* provided under clauses 9.12.3(c) or (e), as the case requires, will be effective in relation to that non-compliance until that non-compliance ends provided that:

(1) the notice specifies that the non-compliance is continuing; and

(2) the *Power Trader* notifies the *AER* of the end of the non-compliance no later than 7 *days* after the non-compliance ends.

(j) Clauses 9.12.3(b) and (d) do not affect a *Power Trader's* obligation with respect to registration with *NEMMCO* or making payments in respect of:

(1) *Participant fees*;

(2) *prudential requirements*; or

(3) *settlement amounts*.

(k) Within 30 *days* of the end of each quarter in each calendar year, the *AER* must prepare a quarterly report for the previous quarter and make it available on request to all *Registered Participants* and to the *participating jurisdictions* which participated in the *market* during the quarter covered by the report. The quarterly report must include:

(1) a summary of the acts or omissions of *Power Traders* constituting non-compliance with any Rules Requirement, as disclosed in written notices received by the *AER* under clauses 9.12.3(c) or (e) during the quarter covered by the report; and

(2) an assessment by the *AER* of the effect that those acts or omissions have had on the efficient operation of the *market* during the quarter covered by the report.

(l) This clause 9.12.3 ceases to have effect in respect of a *Power Supply Agreement* upon termination of that agreement.

9.12.4 Cross Border Networks

(a) If:

(1) the *Minister* considers that a *transmission network* or *distribution network* situated in New South Wales is a continuation of a *network* situated in another *participating jurisdiction* and should be considered to be part of the *network* of that other *participating jurisdiction*; and

(2) the *Minister* for that other *participating jurisdiction* consents,

then those *Ministers* may nominate that the *network* is deemed to be entirely in that other *participating jurisdiction* and the *Rules* including any relevant *jurisdictional derogations* for the other *participating jurisdiction* are deemed to apply to the *network* as if the *network* were located entirely within that other *participating jurisdiction*.

(b) If a nomination is made under clause 9.12.4(a), then the *jurisdictional derogations* for New South Wales do not apply to the extended part of the relevant *network* which is situated in New South Wales.

(c) If the *Minister* of another *participating jurisdiction* nominates that the *jurisdictional derogations* for New South Wales should apply to a *network* part of which is situated in that other *participating jurisdiction*, then if the *Minister* in respect of New South Wales consents, the *jurisdictional derogations* for New South Wales are also to apply to that part of the *network* situated in the other *participating jurisdiction.*

9.13 [Deleted]

9.14 Transitional Arrangements for Chapter 4 - System Security

9.14.1 Power System Operating Procedures

For the purposes of clause 4.10.1, the *regional specific power system operating procedures* that apply in respect of operations on the *network* situated in New South Wales are, with the inclusion of any operating procedures set out in such operating manuals and other documents as are specified by *TransGrid* and provided to *NEMMCO*, the *regional specific power system operating procedures* reviewed and updated under clause 4.10.2(e).

9.15 Transitional Arrangements for Chapter 5 - Network Connection

9.15.1 [Deleted]

9.15.2 Disputes Relating to a NSW Distribution Network

(a) If:

(1) a dispute arises between or involving two or more *Registered Participants* in respect of:

(i) access to;

(ii) *connection* to;

(iii) use of; or

(iv) *distribution network service* pricing for,

a *distribution network* situated in New South Wales; and

(2) **[Deleted]**

(3) the dispute is not resolved by agreement of the parties in dispute within 10 *business days* (or such other period as the parties agree to be an acceptable period) after the dispute first arose,

then the matter in dispute must be referred by the parties in dispute to *IPART* to act as the *Adviser*. If *IPART*:

(4) thinks it appropriate for a dispute; and

(5) does not reasonably consider that acting as the *Adviser* and the *dispute resolution panel* will prejudice *IPART's* ability to implement a fair and efficient dispute resolution process,

IPART may also act as the *dispute resolution panel* under the dispute resolution procedures set out in Chapter 8, provided that, if *IPART* elects to act as both the *Adviser* and the *DRP*, it must make such arrangements as are necessary to ensure that, in carrying out its functions as the *DRP*, no party may be adversely affected by *IPART* having previously acted as the *Adviser*. If *IPART* is unable or unwilling to make such arrangements, then it must appoint a *DRP* in accordance with the *Adviser*'s functions in Chapter 8.

(b) **[Deleted]**

9.16 Transitional Arrangements for Chapter 6 - Network Pricing

9.16.1 [Deleted]

9.16.2 [Deleted]

9.16.3 Jurisdictional Regulator

(a) **[Deleted]**

(b) *IPART* is and will always be taken to have been the *Jurisdictional Regulator* for the purposes of clause 6.10.1(b) and will continue to be the *Jurisdictional Regulator* until the *Minister* appoints another body.

(c) *IPART* is the *Jurisdictional Regulator* for the purposes of all the other provisions of these *Rules* except in relation to:

(1) clauses 2.5.1(e) and (f), for which purposes the *Jurisdictional Regulator* is the NSW Department of Energy, Utilities and Sustainability; and

(2) the definitions of *local area* and *Local Network Service Provider* in Chapter 10, for which purposes the reference to "*Jurisdictional Regulator*" is deleted and the words "laws of the State of New South Wales" are substituted.

9.16.4 Deemed Regulated Interconnector

For the purposes of the *Rules*, the *interconnector* between Armidale in New South Wales and Tarong in Queensland, to the extent that it forms part of the *power system* in New South Wales, is deemed to be a *regulated interconnector*.

9.16.5 Revenue Cap

(a) For the purposes of clause 6.2.4, in respect of the regulation of *transmission service* pricing in New South Wales, the *revenue cap* for the *financial year* commencing on 1 July 2004 (the "Period") will be deemed to be:

(1) for *TransGrid*, the *maximum allowed revenue* for the Period in the ACCC's "Draft Decision NSW and ACT Transmission Network Revenue Caps – TransGrid 2004/05-2008/09" dated 28 April 2004 (the "Draft TransGrid Revenue Cap Decision"); and

(2) for *EnergyAustralia*, the *maximum allowed revenue* for the Period in the ACCC's "Draft Decision NSW and ACT Transmission Network Revenue Cap – EnergyAustralia 2004/05-2008/09" dated 28 April 2004 (the "Draft EA Revenue Cap Decision").

(b) For the purposes of clauses 6.3 to 6.4, 6.5.1 to 6.5.6, 6.7.3, 6.7.4 and 6.8 to 6.9, the prices applying in the Period for *prescribed transmission services* provided by means of the *transmission networks* and associated *connection assets* located in New South Wales applying to individual *transmission network connection points* located in New South Wales during the Period, must be determined on the following basis:

(1) the *aggregate annual revenue requirement* for *TransGrid* will be the *maximum allowed revenue* for the Period specified in the Draft TransGrid Revenue Cap Decision; and

(2) the *aggregate annual revenue requirement* for *EnergyAustralia* will be the *maximum allowed revenue* for the Period specified in the Draft EA Revenue Cap Decision.

(c) For the purposes of applying clause 6.4.3C for the *financial year* commencing on 1 July 2005, *EnergyAustralia* and *TransGrid* each must subtract the *maximum allowed revenue* determined in accordance with clause 9.16.5(a) from:

(1) in the case of *TransGrid*, the "Maximum Allowed Revenue" for the Period in any final decision which is expressed to apply to the Period; and

(2) in the case of *EnergyAustralia*, the "Maximum Allowed Revenue" for the Period in any final decision which is expressed to apply to the Period,

and then:

(3) if the result of that subtraction is an amount less than zero then, in addition to the other amounts mentioned in clause 6.4.3C(b), the absolute value of that amount must be deducted from the portion of the *aggregate annual revenue requirement* referred to in clause 6.4.3C(b); and

(4) if the result of that subtraction is an amount greater than zero then, in addition to the other amounts mentioned in clause 6.4.3C(c), that amount must be added to the portion of the *aggregate annual revenue requirement* referred to in clause 6.4.3C(c),

prior to the application of interest in accordance with clause 6.4.3C(b) or 6.4.3C(c) as the case may be.

(d) For the purposes of clause 6.2.4, in respect of the regulation of *transmission service* pricing in New South Wales, a *revenue cap* applying to a *Transmission Network Service Provider* determined by the ACCC for the period commencing on 1 July 2004 until the end of 30 June 2009 will be deemed to be for a period of five years notwithstanding that such *revenue cap* did not take effect until after 1 July 2004 or that such *revenue cap* was determined by the *ACCC* after 1 July 2004.

9.17 Transitional Arrangements for Chapter 7 - Metering

9.17.1 Extent of Derogations

(a) **[Deleted]**

(b) **[Deleted]**

(c) The transitional arrangements set out in clauses 9.17.2 and 9.17.4 apply to all *metering installations* (including *check metering installations*) that were in use at 13 December 1998 and that were required to comply with (and did comply with) the *NSW Electricity Market Code* as at 13 December 1998.

9.17.2 Initial Registration (clause 7.1.4)

(a) Subject to clause 9.17.2(b), if:

(1) a *metering installation* to which this clause 9.17 applies was registered with *TransGrid* under the *NSW Electricity Market Code* as at 13 December 1998; and

(2) the details registered with *TransGrid* were provided to *NEMMCO* on or before 13 December 1998,

then the *metering installation* is taken to be registered with *NEMMCO* for the purposes of clause 7.1.4(a).

(b) The *responsible person* in respect of a *metering installation* which is taken to be registered under clause 9.17.2(a) must ensure that the requirements for registration of a *metering installation* under Chapter 7 are met by 13 December 1999 or such other time as may be agreed with *NEMMCO*.

9.17.3 Amendments to Schedule 9G1

The transitional metering provisions set out in schedule 9G1, amended as follows, apply to New South Wales in respect of Chapter 7:

(a) **[Deleted]**

(b) **[Deleted]**

(c) If, in respect of a *metering installation* commissioned before 13 December 1998, the *responsible person* has obtained an exemption prior to 13 December 1998 from *TransGrid* pursuant to clause 2.2(c) of Schedule 7.2 of the *NSW Electricity Market Code*, then that exemption is deemed to continue as an exemption granted by *NEMMCO* pursuant to clause S7.2.2(c) of schedule 7.2 of the *Rules*.

(d) **[Deleted]**

(e) **[Deleted]**

(f) **[Deleted]**

9.17.4 Compliance with AS/NZ ISO 9002 (clause S7.4.3(f) of schedule 7.4)

Category 1A, 2A and 3A *Metering Providers* must be able to exhibit the requirements of clause S7.4.3(f)(1) of schedule 7.4 of the *Rules* by the date which is 2 years after the date the *Metering Provider* applied to be registered as a *Metering Provider* with *NEMMCO*.

9.17A Transitional arrangements for Chapter 7 – Full Retail Competition

9.17A.0 Definitions - Type 5 metering installation

(a) For the purposes of clauses 9.17A.1 and 9.17A.2, a reference to a "type 5 *metering installation*" is a reference to a type 5 *metering installation*:

(i) where the electricity flowing through the *connection point* is less than 100MWh per annum; and

(ii) which includes an interval *meter* that is manually read.

(b) For the avoidance of doubt, clauses 9.17A.1 and 9.17A.2 do not regulate the provision, installation or maintenance of a type 5 *metering installation* where the electricity flowing through the *connection point* is between 100MWh and 160MWh per annum, and the provisions of Chapter 7 continue to apply to these *metering installations* as if those clauses were not in force.

(ba) Despite anything in clause 9.17A.0(a), clauses 9.17A.1 and 9.17A.2 do not regulate the provision, installation or maintenance of a type 5 *metering installation* which includes an interval *meter* that is remotely read, regardless of the frequency with which that interval *meter* is read.

(bb) In clause 9.17A.0(ba), "an interval *meter* that is remotely read" means an interval *meter* that:

(i) is designed to transmit *metering data* to a remote locality for data collection; and

(ii) does not, at any time, require the presence of a person at, or near, the *meter* for the purposes of data collection or data verification (whether this occurs manually as a walk by reading or through the use of a vehicle as a close proximity drive-by reading),

and includes but is not limited to an interval *meter* that transmits *metering data* via:

(i) direct dial-up;
(ii) satellite;
(iii) the internet;
(iv) general packet radio service;
(v) power line carrier; or
(iv) any other equivalent technology.

(c) This clause 9.17A.0 ceases to apply on the earlier of:

(i) the date on which the *Minister* declares that this clause ceases to apply; and

(ii) 31 December 2006.

9.17A.1 Responsible Person (clauses 7.2.1, 7.2.2 and 7.2.3)

(a) The *Local Network Service Provider* is the *responsible person* for all type 5, type 6 and type 7 *metering installations*.

(b) Clause 7.2.3 does not apply in respect of type 5, type 6 or type 7 *metering installations* and the *financially responsible Market Participant* for any *market connection point* which has or is proposed to have a type 5, type 6 or type 7 *metering installation* must:

(i) request an offer from the *Local Network Service Provider* under clause 7.2.2 in relation to the *metering installation*; and

(ii) accept an offer made by the *Local Network Service Provider* under clause 7.2.2,

for the provision, installation and maintenance of the *metering installation*.

(c) The terms of an offer made by the *Local Network Service Provider* under clause 7.2.2 in respect of a type 5, type 6 or type 7 *metering installation* must:

(i) be consistent with the *IPART* determination "NSW Electricity Distribution Pricing 2004/05 – 2008/09: Final Determination, 2004" and any other applicable regulatory instrument of New South Wales; and

(ii) not unreasonably discriminate, or have the effect of creating unreasonable discrimination, between *Market Participants* or between customers of any *Market Participant*.

(d) This clause 9.17A.1 ceases to apply on the earlier of:

(i) the date on which the *Minister* declares that this clause ceases to apply; and

(ii) 31 December 2006.

9.17A.2 Payment for Metering (clause 7.3.6)

(a) Clause 7.3.6(a) does not apply in respect of the recovery by a *Local Network Service Provider* of its costs associated with the provision, installation, maintenance, routine testing and inspection of type 5, type 6 or type 7 *metering installations*, to the extent that these costs can be recovered by the *Local Network Service Provider* in accordance with the *IPART* determination "NSW Electricity Distribution Pricing 2004/05 – 2008/09: Final Determination, 2004" or any other applicable regulatory instrument of New South Wales.

(b) This clause 9.17A.2 ceases to apply on the date on which clause 9.17A.1 ceases to apply.

9.17A.3 [Deleted]

9.18 [Deleted]

Part C – Jurisdictional Derogations for the Australian Capital Territory

9.19 [Deleted]

9.20 Definitions and Transitional Arrangements for Cross-Border Networks

9.20.1 Definitions

For the purposes of this Part C:

(a) a word or expression defined in the glossary in Chapter 10 has the meaning given to it in the glossary unless it is referred to in column 1 of the following table; and

(b) a word or expression referred to in column 1 of the following table has the meaning given to it in column 2 of the table:

Column 1	**Column 2**
Minister	The Minister from time to time administering the Utilities Act 2000 (ACT) or other applicable ACT legislation.

9.20.2 Cross Border Networks

(a) If:

(1) the *Minister* considers that a *transmission network* or *distribution network* situated in the Australian Capital Territory is a continuation of a *network* situated in New South Wales and should be considered to be a part of the New South Wales *network*; and

(2) the *Minister* for New South Wales consents,

then those *Ministers* may nominate that the *network* is deemed to be entirely in New South Wales and the *Rules* including any relevant *jurisdictional derogations* for New South Wales are deemed to apply to the *network* as if the *network* were located entirely within New South Wales.

(b) If a nomination is made under clause 9.20.2(a), then the *jurisdictional derogations* for the Australian Capital Territory do not apply to the extended part of the relevant *network* which is situated in the Australian Capital Territory.

(c) If the *Minister* for New South Wales nominates that the *jurisdictional derogations* for the Australian Capital Territory should apply to a *network* part of which is situated in New South Wales, then if the *Minister* for the Australian Capital Territory consents, the *jurisdictional derogations* for the Australian Capital Territory are also to apply to that part of the *network* situated in New South Wales.

9.21 [Deleted]

9.22 [Deleted]

9.23 Transitional Arrangements for Chapter 6 - Network Pricing

9.23.1 [Deleted]

9.23.2 [Deleted]

9.23.3 Distribution Service Pricing - Jurisdictional Regulator

For the purposes of the *Rules*, the *Jurisdictional Regulator* for the Australian Capital Territory is the person or body appointed for this purpose from time to time in writing by the Minister.

9.23.4 [Deleted]

9.24 Transitional Arrangements

9.24.1 Chapter 7 - Metering

The transitional metering provisions set out in schedule 9G1 apply to the Australian Capital Territory in respect of Chapter 7.

9.24.2 [Deleted]

9.24A Transitional Arrangements for Chapter 7 - Full Retail Competition

9.24A.1 Application

(a) This clause 9.24A applies to *metering installations* for *connection points* located in the Australian Capital Territory.

(b) For the purposes of clauses 9.24A.2 and 9.24A.3, a reference to a "type 5 *metering installation*" is a reference to a type 5 *metering installation* which includes an interval *meter* that is manually read.

(c) Despite anything in clause 9.24A.1(b), clauses 9.24A.2 and 9.24A.3 do not regulate the provision, installation or maintenance of a type 5 *metering installation* which includes an interval *meter* that is remotely read, regardless of the frequency with which that interval *meter* is read.

(d) In clause 9.24A.1(c), "an interval *meter* that is remotely read" means an interval *meter* that:

(i) is designed to transmit *metering data* to a remote locality for data collection; and

(ii) does not, at any time, require the presence of a person at, or near, the *meter* for the purposes of data collection or data verification (whether this occurs manually as a walk by reading or through the use of a vehicle as a close proximity drive-by reading),

and includes but is not limited to an interval *meter* that transmits *metering data* via:

(i) direct dial-up;
(ii) satellite;
(iii) the internet;
(iv) general packet radio service;
(v) power line carrier; or
(iv) any other equivalent technology.

(e) This clause 9.24A.1 ceases to apply on the date on which clause 9.24A.2 ceases to apply.

9.24A.2 Responsible Person (clauses 7.2.1, 7.2.2 and 7.2.3)

(a) The *Local Network Service Provider* is the *responsible person* for all type 5, type 6 and type 7 *metering installations*.

(b) Clause 7.2.3 does not apply in respect of type 5, type 6 or type 7 *metering installations* and the *financially responsible Market Participant* for any *market connection point* which has or is proposed to have a type 5, type 6 or type 7 *metering installation* must:

(i) request an offer from the *Local Network Service Provider* under clause 7.2.2 in relation to the *metering installation*; and

(ii) subject to the resolution of any dispute in accordance with clause 9.24A.2(d), accept an offer made by the *Local Network Service Provider* under clause 7.2.2,

for the provision, installation and maintenance of the *metering installation*.

(c) The terms of an offer made by the *Local Network Service Provider* under clause 7.2.2 in respect of a type 5, type 6 or type 7 *metering installation* must:

(i) be fair and reasonable and consistent with the *Local Network Service Provider's* distribution licence or any other applicable regulatory instrument in the Australian Capital Territory; and

(ii) not unreasonably discriminate, or have the effect of creating unreasonable discrimination, between *Market Participants* or between customers of any *Market Participant.*

(d) Any question as to the fairness and reasonableness of the terms of an offer referred to in clause 9.24A.2(c) or whether the terms of such an offer unreasonably discriminate must be decided by the *Jurisdictional Regulator* on the basis of the *Jurisdictional Regulator's* opinion on the matter.

(e) This clause 9.24A.2 ceases to apply on 31 December 2006.

9.24A.3 Payment for Metering (clause 7.3.6)

(a) Clause 7.3.6(a) does not apply in respect of the payment to a *Local Network Service Provider* of its costs associated with the provision, installation, maintenance, routine testing and inspection of a type 5, type 6 or type 7 *metering installation* in accordance with the requirements of the relevant *metrology procedure*, which costs may only be recovered by the *Local Network Service Provider* in accordance with the *Local Network Service Provider's* distribution licence or any other *applicable regulatory instrument* in the Australian Territory Capital.

(b) This clause 9.24A.3 ceases to apply on the date which clause 9.24A.2 ceases to apply.

9.24A.4 [Deleted]

Part D – Jurisdictional Derogations for South Australia

9.25 Definitions

9.25.1 [Deleted]

9.25.2 Definitions

(a) For the purposes of this Part D, a word or expression defined in the glossary in Chapter 10 has the meaning given to it in the glossary unless it is referred to in column 1 of the table in clause 9.25.2(b).

(b) For the purposes of this Part D, a word or expression referred to in column 1 of the following table has the meaning given to it in column 2 of the table:

Column 1	Column 2
customer	A customer as defined in the *Electricity Act*
Distribution Lessor Corporation	A subsidiary of the Treasurer of the State of South Australia established by the Public Corporations (Distribution Lessor Corporation) Regulations 1999 and known as "Distribution Lessor Corporation" and includes any entity which replaces or assumes rights or obligations of Distribution Lessor Corporation under a *South Australian Distribution Network Lease*, by way of succession, assignment, novation, ministerial direction, or otherwise.
Electricity Act	*Electricity Act* 1996 (SA).
ETSA Corporation	The statutory corporation established pursuant to the Electricity Corporations Act 1994 and known as “ETSA Corporation” and includes its successors and assigns
ETSA Power	The statutory corporation established as a subsidiary of *ETSA Corporation* by the Public Corporations (ETSA Power) Regulations 1995, and includes its successors and assigns.
ETSA Transmission Corporation	The statutory corporation established pursuant to the Electricity Corporations Act 1994 and known as "ETSA Transmission Corporation" and includes any party which replaces or assumes rights or obligations of ETSA Transmission Corporation as a party to the *South Australian Transmission Lease*, by way of succession, assignment, novation, ministerial direction, or otherwise.

Column 1	Column 2
Generation Lessor Corporation	A subsidiary of the Treasurer of the State of South Australia established by the Public Corporations (Generation Lessor Corporation) Regulations 1999 and known as "Generation Lessor Corporation" and includes any entity which replaces or assumes rights or obligations of Generation Lessor Corporation under the *South Australian Generation Leases*, by way of succession, assignment, novation, ministerial direction, or otherwise.
Northern Power Station agreements	The various agreements, documents and deeds in their form as at 1 July 1996 relating to the leasing and ownership of the *generating system* and associated *generating units* comprising the Northern Power Station entered into by *ETSA Corporation* and now under the control of *SA Generation Corporation*
Northern Power Station Participants	The parties to the *Northern Power Station agreements* other than *SA Generation Corporation.*
Osborne agreement	The Agreement dated 4 June 1996 (in its form as at 1 July 1996) between *ETSA Corporation* and Osborne Cogeneration Pty Ltd and known as the "Osborne Power Purchase Agreement".
South Australian Distribution Network Lease	Any lease with respect to the electricity *distribution network*, plant and equipment owned by *Distribution Lessor Corporation* from time to time.
SA Generation Corporation	The statutory corporation established pursuant to the Electricity Corporations Act 1994 and known as "SA Generation Corporation" (trading as Optima Energy), and includes its successors and assigns
South Australian Generation Leases	Leases with respect to electricity *generating systems* and associated *generating units* owned by *Generation Lessor Corporation* from time to time.
South Australian network	A *network* situated in South Australia or deemed to be situated in South Australia by operation of clause 9.4.5.
South Australian Transmission Lease	The various agreements, documents and deeds in their form as at 31 August 1998 relating to the leasing and ownership of the *transmission network* in South Australia entered into by *ETSA Transmission Corporation.*

Column 1	Column 2
South Australian Transmission Lease Participants	The parties to the *South Australian Transmission Lease* other than *ETSA Transmission Corporation.*
South Australian Transmission Network Sub Sub Sub Lease	Any sub sub sub-lease (together with any lease or agreement to lease extending beyond the termination date of such sub sub sub lease) with respect to the electricity *transmission network*, plant and equipment of which *ETSA Transmission Corporation* is sub sub sub-lessor from time to time.

(c) For the purposes of the *Rules* "*Jurisdictional Regulator*" means a person authorised by South Australia to undertake one or more functions assigned to a *Jurisdictional Regulator* by the *Rules* within South Australia.

(d) For the purposes of the *Rules* "*applicable regulatory instruments*" includes the following South Australian instruments in relation only to the regulation of *networks*, *network services* and retail sales of electricity in South Australia:

(i) the *Electricity Act*;

(ii) all codes and regulations made and licences issued under the *Electricity Act*;

(iii) all regulatory instruments applicable under those licences;

(iv) the Electricity Pricing Order made under section 35B of the *Electricity Act*;

(v) the *Electricity Corporations (Restructuring and Disposal) Act* 1999;

(vi) the *Essential Services Commission Act* 2002; and

(vii) all regulations and determinations made under the *Essential Services Commission Act* 2002.

9.26 Transitional Arrangements for Chapter 2 - Registered Participants, Registration And Cross Border Networks

9.26.1 Registration as a Generator

For the purposes of the *Rules*:

(a) *ETSA Power* and any one person that replaces or assumes rights or obligations of *ETSA Power* as party to the *Osborne agreement*, by way of succession, assignment, novation, ministerial direction, or otherwise, is deemed to be, and at all relevant times to have been, the person who must register as the *Generator* in relation to the *generating system* and associated *generating units* which are the subject of the *Osborne agreement*;

(b) Osborne Cogeneration Pty Ltd is not to, and is not to be taken to be entitled to, and is to be taken to have been exempted from the requirement to, register as a *Generator* in relation to the *generating system* and associated *generating units* which are the subject of the *Osborne agreement*;

(c) *SA Generation Corporation* and any person that replaces or assumes rights or obligations of *SA Generation Corporation* as party to the *Northern Power Station agreements*, by way of succession, assignment, novation, ministerial direction, or otherwise, is deemed to be, and at all relevant times to have been, the person that must register as the *Generator* (unless otherwise exempt) in relation to the *generating system* and associated *generating units* which are the subject of the *Northern Power Station agreements*;

(d) the *Northern Power Station Participants* are not to, and are not to be taken to be entitled to, and are taken to have been exempted from the requirement to, register as a *Generator* in relation to the *generating system* and associated *generating units* which are the subject of the *Northern Power Station agreements*;

(e) clauses 9.26.1(a) and (b) will cease to have effect on the termination of *the Osborne agreement*;

(f) clauses 9.26.1(c) and (d) will cease to have effect on the termination of the last of the *Northern Power Station agreements*;

(g) *Generation Lessor Corporation* is not obliged to, and is not to be taken to be entitled to, and is to be taken to have been exempted from the requirement to, register as a *Generator* in relation to the *generating system* and associated *generating units* in South Australia which are the subject of the *South Australian Generation Leases*; and

(h) clause 9.26.1(g) will apply in respect of each *South Australian Generation Lease* from the time that lease becomes effective and will cease to have effect on the termination of that lease (or the termination of any renewal of that lease).

9.26.2 Registration as a Customer

For the purposes of clause 2.3.1(e), a person may classify its electricity purchased at a *connection point* in South Australia if the person is:

(a) licensed to retail electricity under the *Electricity Act* and regulations; or

(b) a *customer* pursuant to the *Electricity Act* and regulations.

9.26.3 Cross Border Networks

(a) If:

(1) the *Minister* considers that a *transmission network* or *distribution network* situated in South Australia is a continuation of a *network* situated in another *participating jurisdiction* and should be considered to be part of the *network* of that other *participating jurisdiction*; and

(2) the *Minister* for that other *participating jurisdiction* consents,

then those *Ministers* may nominate that the *network* is deemed to be entirely in that other *participating jurisdiction* and the *Rules* including any relevant *jurisdictional derogations* for the other *participating jurisdiction* are deemed to apply to the *network* as if the *network* were located entirely within that other *participating jurisdiction*.

(b) If a nomination is made under clause 9.26.3(a), then the *jurisdictional derogations* for South Australia do not apply to the extended part of the relevant *network* which is situated in South Australia.

(c) If the *Minister* of another *participating jurisdiction* nominates that the *jurisdictional derogations* for South Australia should apply to a *network* part of which is situated in that other *participating jurisdiction*, then if the *Minister* in respect of South Australia consents, the *jurisdictional derogations* for South Australia are also to apply to that part of the *network* situated in the other *participating jurisdiction*.

9.26.4 [Deleted]

9.26.5 Registration as a Network Service Provider

For the purpose of the *Rules*:

(a) the *South Australian Transmission Lease Participants* are not obliged to, and are taken to have been exempted from the requirement to, register as a *Network Service Provider* in relation to the *transmission network* in South Australia which is the subject of the *South Australian Transmission Lease*.

(b) Clause 9.26.5(a) will cease to have effect on the termination, extension or variation of the *South Australian Transmission Lease*.

(c) *Distribution Lessor Corporation* is not obliged to, and is not to be taken to be entitled to, and is to be taken to have been exempted from the requirement to, register as a *Network Service Provider* in relation to the

distribution network in South Australia which is the subject of the *South Australian Distribution Network Lease*.

(d) *ETSA Transmission Corporation* (notwithstanding that it is the owner and sub sub sub lessor of the *transmission network* in South Australia) is not obliged to, and is not to be taken to be entitled to, and is to be taken to have been exempted from the requirement to, register as a *Network Service Provider* in relation to the *transmission network* in South Australia which is the subject of the *South Australian Transmission Network Sub Sub Sub Lease*.

(e) Clause 9.26.5(c) will have effect for the period of each *South Australian Distribution Network Lease* (including the period of any renewal).

(f) Clause 9.26.5(d) will have effect for the period of each *South Australian Transmission Network Sub Sub Sub Lease* (including the period of any renewal).

9.27 [Deleted]

9.28 Transitional Arrangements for Chapter 5 - Network Connection

9.28.1 Application of clause 5.2

For the purposes of clause 5.2:

(a) for *facilities* existing at *market commencement*, *Registered Participant* exemptions may be sought from *NEMMCO* in accordance with the *Rules* for particular *facilities* where material departures from the *Rules* are reasonably expected. Any necessity to alter the existing arrangements for *facilities* is to be negotiated and agreed by affected *Registered Participants*;

(b) South Australia reserves the right to seek further exemptions from *NEMMCO* in accordance with the *Rules* for existing *power stations* if they are unable to meet the requirements of the *Rules* and those exemptions will not result in system damage; and

(c) **[Deleted]**

(d) **[Deleted]**

(e) the provisions in this clause 9.28 apply until there are corresponding changes to the *Rules* which deliver equivalent outcomes to the satisfaction of the South Australian Government.

9.28.2 Regulation of Distribution Network Connection

(a) Notwithstanding anything to the contrary in the *Rules*, the *Jurisdictional Regulator* appointed for South Australia is responsible for the regulation of access in respect of any *distribution network* situated in South Australia concerning:

(i) *connection;*

(ii) modification of a *connection;*

(iii) *augmentation;*

(iv) provision of *network services* and *distribution use of system services;*

(v) modification of the provision of *network services* and *distribution use of system services*.

(b) For the purpose of clause 5.3.6(c), any question as to the fairness and reasonableness of an offer to *connect* in relation to a *distribution network* situated in South Australia is to be decided by the *Jurisdictional Regulator* on the basis of the opinion of the *Jurisdictional Regulator* as to the fairness and reasonableness of the offer.

(c) If:

(1) a dispute arises between or involving two or more *Registered Participants* in respect of:

(i) access to;

(ii) *connection* to;

(iii) use of; or

(iv) *distribution network service* pricing for,

a *distribution network* situated in South Australia; and

(2) the dispute is not resolved by agreement of the parties in dispute within 5 *business days* (or such other period as the parties agree to be an acceptable period) after the dispute first arose,

then the matter in dispute must be referred by the parties in dispute to the *Jurisdictional Regulator* to act as the *Adviser*. If the *Jurisdictional Regulator* thinks it appropriate, it may also act as the *dispute resolution panel* under the dispute resolution procedures set out in Chapter 8, provided that, if the *Jurisdictional Regulator* elects to act as both the *Adviser* and the *dispute resolution panel*, it must make such arrangements as are necessary to

ensure that, in carrying out its functions as the *dispute resolution panel*, no party may be adversely affected by the *Jurisdictional Regulator* having previously acted as the *Adviser*. If the *Jurisdictional Regulator* is unable or unwilling to make such arrangements, then it must appoint a *dispute resolution panel* in accordance with the *Adviser's* functions in Chapter 8.

9.28.3 System Planning

(a) In South Australia, the Electricity Supply Industry Planning Council ("*ESIPC*"), established under the *Electricity Act*, will be responsible for network planning as required by this clause 9.28.3.

(aa) The obligations of *Network Service Providers* with respect to *networks* in South Australia under clauses 5.6.2 and 5.6.2A are varied as follows:

(i) Except where expressly provided, nothing in this clause 9.28.3 relieves *Network Service Providers* operating in South Australia from their obligations under clause 5.6.

(ii) The results of planning activities undertaken by *Network Service Providers* pursuant to clause 5.6.2 must be communicated to the *ESIPC* in a manner, form and within a time reasonably determined by the *ESIPC*.

(iii) Relevant *Network Service Providers* must, as soon as possible, advise the *ESIPC* of the details of any *augmentation* plans arising under clause 5.6.2(c).

(iv) *Network Service Providers* must, as soon as possible, provide the *ESIPC* with the forecasts, technical limits and details of the proposed corrective actions that are developed in accordance with clause 5.6.2(e).

(v) The *ESIPC* must prepare the *Annual Planning Report* required under clause 5.6.2A for *networks* in South Australia. Relevant *Network Service Providers* must prepare the information specified in clause 5.6.2A(b) and supply it to the *ESIPC* by April 30 each year, or by some later date as directed in writing by the *ESIPC*.

(ab) For the purposes of clause 5.6.3(b), *ESIPC* is the representative of South Australia on the *Inter-regional Planning Committee*.

(ac) An applicant who proposes to establish a *new large transmission network asset* under clause 5.6.6 must provide the *ESIPC* with a draft summary of the *application notice* 10 *business days* prior to providing a summary of the *application notice* to *NEMMCO*.

(b) The *ESIPC:*

(i) must be an incorporated body;

(ii) must register with *NEMMCO* as a *Network Service Provider* under the *Rules*; and

(iii) as a registered *Network Service Provider*, must comply with the relevant obligations of a *Network Service Provider*, but does not have to comply with the obligations of clauses 2.11.2 and 5.6.2(e)-(m).

(c) When making system planning decisions or recommendations, the *ESIPC*:

(i) is bound by clauses 6.2.2 and 6.2.3; and

(ii) must have regard to the *AER's* Statement of Regulatory Principles.

9.29 Transitional Arrangements for Chapter 6 - Network Pricing

9.29.1 Jurisdictional Regulator

For the purposes of clause 6.10.1(b), the *Jurisdictional Regulator* for South Australia is as nominated by the South Australian Government from time to time.

9.29.2 [Deleted]

9.29.3 [Deleted]

9.29.4 [Deleted]

9.29.5 Distribution Network Service Pricing – Interim Arrangements

(a) **[Deleted]**

(b) **[Deleted]**

(c) Any reduction in *transmission network* charges as a result of a regulatory reset (excluding reductions resulting from the distribution of *settlements residue* and *settlements residue auction* proceeds) must be passed through to all *customers*.

(d) The *Jurisdictional Regulator* may review the type and level of service standards which form the basis for the operation of the performance incentive regime set out in the Electricity Pricing Order applying to *distribution networks*.

9.29.6 Capital Contributions

For the purposes of clause 6.15.2(b) the amount of any capital contribution, prepayment or financial guarantee which may be requested by a South Australian *Distribution Network Service Provider* in respect of a *South Australian network* will be determined by the *Jurisdictional Regulator* in accordance with *applicable regulatory instruments*.

9.29A Monitoring and reporting

(a) *NEMMCO* must provide to the *ESIPC* upon request:

(i) any information that relates to *interconnectors* into South Australia; and

(ii) South Australian market data,

where such information is within *NEMMCO's* control and it is reasonably required to support the performance of the role of jurisdictional Responsible Officer by an officer or employee of the *ESIPC* under the National Electricity Market Memorandum of Understanding on the Use of Emergency Powers and the regulations under the *Electricity Act*.

(b) The information referred to in clause 9.29A(a) must be provided by *NEMMCO* via a real time data link or, where that is not available, within a reasonable time.

(c) Where the cost incurred by *NEMMCO* in providing the information referred to in clause 9.29A(a) exceeds the usual costs which *NEMMCO* incurs in providing any *Market Participant* with information in accordance with the *Rules*, the *ESIPC* must pay the additional costs.

9.30 Transitional Provisions

9.30.1 Chapter 7 - Metering

(1) The transitional metering provisions set out in schedule 9G1 apply to South Australia in respect of Chapter 7.

(2) **Definitions and Application**

(a) This clause 9.30.1 applies to *metering installations* for *connection points* located in South Australia connected to the *distribution network* owned by *Distribution Lessor Corporation*.

(b) For the purposes of clauses 9.30.1(3) and 9.30.1(4), a reference to a "type 5 *metering installation*" is a reference to a type 5 *metering installation* which includes an interval *meter* that is manually read.

(c) Despite anything in clause 9.30.1(2)(b), clauses 9.30.1(3) and 9.30.1(4) do not regulate the provision, installation or maintenance of a type 5 *metering installation* which includes an interval *meter* that is remotely read, regardless of the frequency with which that interval *meter* is read.

(d) In clause 9.30.1(2)(c), "an interval *meter* that is remotely read" means an interval *meter* that:

(i) is designed to transmit *metering data* to a remote locality for data collection; and

(ii) does not, at any time, require the presence of a person at, or near, the *meter* for the purposes of data collection or data verification (whether this occurs manually as a walk by reading or through the use of a vehicle as a close proximity drive-by reading),

and includes but is not limited to an interval *meter* that transmits *metering data* via:

(i) direct dial-up;
(ii) satellite;
(iii) the internet;
(iv) general packet radio service;
(v) power line carrier; or
(iv) any other equivalent technology.

(3) **Responsible Person (clauses 7.2.1, 7.2.2 and 7.2.3)**

(a) The *Local Network Service Provider* is the *responsible person* for all type 5, type 6 and type 7 *metering installations*.

(b) Clause 7.2.3 does not apply in respect of type 5, type 6 or type 7 *metering installations* and the *financially responsible Market Participant* for any *market connection point* which has or is proposed to have a type 5, type 6 or type 7 *metering installation* must:

(i) request an offer from the *Local Network Service Provider* under clause 7.2.2 in relation to the *metering installation*; and

(ii) subject to the resolution of any dispute in accordance with clause 9.30.1(3)(d), accept an offer made by the *Local Network Service Provider* under clause 7.2.2,

for the provision, installation and maintenance of the *metering installation*.

(c) The terms of an offer made by the *Local Network Service Provider* under clause 7.2.2 in respect of a type 5, type 6 or type 7 *metering installation* must:

(i) be fair and reasonable and consistent with the South Australian regulatory instruments referred to in clause 9.30.1(4)(a); and

(ii) not unreasonably discriminate, or have the effect of creating unreasonable discrimination, between *Market Participants* or between customers of any *Market Participant*.

(d) Any question as to the fairness and reasonableness of the terms of an offer referred to in clause 9.30.1(3)(c) or whether the terms of such an offer unreasonably discriminate must be decided by the *Jurisdictional Regulator* on the basis of the *Jurisdictional Regulator's* opinion on the matter.

(e) This clause 9.30.1(3) expires on 31 December 2006.

(4) **Payment for Metering (clause 7.3.6)**

(a) Clause 7.3.6(a) does not apply in respect of the payment to a *Local Network Service Provider* of its costs associated with the provision, installation, maintenance, routine testing and inspection of a type 5, type 6 or type 7 *metering installation* in accordance with the requirements of the relevant *metrology procedure*, which costs may only be recovered by the *Local Network Service Provider* in accordance with the Electricity Price Order, the *Local Network Service Provider's* distribution licence or any other applicable South Australian regulatory instrument.

(b) This clause 9.30.1(4) ceases to apply on the date on which clause 9.30.1(3) ceases to apply.

(5) **[Deleted]**

9.30.2 [Deleted]

Schedule 9D1 - [Deleted]

Part E – Jurisdictional Derogations for Queensland

9.31 [Deleted]

9.32 Definitions and Interpretation

9.32.1 Definitions

(a) For the purposes of this Part E:

(1) a word or expression defined in the glossary in Chapter 10 has the meaning given to it in the glossary unless it is referred to in column 1 of the following table; and

(2) a word or expression referred to in column 1 of the following table has the meaning given to it in column 2 of the table:

Column 1	Column 2
connection agreement	Includes all "Connection and Access Agreements" established in Queensland prior to *market commencement*..
Contestable Customer	A customer prescribed by a regulation made under the *Electricity Act* as a contestable customer.
Electricity Act	The Electricity Act 1994 (Qld).
exempted generation agreement	An agreement between a *State Electricity Entity* and the owner or operator of a *generating system*, as listed at schedule 9E1, and any amendment of such agreement made prior to 13 December 1998 or, if made in accordance with clause 9.34.6(s), thereafter.
GOC Act	The Government Owned Corporations Act 1993 (Qld).
Minister	The Minister administering the *Electricity Act* from time to time.
Nominated Generator	A *State Electricity Entity* determined by the *Minister* for the purposes described in clause 9.34.6 for a *generating system* to which an *exempted generation agreement* applies.
Powerlink Queensland	Queensland Electricity Transmission Corporation Ltd, a corporation established under the *GOC Act.*

Column 1	Column 2
Queensland Competition Authority	The Queensland Competition Authority established under the *Queensland Competition Authority Act*.
Queensland Competition Authority Act	The Queensland Competition Authority Act 1997 (Qld).
Queensland distribution network	A *distribution network* (including any part of a *distribution network*) situated in Queensland.
Queensland Grid Code	The Code of that name first issued by the Department of Mines and Energy (Qld) on 28 November 1994, as amended from time to time.
Queensland system	The sum of the *transmission network* located in Queensland operating at a nominal *voltage* of 275 kV, the *connection assets* associated with that *network* and any *transmission or distribution system connected* to that *network* and also located in Queensland.
Queensland transmission network	A *transmission network* (including any part of a *transmission network*) situated in Queensland.
retail authority	An authority of that name issued under the *Electricity Act.*
Retail Entity	A retail entity as defined in the *Electricity Act.*
Small Generator	A *Generator* whose *generating system* is *connected* to the *Queensland system* and has a *nameplate rating* of less than 5MW.
special approval	An approval of that name issued under the *Electricity Act.*
Stanwell Corporation Ltd	A corporation established under the *GOC Act.*
Stanwell Cross Border Leases	The various agreements, documents and deeds relating to the leasing, ownership and operation of the *generating systems* comprising the *Stanwell Power Station* entered into, or to be entered into, at the request of, or for the benefit of, one or more of *Stanwell Corporation Ltd* and the State of Queensland and whether or not any of *Stanwell Corporation Ltd* or the State of Queensland is a party to those agreements, documents and deeds.
Stanwell Power Station	The *power station* known as the "Stanwell Power Station" located at Stanwell, Queensland.

Column 1	Column 2
State Electricity Entity	A State electricity entity as defined in the *Electricity Act.*
transmission authority	An authority of that name issued under the *Electricity Act.*

(b) For the purposes of the *Rules*, to the extent that any *network* is located in Queensland, a *network* or part of a *network* is a *transmission network* if and only if it satisfies the following definition of "*transmission network*" and the definition of "*transmission network*" given in the glossary in Chapter 10 does not apply in those circumstances:

transmission network	Despite clause 6.2.1(d) and the glossary of the *Rules*, in Queensland the *transmission network* assets are to be taken to include only those assets owned by *Powerlink Queensland* or any other *Transmission Network Service Provider* that holds a *transmission authority* irrespective of the *voltage* level and does not include any assets owned by a *Distribution Network Service Provider* whether or not such *distribution* assets are operated in parallel with the *transmission system*.

9.32.2 Interpretation

In this Part E, a reference to any authority, corporation or body whether statutory or otherwise, in the event of that authority, corporation or body ceasing to exist or being reconstituted, renamed or replaced or its powers, duties or functions being transferred to or assumed by any other authority, corporation or body, will, as the case requires, be taken to refer to the authority, corporation or body replacing it or the authority, corporation or body, succeeding to or assuming the powers, duties or functions of it.

9.33 Transitional Arrangements for Chapter 1

9.33.1 [Deleted]

9.34 Transitional Arrangements for Chapter 2 - Registered Participants and Registration

9.34.1 Application of the Rules in Queensland (clauses 2.2 and 2.5)

Any person who engages in the activity of owning, controlling or operating:

(a) a *generating system* that *supplies* electricity to a *transmission or distribution system* of a kind referred to in clause 9.34.1(b); or

(b) a *transmission or distribution system* in Queensland which does not form part of the *national grid*,

is not to, and is not to be taken to be entitled to, and is taken to have been exempted from the requirement to, register as a *Registered Participant* in relation to that activity.

9.34.2 Stanwell Cross Border Leases (clause 2.2)

(a) *Stanwell Corporation Ltd* is deemed to be the person that must register as a *Generator* in relation to the *generating systems* which are the subject of the *Stanwell Cross Border Leases*.

(b) The parties (other than *Stanwell Corporation Ltd*) to the *Stanwell Cross Border Leases* are not to be and are not to be entitled to, and are taken to have been exempted from the requirement to, register as a *Generator* in relation to the *generating systems* which are the subject of the *Stanwell Cross Border Leases*.

(c) Clauses 9.34.2(a) and (b) cease to have effect upon the expiry or earlier termination of the last of the *Stanwell Cross Border Leases*.

9.34.3 [Deleted]

9.34.4 Registration as a Customer (clause 2.3.1)

(a) **[Deleted]**

(b) Subject to clause 9.34.4(c), for the purpose of clause 2.3.1(e), a person satisfies the requirements of Queensland for classification of a *connection point* if that person is:

(1) a *Contestable Customer* in relation to that *connection point*; or

(2) a *Retail Entity* who is:

(i) authorised by a *retail authority* to sell electricity to the person *connected* at that *connection point;* or

(ii) the *Local Retailer* for the *local area* in which the *connection point* is located; or

(iii) the holder of a *special approval* which authorises the person to:

(A) purchase electricity in the *market* in respect of that *connection point*; or

(B) sell electricity to the person *connected* at that *connection point*; or

(iv) a person exempted under the *Electricity Act* from the operation of section 89(1) of the *Electricity Act* in relation to the sale of electricity to the person *connected* at that *connection point*.

(c) For the purpose of clause 2.3.1(e), a person does not satisfy the requirements of Queensland for classification of its electricity purchased at a *connection point* in Queensland if the electricity is supplied through a *transmission or distribution system* which does not form part of the *national grid*.

(d) **[Deleted]**

9.34.5 There is no clause 9.34.5

9.34.6 Exempted generation agreements (clause 2.2)

(a) For the purpose of supplying electricity under any *exempted generation agreement*, for each *generating system* which forms part of one of the *power stations* listed in schedule 9E1 the Minister may determine, in consultation in each case with the owner of the relevant *generating system*, whether a *State Electricity Entity* (the "*Nominated Generator*"), rather than another person engaging in the activity of owning, operating or controlling the *generating system*, should be the *Generator* in respect of the *generating system*.

(b) For the purposes of the *Rules* if the *Minister* has determined a *Nominated Generator* for any *generating system* as described in clause 9.34.6(a):

(1) the *Nominated Generator* is taken to be, and at all relevant times to have been, and is the person that must register as, a *Generator* in relation to that *generating system*; and

(2) any person engaging in the activity of owning, controlling or operating that *generating system*, not being the *Nominated Generator*, is not to, is not entitled to, and is taken to have been exempted from the requirement to, register as a *Generator* in relation to that *generating system*.

(c) If complying with a requirement of the *Rules* ("the *Rules Requirement*") would result in a *Nominated Generator* being in breach of a provision of an *exempted generation agreement* to which it is a party (the "*contractual requirement*"), the *Nominated Generator* is not required to comply with the *Rules requirement* to the extent of the inconsistency between the *Rules requirement* and the *contractual requirement* provided that this

clause 9.34.6(c) must not be interpreted to relieve a *Nominated Generator* of the obligation to submit offers in respect of a *scheduled generating unit* or to operate the *generating unit* in accordance with *dispatch instructions* determined under Chapter 3.

(d) If:

(1) a *Nominated Generator* requires the co-operation of one or more of the parties to an *exempted generation agreement* (a "*counterparty*") in order to enable the *Nominated Generator* to comply with the *Rules requirement*;

(2) the *Nominated Generator* has used its reasonable endeavours to obtain the *counterparty's* co-operation in order to enable the *Nominated Generator* to comply with the *Rules requirement*; and

(3) the *Nominated Generator* has no ability to require the *counterparty* to so co-operate with the *Nominated Generator* and the *counterparty* is not in breach of the *exempted generation agreement* by refusing to so co-operate,

then the *Nominated Generator* is not required to comply with the *Rules requirement*.

(e) If a *Nominated Generator* does not comply with a *Rules requirement* in the circumstances set out in clause 9.34.6(c) or (d), the *Nominated Generator* must:

(1) give notice to the *AER* as soon as practicable, and in any event before the expiration of 7 *days* after the non-compliance with the *Rules requirement* occurs or commences, of:

(a) details of the *Rules requirement* which has not been or will not be complied with;

(b) details of each act or omission which partly or wholly constitutes non-compliance with that *Rules requirement*;

(c) in the case of circumstances described in clause 9.34.6(c), unless explicitly prohibited by the terms of the relevant *exempted generation agreement*, details of each *contractual requirement* which is considered by the *Nominated Generator* to be inconsistent with the *Rules requirement*; and

(d) in the case of circumstances described in clause 9.34.6(d), details of the endeavours made by the *Nominated Generator* to obtain the *counterparty's* co-operation to enable the *Nominated Generator* to comply with the *Rules requirement*; and

(2) unless explicitly prohibited by the terms of the relevant *exempted generation agreement*, give the *AER* any documents or information in the possession or control of the *Nominated Generator* which evidence the matters referred to in clause 9.34.6(e)(1) within 14 *days* (or any further period agreed to by the *AER*) of receiving a written request from the *AER*.

(f) To avoid any doubt, if after reviewing a notice and any documents or information given by the *Nominated Generator* under clause 9.34.6(e), the *AER* forms the view that:

(1) in the case of circumstances described in clause 9.34.6(c), compliance with the *Rules requirement* would not have resulted in the *Nominated Generator* being in breach of the relevant *contractual requirement*; or

(2) in the case of circumstances described in clause 9.34.6(d), any of the requirements of clause 9.34.6(d) were not in fact satisfied,

then the matter may be dealt with by the *AER* as a breach of the *Rules*.

(g) **[Deleted]**

(h) A *Nominated Generator* may give notice and information to the *AER* as required in clause 9.34.6(e) in advance if it becomes aware of the potential for the circumstances described in clause 9.34.6(c) or 9.34.6(d) to arise, and the giving of that notice and information will be taken to satisfy the requirements of the *Nominated Generator* in clause 9.34.6(e)(1) in respect of those circumstances.

(i) Notwithstanding the provision of notice and information in advance in accordance with clause 9.34.6(h), the *Nominated Generator* must provide such other documents or information as may be required in accordance with clause 9.34.6(e) after such non-compliance has occurred or commenced.

(j) If non-compliance with the *Rules* is continuing, the notice of non-compliance with the *Rules* provided under clause 9.34.6(e) will be effective in relation to that non-compliance until that non-compliance ends provided that:

(1) the notice specifies that the non-compliance is continuing; and

(2) the *Nominated Generator* notifies the *AER* of the end of the non-compliance no later than 7 days after the non-compliance ends.

(k) Clauses 9.34.6(c) and 9.34.6(d) do not affect the obligations of a *Nominated Generator* with respect to registration with *NEMMCO* or to making payments under the provisions of the *Rules* in respect of:

(1) *Participant fees*;

(2) *prudential requirements*; or

(3) *settlement amounts*.

(l) Within 30 *days* of the end of each quarter in each calendar year, the *AER* must prepare a quarterly report for the previous quarter and make it available upon request to all *Registered Participants* and those *participating jurisdictions* that participated in the *market* during the quarter covered by the report. The quarterly report must include:

(1) a summary of the acts or omissions of the *Nominated Generator* constituting non-compliance with any requirement of the *Rules*, as disclosed in written notices received by the *AER* under this clause 9.34.6 during the quarter covered by the report: and

(2) an assessment by the *AER* of the effect that those acts or omissions have had on the efficient operation, during the quarter covered by the report, of the *spot market*.

(m) **[Deleted]**

(n) No amendment, other than an amendment to correct a typographical error, may be made to an *exempted generation agreement* unless the parties to the *exempted generation agreement* submit to the *AER*:

(1) the proposed amendment, a copy of the *exempted generation agreement* and such supporting information as the parties consider necessary (the "EGA amendment material");

(2) a request that the *AER* seek advice from the *ACCC* as to whether the *ACCC* considers that the proposed amendment would or may:

(i) **[Deleted]**

(ii) **[Deleted]**

(iii) contravene a provision of the Trade Practices Act 1974 (Cth) or the Competition Code of a *participating jurisdiction*; and

(3) if requested by the *AER* to do so, such further information as may be required by the *AER* in order for the *ACCC* to consider the matters referred to in clause 9.34.6(n)(2),

and the proposed amendment is not prohibited under clause 9.34.6(q).

(o) When the parties to an *exempted generation agreement* submit EGA amendment material to the *AER* in accordance with clause 9.34.6(n), they

may include as part of the material submitted a written request that the *AER* and the *ACCC* treat the EGA amendment material as confidential. In such a case the *AER*:

(1) must comply with that request until such time as the parties to the *exempted generation agreement* notify the *AER* in writing that the *AER* is no longer under an obligation to do so; and

(2) must not provide any EGA amendment material to the *ACCC* unless the parties to the *exempted generation agreement* have notified the *AER* in writing that they have agreed acceptable confidentiality arrangements in relation to the EGA amendment material with the *ACCC* and that the *AER* should provide the EGA amendment material to the *ACCC*.

(p) **[Deleted]**

(q) If, within 10 *business days* of receiving the material referred to in clause 9.34.6(n) or such other period as is agreed between the *AER* and the parties to the *exempted generation agreement*, the *AER* responds that:

(1) the *ACCC* considers that the proposed amendment would or may have any or all of the effects referred to in clause 9.34.6(n)(2); or

(2) the *ACCC* considers that it is unable, because of:

(i) insufficient information before it; or

(ii) any confidentiality arrangements in relation to the EGA amendment material agreed between the *ACCC* and the parties to the *exempted generation agreement*,

to reasonably consider whether the proposed amendment would have any or all of the effects referred to in clause 9.34.6(n)(2),

then the proposed amendment must not be made.

(r) If the *AER* has not provided a response to a request made in accordance with clause 9.34.6(n)(2) within:

(1) 10 *business days* of receiving the material referred to in clause 9.34.6(n); or

(2) such other period as is agreed between the *AER* and the parties to the *exempted generation agreement*,

the *ACCC* is deemed to have no objection to the proposed amendment.

(s) If the *AER* notifies the parties to the *exempted generation agreement* that the *ACCC* has no objection to the proposed amendment, or if the *ACCC* is

deemed under clause 9.34.6(r) to have no objection to the proposed amendment, the parties to the *exempted generation agreement* may make the proposed amendment.

(t) This clause 9.34.6 ceases to have effect in respect of a *generating system* the subject of an *exempted generation agreement* upon the termination of that agreement.

9.35 [Deleted]

9.36 [Deleted]

9.37 Transitional Arrangements for Chapter 5 - Network Connection

9.37.1 [Deleted]

9.37.2 Existing connection and access agreements (clause 5.2)

(a) The technical connection and network pricing requirements of the Interconnection and Power Pooling Agreement dated 30 March 1994 between the owners of the Gladstone Power Station and the Queensland Electricity Commission (as amended prior to 18 January 1998) are to be taken to be a *connection agreement* in respect of both the Gladstone Power Station and the Boyne Island aluminium smelter unless replacement *connection agreements* are entered into in respect of the power station and smelter.

(b) Despite anything to the contrary in clause 5.2.2, if the *generating system* at Gladstone Power Station meets the technical connection requirements of the Interconnection and Power Pooling Agreement, or the technical requirements of a replacement *connection agreement* no less onerous than those in the Interconnection and Power Pooling Agreement, the relevant *generating system* is to be deemed to comply with all the technical connection requirements of the *Rules* in respect of the Gladstone Power Station.

(c) Despite anything to the contrary in clause 5.2.2, if the Boyne Island aluminium smelter meets the technical connection requirements of the Interconnection and Power Pooling Agreement, or the technical requirements of a replacement *connection agreement* no less onerous than those in the Interconnection and Power Pooling Agreement, the Boyne Island aluminium smelter is to be deemed to comply with all the technical connection requirements of the *Rules* in respect of the Boyne Island aluminium smelter.

(d) Despite anything to the contrary in clause 5.2.2, if Queensland Rail complies with the technical requirements in the *connection agreements* for Queensland Rail *connections* as at 18 January 1998, Queensland Rail is to be deemed to comply with all the technical connection requirements of the *Rules*.

(e) *Small Generators* are not required to comply with the conditions of *connection* set out in schedule 5.2 of the *Rules*.

9.37.3 [Deleted]

9.37.4 Regulation of distribution network connection (clause 5.3)

(a) This clause 9.37.4 applies in respect of the regulation of *connection* to a *Queensland distribution network*.

(b) Despite anything to the contrary in the *Rules*, the *Jurisdictional Regulator* appointed under clause 9.38.3 is responsible for the regulation of *connection* to a *Queensland distribution network*, unless the *Minister* determines that a national body should have that responsibility.

(c) If the *Minister* transfers responsibility for the regulation of *connection* to *Queensland distribution networks* to a national body under clause 9.37.4(b), this clause 9.37.4 will then cease to have effect.

(d) For the purposes of clause 5.3.6(c), any question as to the fairness and reasonableness of an offer to *connect* to a *Queensland distribution network* is to be decided by the *Jurisdictional Regulator* on the basis of the *Jurisdictional Regulator's* opinion of the fairness and reasonableness of the offer.

(e) If a dispute arises in relation to *connection* to a *Queensland distribution network*, then that dispute must be resolved in accordance with Chapter 8 and for this purpose a reference in Chapter 8 to "*power system*" is deemed to be a reference to the "*Queensland system*".

9.37.5 Forecasts for connection points to transmission network (clause 5.6.1)

If a *Network Service Provider*, on the *Queensland system*, modifies forecast information in accordance with clause 5.6.1(d), then that *Network Service Provider* is not required to notify the relevant *Registered Participant* if it has conflicting confidentiality obligations to other *Registered Participants*.

9.37.6 There is no clause 9.37.6

9.37.7 Cross Border Networks

(a) If:

(1) the *Minister* considers that a *transmission network* or *distribution network* situated in Queensland is a continuation of a *network* situated in another *participating jurisdiction* and should be considered to be part of the *network* of that other *participating jurisdiction*; and

(2) the *Minister* for that other *participating jurisdiction* consents,

then those *Ministers* may nominate that the *network* is deemed to be entirely in that other *participating jurisdiction* and the *Rules* including any relevant *jurisdictional derogations* for the other *participating jurisdiction* are deemed to apply to the *network* as if the *network* were located entirely within that other *participating jurisdiction*.

(b) If a nomination is made under clause 9.37.7(a), then the *jurisdictional derogations* for Queensland do not apply to the continuation of the relevant *network* which is situated in Queensland.

(c) If the *Minister* of another *participating jurisdiction* nominates that the *jurisdictional derogations* for Queensland should apply to a *network* part of which is situated in that other *participating jurisdiction*, then if the *Minister* in respect of Queensland consents, the *jurisdictional derogations* for Queensland are also to apply to that part of the *network* situated in the other *participating jurisdiction*.

9.37.8 [Deleted]

9.37.9 Credible contingency events (clause S5.1.2.1 of schedule 5.1)

(a) The *protection systems* installed on any 110/132kV lines located in Queensland and existing at *market commencement* are deemed to comply with clause S5.1.2.1(d) of schedule 5.1 of the *Rules* except where such *protection system* has a material effect in degrading the stability and security of the *Queensland system* or the *power system*.

9.37.10 Reactive power capability (clause S5.2.5.1 of schedule 5.2)

Clause S5.2.5.1 of schedule 5.2 of the *Rules* is replaced for each of the *generating units* situated at the relevant *power station* listed in the following table by the following:

For the purpose of this clause S5.2.5.1:

'*rated active power output*' means the 'Rated MW (Generated)' (as defined in schedule 5.5.1) for the relevant *synchronous generating unit*; and

'*nominal terminal voltage*' means the 'Nominal Terminal *Voltage*' (as defined in schedule 5.5.1) for the relevant *synchronous generating unit*.

(a) Each of the *generating units*, while operating at any level of *active power* output, must be capable of:

(1) supplying at its terminals an amount of *reactive power* of at least the amount that would be supplied if the *generating unit* operated at *rated active power output*, *nominal terminal voltage* and a lagging power factor of 0.9; and

(2) absorbing at its terminals an amount of *reactive power* of at least the amount that would be absorbed if the *generating unit* operated at *rated active power output*, *nominal terminal voltage* and a leading power factor set out in respect of that *generating unit* in column 3 of the following table.

(b) In the event that any of the relevant power factors referred to in paragraph (a) above cannot be provided in respect of a *generating unit*, the relevant *Generator* must reach a commercial arrangement under its *connection agreement* with the relevant *Network Service Provider*, or with another *Registered Participant*, for the supply of the deficit in *reactive power* as measured at that *generating unit's* terminals.

Power station	**Generating units**	**Leading power factor**
Gladstone	Units 1 to 4	0.99
Gladstone	Units 5 & 6	0.94
Tarong	Units 1 to 4	0.95
Callide “A”	Units 1 to 4	0.95
Callide “B”	Units 1 & 2	0.95
Stanwell	Units 1 to 4	0.95
Swanbank “B”	Units 1 to 4	0.97
Mount Stuart	Units 1 & 2	0.95
Collinsville	Units 1 to 5	0.95

9.37.11 [Deleted]

9.37.12 Voltage fluctuations (clause S5.1.5 of schedule 5.1)

For application in Queensland, clause S5.1.5 of schedule 5.1 of the *Rules* is replaced with the following:

"A *Network Service Provider* whose *network* is a *Queensland transmission network* or a *Queensland distribution network* must include conditions in *connection agreements* in relation to the permissible variation with time of the power *generated* or *load* taken by a *Registered Participant* to ensure that other *Registered Participants* are supplied with a power-*frequency voltage* which fluctuates to an extent that is less than the limit defined by the "Threshold of Perceptibility" or the "Threshold of Irritability" as the case may be for the conditions specified in the paragraph below, in Figure 1 of *Australian Standard* AS2279, Part 4.

A *Network Service Provider* whose *network* is a *Queensland transmission network* or a *Queensland distribution network* must ensure that *voltage* fluctuations caused by the switching or operation of *network plant* does not exceed the following amounts referenced to Figure 1 of *Australian Standard* AS 2279, Part 4:

(1) Above 66kV:

(A) the "Threshold of Perceptibility" when all *network plant* is in service; and

(B) the "Threshold of Irritability" during any *credible contingency event* which is reasonably expected to be of short duration;

(2) 66kV and below: the "Threshold of Irritability" when all *network plant* is in service.

The requirements of paragraphs (1) and (2) above do not apply to events such as switching of *network plant* to or from an abnormal state or to *network* faults which occur infrequently (ie. less than one event per day).

Where the *Rules* (other than this Part E) refer to clause S5.1.5(a) or (b) of schedule 5.1 of the *Rules* then, in so far as that reference relates to a *Network Service Provider* whose *network* is a *Queensland transmission network* or a *Queensland distribution network* or to a *network* which is a *Queensland transmission network* or a *Queensland distribution network*, that reference must be construed as a reference to the immediately preceding paragraph.

A *Network Service Provider* whose *network* is a *Queensland transmission network* or a *Queensland distribution network* is responsible only for excursions in *voltage* fluctuations outside the range defined in the first two paragraphs of this clause S5.1.5 caused by *network plant* and the pursuit of

all reasonable measures available under the *Rules* to remedy the situation in respect of *Registered Participants* whose *plant* does not perform to the standards defined by clause S5.2.5.2(c) of schedule 5.2 of the *Rules* for *Generators*, the standards set out in the first paragraph below for *Customers* and the standards set out in the second paragraph below for *Market Network Service Providers.*

Each *Customer* must ensure that variations in current at each of its *connection points* including those arising from the *energisation*, de-energisation or operation of any *plant* within or supplied from the *Customer's substation* are such that the contribution to the magnitude and rate of occurrence of the resulting *voltage* disturbance does not exceed the following limits:

(i) where only one *Customer* has a *connection point* associated with the point of *supply*, the limit is 80% of the threshold of perceptibility set out in Figure 1 of *Australian Standard* AS2279, Part 4; or

(ii) where two or more *Distribution Network Service Providers* or *Customers* causing *voltage* fluctuations have a *connection point* associated with a point of *supply*, the threshold of perceptibility limit is to be shared in a manner to be agreed between the *Distribution Network Service Provider* and the *Registered Participant* in accordance with *good electricity industry practice* that recognises the number of *Registered Participants* in the vicinity that may produce *voltage* fluctuations.

Each *Market Network Service Provider* must ensure that variations in current at each of its *connection points* arising from the *energisation*, de-energisation or operation of any of its *plant* involved in the provision of *market network services* are such that the contribution to the magnitude and rate of occurrence of the resulting *voltage* disturbance does not exceed the following limits:

(i) where only one *Market Network Service Provider* has a *connection point* associated with the point of *supply*, the limit is 80% of the threshold of perceptibility set out in Figure 1 of *Australian Standard* AS2279, Part 4; or

(ii) where two or more *Distribution Network Service Providers*, *Market Network Service Providers* or *Customers* causing *voltage* fluctuations have a *connection point* associated with a point of *supply*, the threshold of perceptibility limit is to be shared in a manner to be agreed between the *Distribution Network Service Provider* and the *Registered Participant* in accordance with *good electricity industry practice* that recognises the number of *Registered Participants* in the vicinity that may produce *voltage* fluctuations.

For these purposes, references to *Australian Standard* AS2279 are references to that standard as it existed prior to it being superseded by AS/NZS 61000.3.7:2001."

9.37.13 [Deleted]

9.37.14 [Deleted]

9.37.15 [Deleted]

9.37.16 [Deleted]

9.37.17 [Deleted]

9.37.18 [Deleted]

9.37.19 Generating unit response to disturbances (clause S5.2.5.3 of schedule 5.2)

(a) Despite the provisions of clause S5.2.5.3 of schedule 5.2 of the *Rules*, the *generating units* listed in the following table are not required to operate continuously outside the corresponding *frequency* band specified in column three of the following table:

Power station	Generating units	Frequency band
Tarong	Units 1 to 4	47.5 Hz to 51 Hz
Callide “B”	Units 1 & 2	47.5 Hz to 51 Hz
Stanwell	Units 1 to 4	47.5 Hz to 51 Hz
Gladstone	Units 1 to 6	47.5 Hz to 51.5 Hz
Collinsville	Units 1 to 4	48.0 Hz to 51 Hz
	Unit 5	48.0 Hz to 52 Hz

(b) **[Deleted]**

(b1) **[Deleted]**

9.37.20 Frequency control (clause S5.2.5.11 of schedule 5.2)

For each of the *generating units* situated at the *power stations* listed in the following table, the application of clause S5.2.5.11 of schedule 5.2 of the *Rules* is modified by deleting clause S5.2.5.11(d) and replacing it with the following:

"(d) A *Generator* must ensure that each of its *scheduled generating units* is capable of automatically increasing its *active power* output by 4% for a 0.1 Hz reduction in *system frequency*".

Power station	**Generating units**
Tarong	Units 1 to 4
Callide "A"	Units 1 to 4
Callide "B"	Units 1 & 2
Stanwell	Units 1 to 4
Swanbank "A"	Units 1 to 6
Swanbank "B"	Units 1 to 4

9.37.21 Excitation control system (clause S.5.2.5.13 of schedule 5.2)

(a) For each of the *generating units* listed in the following table:

(1) the application of clause S5.2.5.13(a) of schedule 5.2 of the *Rules* is modified by amending it to ensure that the short-time average *generating unit* stator *voltage* at highest rated power output level is not required to be more than 5% above nominal stator *voltage;* and

(2) the application of clause S5.2.5.13(b) of schedule 5.2 of the *Rules* is modified by deleting the words "all operating conditions" and replacing them with the words "all normal operating conditions and all *single credible contingency events*".

(b) For Wivenhoe Power Station, the application of clause S5.2.5.13(c) of schedule 5.2 of the *Rules* is modified by replacing sub-clause (c) with the words "providing a five second ceiling *excitation voltage* to a maximum of 730 V excitation *voltage*."

(c) **[Deleted]**

(d) For Collinsville Power Station, any variation to the minimum performance requirements specified in clause S5.2.5.13 of schedule 5.2 of the *Rules* is to be limited to figures agreed with the *Network Service Provider* to whose *network* the Collinsville Power Station is *connected.*

Power station	**Generating units**
Tarong	Units 1 to 4
Callide “A”	Units 1 to 4
Callide “B”	Units 1 & 2
Stanwell	Units 1 to 4
Swanbank “A”	Units 1 to 6
Swanbank “B”	Units 1 to 4
Wivenhoe	Units 1 & 2
Barron Gorge	Units 1 & 2
Kareeya	Units 1 to 4
Gladstone	Units 1 to 6
Collinsville	Units 1 to 5

(e) A *Generator* whose *generating unit* is situated in Queensland must ensure that each new *synchronous generating unit* of greater than 100MW is fitted with a *static excitation system* or some other *excitation control system* which will provide *voltage* regulation to within 0.5% of the selected setpoint value unless otherwise agreed with the relevant *Network Service Provider*.

9.37.22 [Deleted]

9.37.23 Annual forecast information for planning purposes (schedule 5.7)

Each *Registered Participant* that has a *connection point* to a *Queensland transmission network* must submit to the relevant Queensland *Transmission Network Service Provider* a forecast of the annual *energy* consumption associated with each *connection point* together with the information set out in schedule 5.7 of the *Rules*.

9.38 Transitional Arrangements for Chapter 6 - Network Pricing

9.38.1 [Deleted]

9.38.2 Regulatory control period (clause 6.2.4(b))

For the purposes of clause 6.2.4(b), the *regulatory control period* in relation to regulation of prices for *network services* provided by a *Queensland transmission network* in Queensland is a period of not less than 3 years.

9.38.3 Arrangements for regulation of distribution pricing (clause 6.13)

(a) The *Queensland Competition Authority* is the *Jurisdictional Regulator* appointed for Queensland for the purposes of clause 6.10.1(b).

(b) **[Deleted]**

(c) Regulation of *distribution network* service pricing for a *Queensland distribution network* must be undertaken by the *Queensland Competition Authority* in accordance with the *Electricity Act* and the *Queensland Competition Authority Act*.

9.38.4 Interconnectors between regions

For the purposes of the *Rules*, the *interconnector* between Armidale in New South Wales and Tarong in Queensland, to the extent that it forms part of the *Queensland system*, is deemed to be a *regulated interconnector*.

9.38.5 Transmission pricing for exempted generation agreements

(a) Notwithstanding the provisions of Chapter 6, the amounts payable for *transmission services* in respect of a *generating system* or a *load* the subject of an *exempted generation agreement* by a *Generator* or *Customer* which is referred to in an *exempted generation agreement*, or the relevant *State Electricity Entity* nominated pursuant to clause 9.34.6(a), as the case may be, will be the amounts payable under the *connection agreement* in respect of that *generating system* or *load*.

(b) If the amounts payable for *transmission services* under clause 9.38.5(a) differ to those that would have been payable if the amounts had been calculated in accordance with the provisions of Chapter 6 (as modified by this clause 9.38) then the amount of that difference is to be recovered in accordance with clause 6.5.6(a).

(c) For the purpose of clause 9.38.5(b), the amount of any difference is to be recovered from *Transmission Customers* located in Queensland and connected to the *Queensland system* and is not otherwise to be taken into account in determining *Transmission Customer common service charges* under clause 6.5.6(a).

(d) For the application of clause 9.38.5(a) to the *generating system* at Gladstone Power Station and the *load* at the Boyne Island aluminium smelter, the *connection agreement* referred to is the Interconnection and Power Pooling Agreement dated 30 March 1994 between the owners of the Gladstone Power Station and the Queensland Electricity Commission (as amended prior to 18 January 1998), or any *connection agreements* entered into in respect of those *connection points* in replacement of that agreement, provided that in the latter case any difference to be recovered pursuant to

clause 9.38.5(b) must not exceed that which would have applied had that agreement continued.

(e) Clause 9.38.5(a) continues to apply in respect of the *generating system* at Gladstone Power Station and the *load* at the Boyne Island aluminium smelter despite the entering into *connection agreements* in replacement of the Interconnection and Power Pooling Agreement as envisaged in clause 9.38.5(d).

9.39 Transitional Arrangements for Chapter 7 - Metering

9.39.1 Metering installations to which this clause applies

(a) The transitional *metering* provisions set out in schedule 9G1 apply to Queensland in respect of Chapter 7.

(b) Notwithstanding the application of schedule 9G1 in Queensland, the transitional arrangements set out in this clause 9.39 apply in relation to a *metering installation* (including a *check metering installation*) that meets the following criteria:

(1) at 1 October 1997, the *metering installation*:

(i) was a *metering installation* to which the *Queensland Grid Code* applied; and

(ii) complied with the metering requirements of the *Queensland Grid Code*; and

(2) excepting normal repair and maintenance, no part of the *metering installation* has been modified or replaced since 1 October 1997.

9.39.2 [Deleted]

9.39.3 Rights of access to data (clauses 7.7 and 7.8.2)

For the purpose of clause 7.7(b), any *Distribution Network Service Provider* or *Generator* who at *market commencement* has access to a *metering installation* is to continue to have the same level of access until the *metering installation* is upgraded to comply with the separate read only and write password access contemplated under clause 7.8.2(c) or 31 December 2005 whichever is sooner.

9.39.4 [Deleted]

9.39.5 [Deleted]

9.40 Transitional Arrangements for Chapter 8 - Administration Functions

9.40.1 [Deleted]

9.40.2 [Deleted]

9.40.3 [Deleted]

9.41 [Deleted]

Schedule 9E1 - Exempted Generation Agreements

Station Name	Owner or Operator of Station	Date of Agreement
Gladstone Power Station	GPS Participants[1]	30 March 1994
Collinsville Power Station	Collinsville Participants[2]	30 November 1995
Townsville Power Station	Transfield Townsville Pty Ltd A.C.N. 075 001 991	2 August 1996
Oakey Power Station	Oakey Power Pty Ltd A.C.N. 075 258 114	10 September 1996
Mt Stuart Power Station	Origin Energy Mt Stuart, a general partnership between Origin Energy Mt Stuart BV (ARBN 079 232 572) & Origin Energy Australia Holdings BV (ARBN 079 234 165)	5 August 1996
Various Sugar Mills	Queensland Sugar Power Pool Pty Ltd A.C.N. 072 003 537	21 December 1995
Somerset Dam Hydro	Hydro Power Pty Ltd A.C.N. 010 669 351	1 June 1996
Browns Plains Landfill Gas	EDL LFG (QLD) Pty Ltd A.C.N. 071 089 579 and Energex Limited A.C.N. 078 849 055	31 July 1996

1

GPS Participants	Each of:	GPS Power Pty Ltd, A.C.N. 009 103 422; GPS Energy Pty Ltd, A.C.N. 063 207 456; Sunshine State Power B.V., A.R.B.N. 062 295 425; Sunshine State Power (No 2) B.V., ARBN 063 382 829; SLMA GPS Pty Ltd, A.C.N. 063 779 028; Ryowa II GPS Pty Ltd, A.C.N. 063 780 058; and YKK GPS (Queensland) Pty Ltd, A.C.N. 062 905 275.

2

Collinsville Participants	Each of:	Transfield Collinsville Pty Ltd, A.C.N. 058 436 847; and Transfield Services Collinsville B.V., A.R.B.N. 070 968 606.

Part F – Jurisdictional Derogations for Tasmania

9.41A [Deleted]

9.42 Definitions and interpretation

9.42.1 Definitions

For the purposes of this Part F:

(a) a word or expression defined in the glossary in chapter 10 has the meaning given to it in the glossary, unless it is referred to in column 1 of the following table; and

(b) a word or expression referred to in column 1 of the following table has the meaning given to it in column 2 of the table:

Column 1	**Column 2**
Aurora	Aurora Energy Pty Ltd (ABN 85 082 464 622).
Basslink	The project for the interconnection, by means of a DC electricity transmission link, of the Victorian and Tasmanian *transmission systems*.
ESI Act	The Electricity Supply Industry Act 1995 (Tas).
George Town Substation	The electricity substation located on the land comprised in Certificate of Title Volume 34076 Folio 1.
Hydro Tasmania	The Hydro-Electric Corporation (ABN 48 072 377 158).
Interconnection Date	The date on which *Basslink* enters into commercial operation, being the Commissioning Date as defined in the Basslink Project Interpretation Memorandum dated 29 November 2002 between the Crown in right of the State of Tasmania, Basslink Pty Ltd, National Grid Transco plc, National Grid

Column 1	**Column 2**
	Holdings Limited and *Hydro Tasmania*.
Minister	The Minister for the time being responsible for administering the *ESI Act*.
National Electricity Code	The code of conduct called the National Electricity Code approved, in accordance with section 6(1) of the Old National Electricity Law, as the initial Code for the purposes of that Law, and as amended from time to time in accordance with its terms and the Old National Electricity Law.
Old National Electricity Law	The Schedule to the National Electricity (South Australia) Act 1996 (SA) as in force from time to time before the commencement of section 12 of the National Electricity (South Australia) (New National Electricity Law) Amendment Act 2005 (SA).
Price Control Regulations	The Electricity Supply Industry (Price Control) Regulations made under the *ESI Act*.
Reliability and Network Planning Panel	The panel of that name established by the *Tasmanian Electricity Regulator* of the *Tasmanian Code*.
Retail Licence	A licence authorising the retailing of electricity issued under the *ESI Act*.
Tasmanian Code	The Tasmanian Electricity Code issued under section 49A of the *ESI Act*.
Tasmanian Code Participant	A person who is a Code Participant within the meaning of the *Tasmanian Code*.
Tasmanian Determination on Power System Frequency Operating Standards	The Determination on Frequency Operating Standards for the Tasmanian Power System issued by the *Reliability and Network Planning Panel*.

Column 1	**Column 2**
Tasmanian Electricity Regulator	The office of the Regulator established pursuant to section 5 of the *ESI Act*.
Tasmanian Network Service Provider	A person who is a *Network Service Provider* in respect of a *network* located in Tasmania (including the *Network Service Provider* in respect of *Basslink)*.
Tasmanian power system security and reliability standards	The standards governing security and reliability of the power system located in Tasmania determined by the *Reliability and Network Planning Panel* in accordance with the *Tasmanian Code*, including the *Tasmanian Determination on Power System Frequency Operating Standards* and the standards for capacity reserves.
Third Tranche Commencement Date	The day which the *Minister* notifies *NEMMCO* is the day on which customers taking an amount of electricity equal to or in excess of 0.75GWh/yr and less than 4GWh/yr at a *connection point* in Tasmania first become contestable customers (within the meaning of the *ESI Act*).
Transend	Transend Networks Pty Limited (ABN 57 082 586 892).
Transition Date	The date on and from which section 6 of the Electricity - National Scheme (Tasmania) Act 1999 commences.

9.42.2 Interpretation

In this Part F, references to Tasmania do not include King Island or Flinders Island unless the context otherwise requires.

9.42.3 National grid, power system and related expressions

Notwithstanding anything else in the *Rules*, but subject to the other provisions of this Part F, on and from the *Transition Date*:

(a) the *connected transmission systems* and *distribution systems* located in Tasmania are to be treated as forming part of the *national grid* and the interconnected *transmission* and *distribution networks*; and

(b) the electricity power system located in Tasmania, including associated *generation* and *transmission* and *distribution networks* for the *supply* of electricity, is to be treated as forming part of the *power system* and the electricity system,

even if they are not *connected* to a *network* or *networks* in other *participating jurisdictions*.

9.43 Transitional arrangements for Chapter 1 - Introduction - Validity of certain actions taken prior to Transition Date

If:

(a) the *AEMC*, the *AER*, *NEMMCO*, any *Rules body*, any *Registered Participant*, the *Tasmanian Electricity Regulator* or any *Tasmanian Code Participant* takes any action to enable any entity to perform functions under, or obligations imposed by, a provision of the *Rules* before the *Transition Date* in anticipation of the relevant provision applying in Tasmania on the *Transition Date*; and

(b) the action was taken so far as reasonably practicable in accordance with the provision (as though the provision applied in Tasmania at the time the relevant action was taken),

then the action is deemed to have been validly taken in accordance with that provision with effect on and from the *Transition Date*. For the avoidance of doubt:

(c) any action taken for the purposes of this clause 9.43 by the *Tasmanian Electricity Regulator* prior to the *Transition Date* to enable the *Jurisdictional Regulator* to perform functions under, or obligations imposed by, a provision of the *Rules* in anticipation of that provision coming into effect on the *Transition Date* is deemed to have been taken by the *Jurisdictional Regulator*; and

(d) the *AEMC*, the *AER*, *NEMMCO*, any *Rules body* or other person ("Recipient") may treat any submission, application, approval, statement or document ("application") given to it by a person in anticipation of a provision of the *Rules* applying in Tasmania as having been given to the Recipient under that provision of the *Rules* and may take action under the *Rules* on the basis of that application or taking into account that application.

9.44 Transitional arrangements for Chapter 2 – Registered Participants and Registration - Customers (clause 2.3.1(e))

For the purposes of clause 2.3.1(e), and for the purposes of clause 2.4.2(b) in so far as it relates to *Customers*, a person satisfies the requirements of Tasmania for classification of a *connection point* of that person if that person is the holder of a *Retail Licence* or is a contestable customer within the meaning of the *ESI Act* in respect of that *connection point*.

9.45 Transitional arrangements for Chapter 3 - Market Rules

9.45.1 Tasmanian Region (clause 3.5)

(a) Notwithstanding clause 3.5, the State of Tasmania is, and must be, one *region* and that *region* must not include any areas which fall outside of the State of Tasmania.

(b) Notwithstanding clause 3.5.1(c), the *regional reference node* for the Tasmanian *region* is the 220kV *busbar* located at the *George Town Substation*.

(c) Clauses 9.45.1(a) and (b) cease to have effect from the beginning of the *Third Tranche Commencement Date*.

9.45.2 Administered Price Cap (clause 3.14.1)

Until a different *administered price cap* is developed, authorised and published in accordance with clause 3.14.1(a) for the Tasmanian *region*, the administered price cap for the Tasmanian region is:

(1) $100/MWh between 7.00 am and 11.00 pm on a *business day*; and

(2) $50/MWh at all other times.

9.45.3 Settlement Residue Auctions (clause 3.18.1)

(a) To avoid doubt, *Basslink* is not a *directional interconnector* for the purposes of clause 3.18.

(b) Clause 9.45.3(a) ceases to have effect at the end of the second anniversary of the *Transition Date*.

9.46 Transitional arrangements for Chapter 4 - Power System Security

9.46.1 Satisfactory Operating State (clause 4.2.2)

If the *frequency* at a *busbar* located in Tasmania is within the containment range for a load event as specified in the *Tasmanian Determination on Power System Frequency Operating Standards*, then that *frequency* will be taken to be within:

(1) the *normal operating frequency excursion band* for the purposes of the *Rules*; and

(2) any *frequency* band (whatever it is called) specified in or under the *Rules* or the *power system security and reliability standards* which is applied by *NEMMCO* or any other person for a similar purpose as the *normal operating frequency excursion band* is applied under clause 4.2.2(a).

9.46.2 Secure operating state and power system security (clause 4.2.6(c))

In applying the *power system security* principle specified in clause 4.2.6(c) in relation to Tasmania, *NEMMCO* must have regard to the power *frequency* bands specified in the *Tasmanian Determination on Power System Frequency Operating Standards* in substitution for the *frequency* bands contemplated by that clause.

9.46.3 Market Customer obligations (clause 4.3.5(b))

Notwithstanding clause 4.3.5(b), *Market Customers* must provide their *interruptible load* in respect of *connection points* located in Tasmania in manageable blocks spread over a number of steps within under-*frequency* bands down to the lower limit of the "extreme frequency excursion tolerance limits" (as specified in the *Tasmanian Determination on Power System Frequency Operating Standards*) and not 47.0Hz as specified in clause 4.3.5(b).

9.46.4 Power System Frequency Control Responsibilities (clause 4.4.1)

Notwithstanding clause 4.4.1 and the *power system security and reliability standards*, *NEMMCO* must use reasonable endeavours to ensure that, in Tasmania, the *frequency* levels specified in the *Tasmanian Determination on Power System Frequency Operating Standards* are achieved.

9.47 Transitional arrangements for Chapter 5- Network Connection

9.47.1 Existing Connection Agreements

The following agreements are each to be taken to be a *connection agreement* for the purposes of clause 5.2:

(a) the Connection Agreement dated 1 July 1998 between *Aurora* and *Hydro Tasmania*;

(b) the Connection and Network Services Agreement dated 1 July 1998 between *Transend* and *Aurora*;

(c) the Connection and Network Services Agreement dated 1 July 1998 between *Transend* and *Hydro Tasmania*;

(d) the Basslink Connection Agreement dated 28 January 2000 between National Grid International Limited and *Transend*; and

(e) any other connection agreement entered into prior to the *Transition Date* in accordance with the *Tasmanian Code*.

9.47.2 [Deleted]

9.47.3 Frequency variations (clauses S5.1.3 and S5.1.10)

In performing the functions contemplated by clauses S5.1.3 and S5.1.10 of schedule 5.1 of the *Rules* in relation to that part of the *power system* located in Tasmania, *NEMMCO* and *Tasmanian Network Service Providers* must apply the power system *frequency* bands specified in the *Tasmanian Determination on Power System Frequency Operating Standards* in Tasmania in substitution for the *frequency* bands specified in the *power system security and reliability standards*.

9.47.4 Fault clearance times (clauses S5.1.9 and S5.1a.8 and table S5.1a.2)

(a) Notwithstanding clause S5.1.9 of schedule 5.1 of the *Rules* and clause S5.1a.8, and table S5.1a.2, of schedule 5.1a of the *Rules*, if:

(1) there is no system for communication between the faulted end and the remote end of a power line located in Tasmania; or

(2) there is a maintenance *outage* of the system for communication between the faulted end and the remote end of a power line located in Tasmania,

then the remote end maximum *fault clearance time* in respect of that power line is 600 milliseconds.

(b) Notwithstanding clause S5.1.9 of schedule 5.1 of the *Rules* and clause S5.1a.8, and table S5.1a.2, of schedule 5.1a of the *Rules*, if there is no circuit breaker failure protection in respect of a power line located in Tasmania, then the breaker fail maximum *fault clearance time* for that line is 1100 milliseconds.

(c) Clauses 9.47.4(a) and (b) cease to have effect at the end of the first anniversary of the *Transition Date*.

9.48 Transitional arrangements for Chapter 6 - Transmission and Distribution Pricing

9.48.1 [Deleted]

9.48.2 Transmission Service Pricing

(a) A "Pre-NEM Determination" is a determination, decision or ruling made or set by the *ACCC* which:

(1) is made under any of the *ESI Act*, the *Price Control Regulations* or the *Tasmanian Code* (together called the "Tasmanian regulatory regime");

(2) relates to or is connected with transmission pricing (including, without limitation, a determination, decision or ruling relating to the setting or re-setting of a revenue cap);

(3) is made prior to the *Transition Date*, but applies until a date which falls after the *Transition Date*; and

(4) is equivalent to or has substantially the same effect as a determination, decision or ruling ("Equivalent Determination") which the *AER* may make or set under the *Rules* or which is contemplated by the *Rules*.

(b) Subject to clause 9.48.2(d), a Pre-NEM Determination is:

(1) deemed to have been validly made or set under the *Rules* in accordance with any procedures or steps which apply to the making of an Equivalent Determination; and

(2) deemed to be an Equivalent Determination under the *Rules*.

(c) Subject to clause 9.48.2(d), any action taken by a *Tasmanian Code Participant* as a result of, or to implement or following a Pre-NEM Determination under the Tasmanian regulatory regime in accordance with

the instruments comprising that regime is deemed to have been validly taken in accordance with the *Rules*.

(d) If, at any time after the *Transition Date*, it appears to the *AER* that:

(1) a Pre-NEM Determination or action referred to in clause 9.48.2(c) is inconsistent with the relevant principles in the *Rules* in a material way; and

(2) the inconsistency is due to a material difference between the Tasmanian regulatory regime and the *Rules* or the *National Electricity Code* (in the form the instruments comprising that regime and the *Rules* or the *National Electricity Code* (as the case may be) were in at the time of the Pre-NEM Determination or action),

then the *AER* may re-open the Pre-NEM Determination or disallow the action by written notice to the *Minister*. A notice under this clause 9.48.2(d) must set out a summary of the reasons why the *AER* is giving the notice. Clause 9.48.2(b) or (c) (as applicable) ceases to apply to a Pre-NEM Determination or action the subject of a notice under this clause 9.48.2(d) from the time specified in the notice.

(e) To avoid doubt, the *AER* may make or set a determination, decision or ruling in accordance with the *Rules* that replaces a Pre-NEM Determination re-opened under clause 9.48.2(d).

(f) For the purpose of applying clause 6.2.3(d)(4)(iii) in the case of assets located in Tasmania:

(1) the words "1 July 1999" are replaced with the words "30 June 2001"; and

(2) the words "*Jurisdictional Regulator*" to and including the words "*participating jurisdiction*" are replaced with "*Minister*".

(g) If:

(1) Chapter 6 of the *National Electricity Code* was amended after 22 November 2000 and before the *Transition Date* or Chapter 6 of the *Rules* is amended before the *Transition Date*;

(2) those amendments contemplate a change in the allocation of costs amongst users of *transmission networks*; and

(3) those amendments contemplate transitional arrangements for the phasing in of that change,

then equivalent transitional arrangements also apply to users of *transmission networks* located in Tasmania, and the prices which apply immediately before the *Transition Date* are the starting point for the phase-in.

9.48.3 Distribution Service Pricing - Jurisdictional Regulator

The *Jurisdictional Regulator* for Tasmania is the *Tasmanian Electricity Regulator*.

9.48.4 Distribution Service Pricing

(a) From the *Transition Date*, *distribution service* pricing for any *distribution network* situated in Tasmania must be regulated by the *Jurisdictional Regulator* in accordance with the *ESI Act* and the *Tasmanian Code* to the exclusion of Parts D and E of Chapter 6.

(b) Clause 9.48.4(a) ceases to have effect at the beginning of the *Third Tranche Commencement Date*.

9.48.5 Transmission network

For the purpose of the *Rules*, a *network* operating at "extra high voltage" (as that term is defined in the *ESI Act*) is deemed to be a *transmission network*.

9.48.6 Deemed regulated interconnector

For the purposes of the *Rules*, any *interconnector* between *regions* in Tasmania in existence when those *regions* are established, to the extent that it forms part of the *power system* in Tasmania, is deemed to be a *regulated interconnector*.

9.49 Transitional arrangements for Chapter 8 - Administrative Functions

9.49.1 Frequency Standards (clause 8.8.1)

Notwithstanding anything else in the *Rules*, but subject to the other provisions of this Part F:

(a) on and from the *Transition Date* until the start of the *Interconnection Date*, the *power system security and reliability standards* applicable in Tasmania are the *Tasmanian power system security and reliability standards* and not those determined by the *Reliability Panel* under clause 8.8;

(b) on and from the *Interconnection Date* until the end of the second anniversary of the *Transition Date*, the standards governing *frequency* in respect of that part of the *power system* located in Tasmania are those set out in the *Tasmanian Determination on Power System Frequency Operating*

Standards and not those in the *power system security and reliability standards* or applying elsewhere in or under the *Rules*; and

(c) after the second anniversary of the *Transition Date*, the standards governing *frequency* in respect of that part of the *power system* located in Tasmania are those set out in the *power system security and reliability standards* determined as contemplated in clause 9.49.3 and not those in any other set of standards or applying elsewhere in or under the *Rules*,

and provisions of the *Rules* referring to or relating to *frequency*, *frequency operating standards*, *frequency* bands, *frequency* ranges or *frequency* limits must be interpreted accordingly.

9.49.2 Termination of frequency derogations

Clauses 9.46.1, 9.46.2, 9.46.3, 9.46.4 and 9.47.3 cease to have effect from the end of the second anniversary of the *Transition Date*.

9.49.3 Reliability Panel

Before the first anniversary of the *Transition Date*, the *Reliability Panel* must determine *power system security and reliability standards* under clause 8.8 that, in so far as they apply in respect of Tasmania, reflect the principles set out in clause 9.49.4.

9.49.4 Principles to be applied by Reliability Panel

In determining and amending *power system security and reliability standards* the *Reliability Panel* must ensure that, in so far as they apply in respect of Tasmania, those standards reflect the following principles:

(a) in so far as they relate to *frequency*, such standards must be made having regard to the following:

(1) any existing standards in relation to those matters;

(2) the costs and benefits of any change proposed to those existing standards; and

(3) the size and characteristics of the separate systems that make up the *power system*;

(b) where the *network* or *networks* located in a particular area or *region* in Tasmania is or are only *connected* to other areas or *regions* by means of an asynchronous link, the *power system security and reliability standards*, in so far as they relate to *frequency*, may incorporate different standards for the first area or *region* to those applying elsewhere in the *power system*; and

(c) the *power system security and reliability standards*, in so far as they relate to *frequency*, must allow less stringent standards for the *frequency* of a *network* or *networks* located in a particular area or *region* in Tasmania when that area or *region* is isolated from the remainder of the *power system*.

Part G - Schedules to Chapter 9

Schedule 9G1 - Metering Transitional Arrangements

1. Introduction

(a) The following minimum requirements apply in respect of *metering installations* commissioned before 13 December 1998.

(b) **[Deleted]**

2. [Deleted]

3. General Principle

The general principle is that *meters* are required and a *metering installation(s)* capable of recording half-hour *energy* flows and of providing electronic data for transfer to the *metering database* is to be in place for each *Market Participant's connection point(s)* before the *Market Participant* is permitted to participate in the *market*, and there will be no relaxation of this principle in the *jurisdictional derogations.*

4. [Deleted]

5. Accuracy Requirements

5.1 Existing Metering Installations Transitional Exemptions

In addition to those allowances in clause S7.2.2 of schedule 7.2 - "Metering installations commissioned prior to 13 December 1998", the following conditions/exemptions apply:

(a) For *Generators*, *generated* quantities together with estimates for *generating unit* auxiliary loads may be used provided there is an agreed method with *NEMMCO* for determining *sent-out* energy. [refer to clause 7.3.2]

(b) The *check metering* requirements of the *Rules* do not have to be met for Type 1 *metering installations*. A minimum of partial *check metering* is required for Types 1 and 2 *metering installations*. [refer to clause S7.2.4 of schedule 7.2 of Chapter 7]

(c) Joint use of secondary circuits for *revenue metering* is permitted for Type 1 *metering installations*. [refer to cl.S7.2.6.1(a) of schedule 7.2 of Chapter 7]

5.2 [Deleted]

6. [Deleted]

7. [Deleted]

8. [Deleted]

9. [Deleted]

10. [Deleted]

CHAPTER 10

10. GLOSSARY

abnormal conditions

A condition described in clause 4.2.3(f).

ACCC

Australian Competition and Consumer Commission as established under the Trade Practices Act 1974 (Cth).

acceptable credit criteria

The credit criteria defined in clause 3.3.3.

acceptable credit rating

The credit rating determined by *NEMMCO* under clause 3.3.4.

accepted restriction offer

A *restriction offer* accepted by *NEMMCO* in accordance with the *restriction offer procedures.*

accumulated energy data

The data that results from the measurement of the flow of electricity in a power conductor where the data represents a period in excess of a *trading interval*. The measurement is carried out at a *metering point*.

active energy

A measure of electrical *energy* flow, being the time integral of the product of *voltage* and the in-phase component of current flow across a *connection point*, expressed in Watthours (Wh) and multiples thereof.

active power

The rate at which *active energy* is transferred.

active power capability

The maximum rate at which *active energy* may be transferred from a *generating unit* to a *connection point* as specified or proposed to be specified in a *connection agreement* (as the case may be).

additional intervention claim

Has the meaning given in clause 3.12.11(e).

ADJR Act

The Administrative Decisions (Judicial Review) Act 1977 (Cth).

adjusted gross energy

The *energy* adjusted in accordance with clause 3.15.5 (for a *transmission network connection point*) or clause 3.15.5A (for a *virtual transmission node*) or clause 3.15.4 (for any other *connection point*).

administered floor price

A price floor to apply to a *regional reference price,* with the levels of the price floor being administered under clause 3.14.1 and the circumstances under which it can be invoked by *NEMMCO* being determined as set out in clause 3.14.2.

administered price cap

A price cap to apply to a *dispatch price*, *regional reference price* or *ancillary service price*, with the levels of the price cap being set in accordance with clause 3.14.1 and the circumstances under which it can be invoked by *NEMMCO* being determined as set out in clause 3.14.2.

administered price period

A period declared by *NEMMCO*, in accordance with clause 3.14.2, in which an *administered price cap* may be invoked.

Adviser

The Dispute Resolution Adviser specified in clause 8.2.2(a).

Adviser referral notice

A notice referring a dispute to the *Adviser* for the purposes of clause 8.2.5.

Advocacy Panel

The panel established to administer funding for end-user advocacy in the national electricity market in accordance with clause 8.10.1.

AEMC

The Australian Energy Market Commission, which is established under section 5 of the Australian Energy Market Commission Establishment Act 2004 (SA).

AER

The Australian Energy Regulator, which is established by section 44AE of the Trade Practices Act 1974 (Cth).

affected participant's adjustment claim

Has the meaning given in clause 3.12.11(c1)(3).

Affected Participant

In respect of a particular *direction* or *dispatch* under a *reserve contract*, as the case may be, in an *intervention price trading interval*:

(1) a *Scheduled Generator* or *Scheduled Network Service Provider*, which was not the subject of the *direction* or whose *plant* was not *dispatched* under the *reserve contract*, that had its *dispatched* quantity affected by that *direction* or *dispatch* of *plant* under that *reserve contract*; or

(2) a *Scheduled Generator* or *Scheduled Network Service Provider*, which was the subject of the *direction* or whose *plant* was *dispatched* under the *reserve contract*, that had its *dispatched* quantity for other *generating units* or other services which were not the subject of that *direction* or which were not *dispatched* under that *reserve contract* affected by that *direction* or *dispatch* of *plant* under that *reserve contract*, however, the *Scheduled Generating Unit* or *Scheduled Network Service Provider* is only an *Affected Participant* in respect of those *generating units* and services which were not the subject of that *direction* or were not *dispatched* under that *reserve contract*; or

(3) an *eligible person* entitled to receive an amount from *NEMMCO* pursuant to clause 3.18.1(b)(1) where there has been a change in flow of a *directional interconnector*, for which the *eligible person* holds units for the *intervention price trading interval*, as a result of the *direction* or *dispatch* of *plant* under the *reserve contract*.

agency data collection system

The system used by the operator of an *agency metering database* to collect, process and transfer the *metering data* from a *meter* to the *NEMMCO settlements* process.

agency metering database

A *metering database* which is operated under a service level agreement with *NEMMCO*.

aggregate annual revenue requirement

The calculated total annual revenue to be earned by an entity for a defined class or classes of service.

aggregate payment due

The aggregate of the net amounts payable by *NEMMCO* to each of the *Market Participants* to whom payments are to be made in relation to *spot market transactions* or *reallocation transactions* in respect of a *billing period* determined in accordance with clause 3.15.22(c).

agreed capability

In relation to a *connection point,* the capability to receive or send out power for that *connection point* determined in accordance with the relevant c*onnection agreement*.

ancillary service fees

The fees determined by *NEMMCO* under Chapter 2 in relation to *ancillary services.*

ancillary service generating unit

A *generating unit* which has been classified in accordance with Chapter 2 as an *ancillary service generating unit.*

ancillary service load

A *market load* which has been classified in accordance with Chapter 2 as an *ancillary service load.*

ancillary service price

In respect of a *dispatch interval*, for a *market ancillary service,* the common clearing price for the *market ancillary service* determined in accordance with clause 3.9.

Ancillary Service Provider

A person who engages in the activity of owning, controlling or operating a *generating unit* or *market load* classified in accordance with Chapter 2 as an *ancillary service generating unit* or *ancillary service load*, as the case may be.

ancillary services

Market ancillary services and *non-market ancillary services.*

ancillary services agreement

An agreement under which a *Registered Participant* agrees to provide one or more *non-market ancillary services* to *NEMMCO*.

annual national transmission review or ANTS review

The review conducted by *NEMMCO* in accordance with clause 5.6.5.

Annual National Transmission Statement or ANTS

The statement *published* by *NEMMCO* in accordance with clause 5.6.5.

Annual Planning Report

A report prepared by a *Transmission Network Service Provider* under clause 5.6.2A(a).

annual revenue requirement

An amount representing the revenue requirement of a *Transmission Network Service Provider* (other than a *Market Network Service Provider*) for an asset calculated in accordance with clause 6.4.1(c).

apparent power

The square root of the sum of the squares of the *active power* and the *reactive power*.

applicable regulatory instruments

All laws, regulations, orders, licences, codes, determinations and other regulatory instruments (other than the *Rules*) which apply to *Registered Participants* from time to time, including those applicable in each *participating jurisdiction* as listed below, to the extent that they regulate or contain terms and conditions relating to access to a *network*, *connection* to a *network*, the provision of *network services*, *network service* price or *augmentation* of a *network*.

(1) New South Wales:

(a) the Electricity Supply Act 1995 ("ES Act");
(b) all regulations made and licences ("Licences") issued under the ES Act;
(c) the Independent Pricing and Regulatory Tribunal Act 1992 ("IPART Act");
(d) all regulations and determinations made under the IPART Act;
(e) all regulatory instruments applicable under the Licences; and
(f) the Commercial Arbitration Act 1984.

(2) Victoria:

(a) the Electricity Industry Act 2000 ("EI Act");
(b) all regulations made and licences ("Licences") issued under the EI Act;
(c) the Essential Services Commission Act 2001 ("ESCV Act");
(d) all regulations and determinations made under the ESCV Act;
(e) all regulatory instruments applicable under the Licences; and
(f) the Tariff Order made under section 158A(1) of the Electricity Industry Act 1993 and continued in effect by clause 6(1) of Schedule 4 to the Electricity Industry (Residual Provisions) Act 1993, as amended or varied in accordance with section 14 of the EI Act.

(3) South Australia:

(a) the Electricity Act 1996;
(b) all regulations made and licences ("Licences") issued under the Electricity Act;
(c) the Essential Services Commission Act 2002 ("ESCSA Act");
(d) all regulations and determinations made under the ESCSA Act;
(e) all regulatory instruments applicable under the Licences; and
(f) the Electricity Pricing Order made under section 35B of the Electricity Act.

(4) Australian Capital Territory:

(a) the Utilities Act 2000;
(b) all regulations made and licences ("Licences") issued under the Utilities Act;
(c) the Independent Competition and Regulatory Commission Act 1997 ("ICRC Act");
(d) all regulations and determinations made under the ICRC Act; and
(e) all regulatory instruments applicable under the Licences.

(5) Queensland:

(a) the Electricity Act 1994;
(b) all regulations made and authorities and special approvals ("Licences") granted under the Electricity Act;
(c) the Queensland Competition Authority Act 1997 ("QCA Act");
(d) all regulations and determinations made under the QCA Act;
(e) all regulatory instruments applicable under the Licences; and
(f) the Gladstone Power Station Agreement Act 1993 and associated agreements.

(6) Tasmania:

(a) the Electricity Supply Industry Act 1995;
(b) all regulations made and licences ("Licences") issued under the Electricity Supply Industry Act;
(c) all regulatory instruments under the Electricity Supply Industry Act or the Licences (including, without limitation, determinations of the Tasmanian Electricity Regulator under the Electricity Supply Industry (Price Control) Regulations); and
(d) the Tasmanian Electricity Code issued under section 49A of the Electricity Supply Industry Act.

application to connect

An application made by a *Connection Applicant* in accordance with clause 5.3 for *connection* to a *network* and/or the provision of *network services* or modification of a *connection* to a *network* and/or the provision of *network services*.

auction

A *settlement residue* auction held under clause 3.18.

auction amounts

All amounts:

(1) payable to *NEMMCO* or *eligible persons* under *SRD agreements*; or

(2) distributed to *Network Service Providers* under clause 3.18.4; or

(3) recovered by *NEMMCO* under clause 3.18.4 or the *auction rules*.

auction expense fees

The costs and expenses incurred by *NEMMCO* referred to in clause 3.18.4(b).

auction participation agreement

Has the meaning given in clause 3.18.1(a).

auction rules

The rules developed by *NEMMCO* under clause 3.18.3, as amended from time to time in accordance with that clause.

augment, augmentation

Works to enlarge a *network* or to increase the capability of a *network* to transmit or distribute *active energy*.

augmentation technical report

A report by the *Inter-regional Planning Committee* of an *augmentation* under clause 5.6.3(j).

Australian Standard (AS)

The most recent edition of a standard publication by Standards Australia (Standards Association of Australia).

automatic access standard

In relation to a technical requirement of access, a standard of performance, identified in a schedule of Chapter 5 as an automatic access standard for that technical requirement, such that a *plant* that meets that standard would not be denied access because of that technical requirement.

automatic generation control system (AGC)

The system into which the *loading levels* from economic *dispatch* will be entered for *generating units* operating on automatic generation control in accordance with clause 3.8.21(d).

automatic reclose equipment

In relation to a *transmission line* or *distribution line*, the equipment which automatically recloses the relevant line's circuit breaker(s) following their opening as a result of the detection of a fault in the *transmission line* or the *distribution line* (as the case may be).

available capacity

The total MW capacity available for *dispatch* by a *scheduled generating unit* or *scheduled load* (i.e. maximum plant availability) or, in relation to a specified *price band*, the MW capacity within that *price band* available for dispatch (i.e. availability at each price band).

average electrical energy loss

The volume-weighted average of the *electrical energy losses* incurred in each *trading interval* over all *trading intervals* in a defined period of time

average loss factor

A multiplier used to describe the *average electrical energy loss* for electricity used or transmitted.

avoided Customer TUOS usage charges

The charges described in clause 5.5(h) or clause 5.5A(i) (as the case may be).

B2B Communications

Communications between *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* relating to an end-user or *supply* to an end-user provided for in the *B2B Procedures*.

B2B Data

Data relating to *B2B Communications*.

B2B Decision

A decision of *NEMMCO* to approve or not approve an *Information Exchange Committee Recommendation*.

B2B Determination Dispute

A dispute in relation to either a *B2B Decision* or an *Information Exchange Committee Recommendation*.

B2B e-Hub

An electronic information exchange platform established by *NEMMCO* to facilitate *B2B Communications*.

B2B Objective

The benefits from *B2B Communications* to *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* as a whole should outweigh the detriments to *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* as a whole.

B2B Principles

The following principles:

(a) *B2B Procedures* should provide a uniform approach to *B2B Communications* in *participating jurisdictions* in which there are no *franchise customers*;

(b) *B2B Procedures* should detail operational and procedural matters and technical requirements that result in efficient, effective and reliable *B2B Communications*;

(c) *B2B Procedures* should avoid unreasonable discrimination between *Local Retailers*, *Market Customers* and *Distribution Network Service Providers*; and

(d) *B2B Procedures* should protect the confidentiality of commercially sensitive information.

B2B Procedures

Procedures prescribing the content of, the processes for, and the information to be provided to support, *B2B Communications*.

B2B Procedures Change Pack

A document consisting of:

(a) a *B2B Proposal*;

(b) a report setting out an overview of the likely impact of the *B2B Proposal* on *NEMMCO*, *Local Retailers*, *Market Customers* and *Distribution Network Service Providers*;

(c) draft *B2B Procedures* (incorporating proposed changes in mark up, where appropriate); and

(d) an issues paper explaining why the *B2B Proposal* is being presented.

B2B Proposal

A proposal for *B2B Procedures*, or a *change* to the *B2B Procedures*, which is the subject of consultation by the *Information Exchange Committee*.

bank bill rate

On any *day*, the rate determined by *NEMMCO* (having regard to such market indicators as *NEMMCO* in its discretion selects) to be the market rate as at 10.00 am on that *day* (or if not a *business day*, on the previous *business day*) for Australian dollar denominated bank accepted bills of exchange having a tenor of 30 *days*.

billing period

The period of 7 *days* commencing at the start of the *trading interval* ending 12.30 am Sunday.

black start capability

1. In relation to a *generating unit*, the ability to start and *synchronise* without using supply from the *power system*.

2. In relation to a *market network service,* the ability to assist in utilising the *black start capability* of one or more *generating units* to restore normal *power system* operation from a *black system* condition.

black start-up facilities

Facilities with *black start capability*.

black system

The absence of *voltage* on all or a significant part of a *transmission system* or within a *region*, following a major *supply* disruption affecting one or more *power stations* and a significant number of customers.

breaker fail

In relation to a *protection system*, that part of the *protection system* that protects a *Market Participant's facilities* against the non-operation of a circuit breaker that is required to open.

breaker fail protection system

A *protection system* that protects a *facility* against the non-operation of a circuit breaker that is required to open to clear a fault.

busbar

A common *connection point* in a *power station switchyard* or a *transmission network substation*.

business day

A *day* other than a Saturday, Sunday or a *day* which is lawfully observed as a national public holiday on the same *day* in each of the *participating jurisdictions*.

call amount

The amount determined pursuant to the formula in clause 3.3.11 for the purposes of a *call notice* where the *outstandings* of a *Market Participant* exceed its *trading limit*.

call notice

A notice issued by *NEMMCO* pursuant to clause 3.3.11 where the *outstandings* of a *Market Participant* exceed its *trading limit*.

capacitor bank

Electrical equipment used to generate *reactive power* and therefore support *voltage* levels on *distribution* and *transmission lines* in periods of high *load*.

cascading outage

The occurrence of an uncontrollable succession of *outages*, each of which is initiated by conditions (e.g. instability or overloading) arising or made worse as a result of the event preceding it.

central dispatch

The process managed by *NEMMCO* for the *dispatch* of *scheduled generating units, scheduled loads, scheduled network services* and *market ancillary services* in accordance with clause 3.8.

change

Includes amendment, alteration, addition or deletion.

check meter

A *meter*, other than a *revenue meter*, used as a source of *metering data* for Type 1 and Type 2 *metering installations* as specified in schedule 7.2.

check metering data

The *metering data* obtained from a *check metering installation*.

check metering installation

A *metering installation* used as the source of *metering data* for validation in the *settlements* process.

clause 4.8.9 instruction

Has the meaning given in clause 4.8.9(a1)(2).

COAG

Council of Australian Governments.

commitment

The commencement of the process of starting up and *synchronising* a *generating unit* to the *power system*.

common service

A service that ensures the integrity of a *transmission or distribution system* and benefits all *Transmission Customers* or *Distribution Customers* (as the case may be) and cannot reasonably be allocated on a locational basis.

common service charge

The amount per *billing period* determined by a *Transmission Network Service Provider* under clause 6.5.6 for a *connection point* with a *Transmission Customer connected* to the *Transmission Network Service Provider's transmission network* and payable by the *Transmission Customer* to recover *common service* costs.

common service price

Either the price per unit of *metered energy* offtake or the price per unit of contracted capacity determined under clause 6.5.6 for application to *connection points* with *Transmission Customers connected* to a *transmission network* in the *region* or *regions* over which the cost allocation under clause 6.4 is being made, which is used to determine *common service charges*.

communication link

All communications equipment, processes and arrangements that lie between the *meter* and the *data logger,* where the *data logger* is external to the device that contains the *measurement elements*, and/or the *data logger* and the telecommunications network.

compensation recovery amount

Has the meaning given in clause 3.15.8(a).

complainant

The party which refers a dispute to the *Adviser* in accordance with clause 8.2.5(a).

confidential information

In relation to a *Registered Participant* or *NEMMCO*, information which is or has been provided to that *Registered Participant* or *NEMMCO* under or in connection with the *Rules* and which is stated under the *Rules*, or by *NEMMCO*, the *AER* or the *AEMC*, to be *confidential information* or is otherwise confidential or commercially sensitive. It also includes any information which is derived from such information.

connect, connected, connection

To form a physical link to or through a *transmission network* or *distribution network*.

connection agreement

An agreement between a *Network Service Provider* and a *Registered Participant* or other person by which the *Registered Participant* or other person is *connected* to the *Network Service Provider's transmission* or *distribution network* and/or receives *transmission services* or *distribution services*. In some *participating jurisdictions*, the *Registered Participant* or other person may have one *connection agreement* with a *Network Service Provider* for *connection services* and another agreement with a different *Network Service Provider* for *network services* provided by the *transmission network*.

Connection Applicant

A person who wants to establish or modify *connection* to a *transmission network* or *distribution network* and/or who wishes to receive *network services* and who makes a *connection* enquiry as described in clause 5.3.2.

connection assets

Those components of a *transmission or distribution system* which are used to provide *connection services*.

connection point

The agreed point of *supply* established between *Network Service Provider*(s) and another *Registered Participant, Non-Registered Customer* or *franchise customer*.

connection service

An *entry service* (being a service provided to serve a *Generator* or group of *Generators* at a single *connection point*) or an *exit service* (being a service provided to serve a *Transmission* or *Distribution Customer* or group of *Transmission* or *Distribution Customers* at a single *connection point).*

constrained off

In respect of a *generating unit*, the state where, due to a *constraint* on a *network*, the output of that *generating unit* is limited below the level to which it would otherwise have been *dispatched* by *NEMMCO* on the basis of its *dispatch offer*.

constrained on

In respect of a *generating unit*, the state where, due to a *constraint* on a *network*, the output of that *generating unit* is limited above the level to which it would otherwise have been *dispatched* by *NEMMCO* on the basis of its *dispatch offer*.

constraint, constrained

A limitation on the capability of a *network, load* or a *generating unit* such that it is unacceptable to either transfer, consume or generate the level of electrical power that would occur if the limitation was removed.

consulting party

The person who is required to comply with the *Rules consultation procedures*.

contestable

Other than in clauses 6.2.4(f) and 9.8.4C(a1), in relation to *transmission services* or *distribution services,* a service which is permitted by the laws of the relevant *participating jurisdiction* to be provided by more than one *Network Service Provider* as a contestable service or on a competitive basis.

contingency capacity reserve

Actual *active* and *reactive energy* capacity, *interruptible load* arrangements and other arrangements organised to be available to be utilised on the actual occurrence of one or more *contingency events* to allow the restoration and maintenance of *power system security.*

contingency capacity reserve standards

The standards set out in the *power system security and reliability standards* to be used by *NEMMCO* to determine the levels of *contingency capacity reserves* necessary for *power system security*.

contingency event

An event described in clause 4.2.3(a).

control centre

The *facilities* used by *NEMMCO* for managing *power system security* and administering the *market*.

control system

Means of monitoring and controlling the operation of the *power system* or equipment including *generating units connected* to a *transmission* or *distribution network*.

Convener

The *representative* appointed by *NEMMCO* in accordance with clause 5.6.3 to convene the *Inter-regional Planning Committee*.

Co-ordinating Network Service Provider

A *Network Service Provider* appointed by multiple *Transmission Network Service Providers* to represent them in the determination of price in accordance with clause 6.3.2.

cost pool

A pool used to collect the costs associated with the use of asset categories by a group of *Distribution Network Users* with like *load*, *metering* and *voltage* characteristics for the purpose of preparing *distribution service* prices.

cost reflective network pricing

A cost allocation method which reflects the value of assets used to provide *transmission* or *distribution services* to *Network Users*.

credible contingency event

An event described in clause 4.2.3(b), certain examples of which are set out in schedule 5.1.

credit period

The typical period of days over which *maximum credit limit* is calculated in accordance with schedule 3.3.

credit support

An obligation owed to *NEMMCO* by a third party supporting the obligations of a *Market Participant* and having the characteristics required by clause 3.3.2.

credit support provider

The issuing party that assumes obligations to *NEMMCO* pursuant to a *credit support*.

critical single credible contingency event

An event described in clause 4.2.3(d).

cumulative price threshold

The threshold for imposition of an *administered price cap* as defined in clause 3.14.1.

current rating

The maximum current that may be permitted to flow (under defined conditions) through a *transmission line* or *distribution line* or other item of equipment that forms part of a *power system.*

current transformer (CT)

A *transformer* for use with *meters* and/or protection devices in which the current in the secondary winding is, within prescribed error limits, proportional to and in phase with the current in the primary winding.

Customer

A person who:

1. engages in the activity of purchasing electricity *supplied* through a *transmission or distribution system* to a *connection point*; and

2. is registered by *NEMMCO* as a *Customer* under Chapter 2.

Customer TUOS general charge

The charge per *billing period* determined by a *Transmission Network Service Provider* under clause 6.5.4A for a *connection point* with a *Transmission Customer connected* to the *Transmission Network Service Provider's transmission network* and payable by the

Transmission Customer to recover the balance of the *aggregate annual revenue requirement* referred to in clause 6.4.3C.

Customer TUOS general price

Either the price per unit of *metered energy* offtake or the price per unit of contracted capacity determined under clause 6.5.4A for application to *connection points* with *Transmission Customers connected* to a *transmission network* in the *region* or *regions* over which the cost allocation under clause 6.4 is being made, which is used to determine the *Customer TUOS general charge* for each *connection point* with a *Transmission Customer connected* to a *transmission network* in the *region* or *regions*.

Customer TUOS usage charge

The charge per *billing period* determined by a *Transmission Network Service Provider* under clause 6.5.4 for a *connection point* with a *Transmission Customer connected* to the *Transmission Network Service Provider's transmission network* and payable by that *Transmission Customer.*

Customer TUOS usage price

The pricing structure determined by a *Transmission Network Service Provider* under clause 6.5.4 for a *connection point* with a *Transmission Customer connected* to its *transmission network* used to determine the *Customer TUOS usage charge* for that *Transmission Customer*.

Customer transmission use of system, Customer transmission use of system service

A service provided to a *Transmission Customer* for use of the *transmission network* for the conveyance of electricity that can be reasonably allocated to a *Network User* on a locational basis, but does not include *Generator transmission use of system services*.

data collection system

All equipment and arrangements that lie between the *metering database* and the point where the *metering data* enters the *telecommunications network*.

data logger

A *metering installation* database or a device that collects electronic signals from a *measurement element* and packages it into 30 minute intervals (or sub-multiples). This device may contain data storage capability, be a separate item of equipment, and/or be combined with the *energy* measuring components within one physical device.

day

Unless otherwise specified, the 24 hour period beginning and ending at midnight Eastern Standard Time (EST).

declared NEM project

A project determined to be a declared NEM project under clause 2.11.1(ba) or 2.11.1(bd), for which there is special treatment in the timing of cost recovery.

decommission, decommit

In respect of a *generating unit*, ceasing to generate and *disconnecting* from a *network*.

default dispatch bid

A *dispatch bid* made pursuant to clause 3.8.9.

default dispatch offer

A *dispatch offer* made pursuant to clause 3.8.9.

default event

An event defined as such in clause 3.15.21(a).

default notice

A notice issued by *NEMMCO* pursuant to clause 3.15.21(b)(1).

defaulting Market Participant

A *Market Participant* in relation to which a *default event* has occurred.

delayed lower service

The service of providing, in accordance with the *market ancillary service specification*, the capability of controlling the level of *generation* or *load* associated with a particular *facility* in response to a change in the *frequency* of the *power system* beyond a threshold or in accordance with electronic signals from *NEMMCO* in order to lower that *frequency* to within the *normal operating frequency band*.

delayed raise service

The service of providing, in accordance with the *market ancillary service specification*, the capability of controlling the level of *generation* or *load* associated with a particular *facility* in response to a change in the *frequency* of the *power system* beyond a threshold or in accordance with electronic signals from *NEMMCO* in order to raise that *frequency* to within the *normal operating frequency band.*

delayed response capacity reserve

That part of the *contingency capacity reserve* capable of realisation within 5 minutes of a major *frequency* decline in the *power system* as described further in the *power system security and reliability standards*.

demand based price

A price expressed in dollars per kilowatt per time period or dollars per kilovolt ampere per time period.

deprival value

A value ascribed to assets which is the lower of economic value or optimised depreciated replacement value.

derogation

Has the meaning given in the *National Electricity Law.*

de-synchronising/ de-synchronisation

The act of *disconnection* of a *generating unit* from the *connection point* with the *power system*, normally under controlled circumstances.

Directed Participant

A *Scheduled Generator*, *Market Generator*, *Scheduled Network Service Provider* or *Market Customer* the subject of a *direction*.

direction

Has the meaning given in clause 4.8.9(a1)(1).

directional interconnector

Has the meaning given in clause 3.18.1(c).

Disclosee

In relation to a *Registered Participant* or *NEMMCO*, a person to whom that *Registered Participant* or *NEMMCO* (as the case may be) discloses *confidential information.*

disconnection, disconnect

The operation of switching equipment or other action so as to prevent the flow of electricity at a *connection point*.

dispatch

The act of initiating or enabling all or part of the response specified in a *dispatch bid*, *dispatch offer* or *market ancillary service offer* in respect of a *scheduled generating unit,* a *scheduled load,* a *scheduled network service*, an *ancillary service generating unit* or an *ancillary service load* in accordance with clause 3.8, or a *direction* or operation of capacity the subject of a *reserve contract* as appropriate.

dispatch algorithm

The algorithm used to determine *central dispatch* developed by *NEMMCO* in accordance with clause 3.8.1(d).

dispatch bid

A notice submitted by a *Market Participant* to *NEMMCO* relating to the *dispatch* of a *scheduled load* in accordance with clause 3.8.7.

dispatch inflexibility profile

Data which may be provided to *NEMMCO* by *Market Participants,* in accordance with clause 3.8.19, to specify *dispatch inflexibilities* in respect of *scheduled loads* or *scheduled generating units* which are not *slow start generating units*.

dispatch instruction

An instruction given to a *Registered Participant* under clauses 4.9.2, 4.9.2A, 4.9.3 or 4.9.3A.

dispatch interval

A period defined in clause 3.8.21(a1) in which the *dispatch algorithm* is run in accordance with clause 3.8.21(b).

dispatch offer

A *generation dispatch offer* or a *network dispatch offer*.

dispatch offer price

The price submitted by a *Scheduled Generator* or a *Scheduled Network Service Provider* for a *price band* and a *trading interval* in a *dispatch offer*.

dispatch optimisation software

The computer program used by *NEMMCO* for computing the *dispatch algorithm*.

dispatch price

The price determined for each *regional reference node* by the *dispatch algorithm* each time it is run by *NEMMCO*.

dispatched generating unit

A *generating unit* which has received instructions from *NEMMCO* in accordance with a *dispatch* schedule.

dispatched generation

The *generation* which has been *dispatched* as part of *central dispatch.*

dispatched Generator

A *Generator* who has received a *dispatch instruction* from *NEMMCO*.

dispatched load

The *load* which has been *dispatched* as part of *central dispatch.*

dispute management system (or “DMS”)

The dispute management system which each *Registered Participant* and *NEMMCO* must adopt in accordance with clause 8.2.3.

dispute resolution panel (or "DRP")

A dispute resolution panel established pursuant to clause 8.2.6A.

distribution

Activities pertaining to a *distribution system* including the conveyance of electricity through that *distribution system*.

Distribution Customer

A *Customer, Distribution Network Service Provider, Non-Registered Customer* or *franchise customer* having a *connection point* with a *distribution network*.

distribution line

A power line, including underground cables, that is part of a *distribution network*.

distribution loss factor

An *average loss factor* calculated according to clause 3.6.3.

distribution losses

Electrical energy losses incurred in distributing electricity over a *distribution network.*

distribution network

A *network* which is not a *transmission network*.

distribution network connection point

A *connection point* on a *distribution network*.

Distribution Network Service Provider

A person who engages in the activity of owning, controlling, or operating a *distribution system*.

Distribution Network Service Provider Member

A *Member* appointed to the *Information Exchange Committee* in that membership category as set out in the *Information Exchange Committee Election Procedures*.

Distribution Network User

A *Distribution Customer* or an *Embedded Generator*.

Distribution Ring-Fencing Guidelines

Has the meaning given in clause 6.20.2(b).

distribution service

The services provided by a *distribution system* which are associated with the conveyance of electricity through the *distribution system. Distribution services* include *entry services, distribution use of system services* and *exit services* which are provided by part of a *distribution system.*

distribution system

A *distribution network,* together with the *connection assets* associated with the *distribution network,* which is connected to another *transmission or distribution system.*

Connection assets on their own do not constitute a *distribution system.*

Distribution System Operator

A person who is responsible, under the *Rules* or otherwise, for controlling or operating any portion of a *distribution system* (including being responsible for directing its operations during *power system* emergencies) and who is registered by *NEMMCO* as a *Distribution System Operator* under Chapter 2.

distribution use of system, distribution use of system service

A service provided to a *Distribution Network User* for use of the *distribution network* for the conveyance of electricity that can be reasonably allocated on a locational and/or *voltage* basis.

DMS

A *dispute management system*.

DMS Contact

A person appointed by a *Registered Participant* or *NEMMCO* pursuant to its *DMS* to be the first point of contact for the notification of disputes under clause 8.2.

DMS referral notice

A notice served on a *DMS Contact* pursuant to clause 8.2.4(a).

dollar reallocation transaction

A *reallocation transaction* under which the *Market Participants* have requested *NEMMCO* to debit one of them with a dollar amount and credit the other with a similar dollar amount.

DRP

A *dispute resolution panel*.

dynamic performance

The response and behaviour of *networks* and *facilities* which are *connected* to the *networks* when the *satisfactory operating state* of the *power system* is disturbed.

electrical energy loss

Energy loss incurred in the production, transportation and/or use of electricity.

electronic communication system

Includes the electronic communication and the *electronic data transfer* system provided to *Registered Participants* by *NEMMCO*.

electronic data transfer

The transfer of data by electronic means from one location to another.

eligible person

Has the meaning given in clause 3.18.2(b).

embedded generating unit

A *generating unit connected* within a *distribution network* and not having direct access to the *transmission network*.

Embedded Generator

A *Generator* who owns, operates or controls an *embedded generating unit*.

enabled

A *market ancillary service* is enabled when *NEMMCO* has selected the relevant *generating unit* or *load* for the provision of the *market ancillary service* and has notified the relevant *Market Participant* accordingly.

enablement limit

In relation to any *market ancillary service offer*, the level of associated *generation* or *load* (in MW) above or below which no response is specified as being available.

enabling price

Has the meaning given in clause 3.8.7A(d).

energise/energisation

The act of operation of switching equipment or the start-up of a *generating unit*, which results in there being a non-zero *voltage* beyond a *connection point* or part of the *transmission* or *distribution network*.

energy

Active energy and/or *reactive energy*.

energy based price

A price expressed in cents per kilowatt hour of *energy*.

energy constrained scheduled generating unit

A scheduled generating unit in respect of which the amount of electricity it is capable of *supplying* on a *trading day* is less than the amount of electricity it would *supply* on that *trading day* if it were *dispatched* to its full nominated availability for the whole *trading day*.

energy constrained scheduled load

A *scheduled load* in respect of which the amount of electricity it can take in a *trading day*, if *normally off*, or it can *off-load*, if *normally on*, is *constrained*.

energy data

Interval energy data, accumulated energy data, or *estimated data.*

energy packets

The value of *energy data* which is accumulated for a period of 30 minutes and stored as a separate data record.

entry charge

The charge payable by a *Generator* to a *Network Service Provider* for *entry service* at a *connection point*.

entry cost

For each *connection point*, the amount of the *annual revenue requirement* for all individual assets classified as *entry service* assets which provide *entry service* for the *connection point*.

entry service

A service provided to serve a *Generator* or group of *Generators* at a single *connection point*.

estimated energy data

The data that results from an estimation of the flow of electricity in a power conductor where the data applies to a *trading interval* or a period in excess of a *trading interval*. The estimation is made in relation to a *market load* and would not apply to a *metering point* where *accumulated energy data* or *interval energy data* is not available, or a *non-metered connection point.*

excess generation

Aggregate *self dispatch level* of *self-committed generation* which is in excess of the quantity needed to meet the expected *power system demand* and *reserve* requirements.

excess generation period

A period made up of one or more *dispatch intervals* where the sum of the aggregate of *generating unit self dispatch levels* and the required *regulating capability* (which forms part of the *contingency capacity reserves standard*) exceeds the forecast *load* or actual *load* during those *dispatch intervals*.

excitation control system

In relation to a *generating unit,* the automatic *control system* that provides the field excitation for the generator of the *generating unit* (including excitation limiting devices and any power system stabiliser).

excluded distribution services

Distribution services which are subject to a more "light-handed" regulatory approach than that described in clause 6.10.5 with the result that the costs of and revenue for such services are excluded from the *revenue cap* or *price cap* which applies to *prescribed distribution services.*

excluded transmission services

Transmission services the costs of and revenue for which are excluded from the *revenue cap* which applies to *prescribed transmission services*.

exit charge

The charge payable by a *Transmission Customer* or *Distribution Customer* to a *Transmission Network Service Provider* or a *Distribution Network Service Provider* respectively for *exit service* at a *connection point*.

exit cost

For each *connection point* the amount of the *annual revenue requirement* for all individual assets classified as *exit service* assets which provide *exit service* for the *connection point*.

exit service

A service provided to serve a *Transmission* or *Distribution Customer* or group of *Transmission* or *Distribution Customers* at a single *connection point.*

extension

An *augmentation* that requires the *connection* of a power line or *facility* outside the present boundaries of the *transmission* or *distribution network* owned, controlled or operated by a *Network Service Provider.*

extreme frequency excursion tolerance limits

In relation to the *frequency* of the *power system*, means the limits so described and specified in the *power system security and reliability standards*.

facility

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

(a) a *power station* or *generating unit*, including *black start-up facilities*;

(b) a *substation* or *power station switchyard*;

(c) a control centre (*control centre*, *NEMMCO* or *distribution* or *transmission* control centre);

(d) facilities providing an *exit service.*

fast lower service

The service of providing, in accordance with the requirements of the *market ancillary service specification*, the capability of rapidly controlling the level of *generation* or *load* associated with a particular *facility* in response to the locally sensed *frequency* of the *power system* in order to arrest a rise in that *frequency*.

fast raise service

The service of providing, in accordance with the requirements of the *market ancillary service specification*, the capability of rapidly controlling the level of *generation* or *load* associated with a particular *facility* in response to the locally sensed *frequency* of the *power system* in order to arrest a fall in that *frequency*.

fault clearance time

In respect of a *fault type*, the time within which the *protection system* is designed, operated and maintained to clear a *short circuit fault* of that *fault type* within its protection zone.

fault type

One of the following types of electrical fault:

(a) three phase to ground fault;

(b) three phase fault;

(c) two phase to ground fault;

(d) phase to phase fault; and

(e) one phase to ground fault.

final statement

A statement issued by *NEMMCO* under clause 3.15.15 to a *Market Participant*.

financial year

A period commencing on 1 July in one calendar year and terminating on 30 June in the following calendar year.

financially responsible

In relation to any *market connection point*, a term which is used to describe the *Market Participant* which has either:

1. classified the *connection point* as one of its *market loads*;

2. classified the *generating unit connected* at that *connection point* as a *market generating unit;* or

3. classified the *network services* at that *connection point* as a *market network service.*

First-Tier Customer

A *Customer* which has classified any *load* as a *first-tier load* in accordance with Chapter 2.

first-tier load

Electricity purchased at a *connection point* directly and in its entirety from the *Local Retailer* and which is classified as a *first-tier load* in accordance with Chapter 2.

franchise customer

A person who does not meet its local jurisdiction requirements to make it eligible to be registered by *NEMMCO* as a *Customer* for a *load*.

frequency

For alternating current electricity, the number of cycles occurring in each second. The term Hertz (Hz) corresponds to cycles per second.

frequency operating standards

The standards which specify the *frequency* levels for the operation of the *power system* set out in the *power system security and reliability standards*.

frequency response mode

The mode of operation of a *generating unit* which allows automatic changes to the generated power when the *frequency* of the *power system* changes.

funded augmentation

A *transmission network augmentation* for which the *Transmission Network Service Provider* is not entitled to receive a charge pursuant to Chapter 6.

general purpose

The term applied by the National Standards Commission to refer to the classification of a meter.

generated

In relation to a *generating unit,* the amount of electricity produced by the *generating unit* as measured at its terminals.

generating plant

In relation to a *connection point*, includes all equipment involved in generating electrical *energy*.

generating system

A system comprising one or more *generating units.*

generating unit

The actual generator of electricity and all the related equipment essential to its functioning as a single entity.

generation

The production of electrical power by converting another form of energy in a *generating unit*.

generation centre

A geographically concentrated area containing a *generating unit* or *generating units* with significant combined generating capability.

generation dispatch offer

A notice submitted by a *Scheduled Generator* to *NEMMCO* relating to the *dispatch* of a *scheduled generating unit* in accordance with clause 3.8.6.

Generator

A person who engages in the activity of owning, controlling or operating a *generating system* that is *connected* to, or who otherwise *supplies* electricity to, a *transmission or distribution system* and who is registered by *NEMMCO* as a *Generator* under Chapter 2.

generator access

The *power transfer capability* of the *transmission network* and/or *distribution network* in respect of the *Generator's generating units* or group of *generating units* at a *connection point* which has been negotiated between the *Generator* and the relevant *Network Service Provider* in accordance with clause 5.5.

Generator transmission use of system, Generator transmission use of system service

A service provided to a *Generator* for:

(a) use of the *transmission network* which has been negotiated in accordance with clause 5.5(f)(2); or

(b) use of a *new transmission network investment* asset for the conveyance of electricity that can be reasonably allocated to a *Generator* on a locational basis.

global market ancillary service requirement

Has the meaning given to it by clause 3.8.1(e2).

good electricity industry practice

The exercise of that degree of skill, diligence, prudence and foresight that reasonably would be expected from a significant proportion of operators of *facilities* forming part of the *power system* for the *generation*, *transmission* or *supply* of electricity under conditions comparable to those applicable to the relevant *facility* consistent with *applicable regulatory instruments*, *reliability*, safety and environmental protection. The determination of comparable conditions is to take into account factors such as the relative size, duty, age and technological status of the relevant *facility* and the *applicable regulatory instruments*.

governor system

The automatic *control system* which regulates the speed of the power turbine of a *generating unit* through the control of the rate of entry into the *generating unit* of the primary *energy* input (for example, steam, gas or water).

hedge contract

A contract between two or more parties affording one or each of them protection against certain financial risks.

high voltage (HV)

A *voltage* greater than 1 kV.

Independent Member

A *Member* appointed to the *Information Exchange Committee* in that membership category as set out in the *Information Exchange Committee Election Procedures*.

independent person

A person who:

(a) is not a member, employee or member of staff of the *AER* or the *AEMC*;

(b) is not a director or employee of *NEMMCO*;

(c) is not a director or employee of, or partner in, a *Registered Participant*;

(d) does not have a direct or indirect financial interest (whether as shareholder, partner or other equity participant) in any *Registered Participant* or a *related body corporate* of any *Registered Participant*, other than an interest of less than 0.1% of the net shareholders funds of that entity (as determined at the date the relevant person is appointed to carry out a function under the *Rules*); or

(e) is not a director or employee of a *related body corporate* of any *Registered Participant*.

independently controllable two-terminal link

A *two-terminal link* through which the *power transfer* can be independently controlled within a range determined by the *power transfer capability* of the *two-terminal link* and the conditions prevailing in the rest of the *power system.*

inflexible, inflexibility

In respect of a *scheduled generating unit, scheduled load* or *scheduled network service* for a *trading interval* means that the *scheduled generating unit, scheduled load* or *scheduled network service* is only able to be *dispatched* in the *trading interval* at a fixed *loading level* specified in accordance with clause 3.8.19(a).

Information Exchange Committee

The committee established under clause 7.2A.2(a).

Information Exchange Committee Annual Report

The annual report prepared by the *Information Exchange Committee* in accordance with the *Information Exchange Committee Operating Manual*.

Information Exchange Committee Election Procedures

The procedures of that title which set out the process for election of *Members.*

Information Exchange Committee Operating Manual

The manual of that title prepared by the *Information Exchange Committee* which sets out the processes pursuant to which the *Information Exchange Committee* operates.

Information Exchange Committee Recommendation

A recommendation made by the *Information Exchange Committee* to *NEMMCO* to make *B2B Procedures* or to *change* the *B2B Procedures*.

Information Exchange Committee Working Groups

The groups established by the *Information Exchange Committee* to assist with the *Information Exchange Committee Works Programme*.

Information Exchange Committee Works Programme

The work programme prepared by the *Information Exchange Committee* in respect of the development, implementation and operation of the *B2B Procedures* and other matters which are incidental to effective and efficient *B2B Communications*.

instrument transformer

Either a *current transformer* (*CT*) or a *voltage transformer* (*VT*).

intending load

A proposed purchase of electricity at a *connection point* (the location of which may be undefined) which is classified as an *intending load* in accordance with Chapter 2.

Intending Participant

A person who is registered by *NEMMCO* as an *Intending Participant* under Chapter 2.

interconnection, interconnector, interconnect, interconnected

A *transmission line* or group of *transmission lines* that *connects* the *transmission networks* in adjacent *regions*.

interconnector flow

The quantity of electricity in MW being transmitted by an *interconnector*.

interested party

1. In Chapter 5, a person including an end user or its *representative* who, in *NEMMCO*'s opinion, has or identifies itself to *NEMMCO* as having an interest in relation to the *network* planning and development activities covered under clause 5.6 or in the determination of *plant standards* covered under clause 5.3.3(b2).

2. In Chapter 6, a person, not being a *Registered Participant* or *NEMMCO*, who:

   (a) in relation to the *Transmission Ring-Fencing Guidelines*, in the *AER's* opinion has, or who identifies itself to the *AER* as having, an interest in those Guidelines; or

   (b) in relation to the *Distribution Ring-Fencing Guidelines*, in the relevant *Jurisdictional Regulator's* opinion has, or who identifies itself to the relevant *Jurisdictional Regulator* as having, an interest in those Guidelines.

3. In Chapter 7, a person that a *Metrology Coordinator* considers to be an interested party.

4. In Chapter 2, a person including an end user or its *representative* who, in *NEMMCO's* opinion, has or identifies itself to *NEMMCO* as having an interest in relation to the structure of *Participant Fees.*

interim statement

Has the meaning given in clause 3.3.11(a)(1).

intermediary

A person who is registered by *NEMMCO* as a *Generator* or a *Network Service Provider* instead of another person who, in the absence of an exemption under clause 2.9.3, would be required to be registered as such under the *Rules*.

intermittent

A description of a *generating unit* whose output is not readily predictable, including, without limitation, solar generators, wave turbine generators, wind turbine generators and hydro-generators without any material storage capability.

inter-network test

A test conducted for the purpose of verifying the magnitude of the *power transfer capability* of more than one *transmission network* in accordance with clause 5.7.7.

inter-network testing constraint

A *constraint* on a *transmission network* as contemplated by clause 5.7.7.

inter-regional

Between *regions*.

inter-regional loss factor

A *marginal loss factor* determined according to clause 3.6.1.

inter-regional losses

Has the meaning given to it by clause 3.6.1(a).

inter-regional network constraint

A *constraint* on the *transmission* and/or *distribution networks* between *regions* as specified in clause 3.6.4(a).

Inter-regional Planning Committee

The committee established in accordance with clause 5.6.3.

interruptible load

A *load* which is able to be *disconnected*, either manually or automatically initiated, which is provided for the restoration or control of the *power system frequency* by *NEMMCO* to cater for *contingency events* or shortages of *supply*.

interval energy data

The data that results from the measurement of the flow of electricity in a power conductor where the data is prepared by a *data logger* into intervals which correspond to a *trading interval* or are sub-multiples of a *trading interval.*

intervention price dispatch interval

A *dispatch interval* declared by *NEMMCO* to be an *intervention price dispatch interval* in accordance with clause 3.9.3.

intervention price trading interval

A *trading interval* in which *NEMMCO* has declared an *intervention price dispatch interval* in accordance with clause 3.9.3.

intervention settlement timetable

Has the meaning given in clause 3.12.10(b).

intra-regional

Within a *region*.

intra-regional loss factor

A *marginal loss factor* determined according to clause 3.6.2.

intra-regional losses

Has the meaning given to it by clause 3.6.2(a).

intra-regional network constraint

A *constraint* on part of the *transmission* and *distribution networks* within a *region* as specified in clause 3.6.4(b).

invoiced amount

The aggregate of the *settlement statements*, *interim, preliminary* or *final*, which at the time of issue of a *call notice* are unpaid by the *Market Participant*, notwithstanding that the usual time for issue or payment of those *settlement statements* has not been reached.

involuntary load shedding

Load shedding where the load shed is not an *interruptible load* or a *scheduled load*.

isolation

Electrical isolation of one part of a communication system from another but where the passage of *electronic data transfer* is not prevented.

Jurisdictional System Security Coordinator

A person appointed by the *Minister* of a *participating jurisdiction* in accordance with section 110 of the *National Electricity Law*.

jurisdictional derogation

Has the meaning given in the *National Electricity Law*. The jurisdictional derogations are included in Chapter 9.

Jurisdictional NMI Standing Data schedule

The schedules described in clause 3.13.12(a), as amended from time to time in accordance with clause 3.13.12(b).

Jurisdictional NMI Standing Data suppliers

Registered Participants which are required by the relevant *participating jurisdiction's* legislation or licensing requirements to supply *NMI Standing Data* in respect of *connection points* in that *participating jurisdiction* to *NEMMCO*.

Jurisdictional Regulator

The person authorised by a *participating jurisdiction* to regulate *distribution service* prices in that jurisdiction.

lack of reserve (LOR)

Any of the conditions described in clause 4.8.4(b), (c) or (d).

load

A *connection point* or defined set of *connection points* at which electrical power is delivered to a person or to another *network* or the amount of electrical power delivered at a defined instant at a *connection point*, or aggregated over a defined set of *connection points.*

load centre

A geographically concentrated area containing *load* or *loads* with a significant combined consumption capability.

load class

A grouping of customers with like *load* characteristics.

load shedding

Reducing or *disconnecting load* from the *power system*.

load shedding procedures

The procedures developed by *NEMMCO* for each *participating jurisdiction* in accordance with clause 4.3.2(h) for the implementation of the *load shedding* priority and *sensitive load* priority advised by that *Jurisdictional System Security Coordinator* under clauses 4.3.2(f)(1) and (2).

loading level

The level of output, consumption or power flow (in MW) of a *generating unit, load* or *scheduled network service*.

loading price

The price specified for a *price band* and a *trading interval* in a *dispatch offer,* in accordance with clause 3.8.6, for the *dispatch* of a *scheduled generating unit* at a level above its *self-dispatch level.*

local area/local

The geographical area allocated to a *Network Service Provider* by a *Jurisdictional Regulator.*

local black system procedures

The procedures, described in clause 4.8.12, applicable to a *local area* as approved by *NEMMCO* from time to time.

local market ancillary service requirement

Has the meaning given to it by clause 3.8.1(e2).

Local Network Service Provider

Within a *local area*, a *Network Service Provider* to which that geographical area has been allocated by the *Jurisdictional Regulator.*

Local Retailer

In relation to a *local area*, the *Customer* who is:

1. a business unit or *related body corporate* of the relevant *Local Network Service Provider*; or

2. responsible under the laws of the relevant *participating jurisdiction* for the *supply* of electricity to *franchise customers* in that *local area*; or

3. if neither 1 or 2 is applicable, such other *Customer* as *NEMMCO* may determine.

Local Retailer/Market Customer Member

A *Member* appointed to the *Information Exchange Committee* in that membership category as set out in the *Information Exchange Committee Election Procedures*.

local spot price

A price determined according to clause 3.9.1(c).

loss factor

A multiplier used to describe the *electrical energy loss* for electricity used or transmitted.

low reserve

The conditions described in clause 4.8.4(a).

mandatory restrictions

Restrictions imposed by a *participating jurisdiction* by a relevant law, other than the *Rules,* on the use of electricity in a *regio*n.

mandatory restriction period

The period of *mandatory restriction*s.

mandatory restriction schedule

A schedule prepared in accordance with clause 3.12A.2.

marginal electrical energy loss

The *electrical energy loss* associated with an infinitesimal increment in electricity produced, transported and/or used.

marginal loss factor

A multiplier used to describe the *marginal electrical energy loss* for electricity used or transmitted.

market

Any of the markets or exchanges described in the *Rules*, for so long as the market or exchange is conducted by *NEMMCO*.

market ancillary service

A service identified in clause 3.11.2(a).

market ancillary service offer

A notice submitted by an *Ancillary Service Provider* to *NEMMCO* in respect of a *market ancillary service* in accordance with clause 3.8.7A.

market ancillary service specification

Has the meaning given in clause 3.11.2(b).

market ancillary services commencement date

29 September 2001.

market auditor

A person appointed by *NEMMCO* to carry out a *review* under clause 3.13.10(a).

market commencement

The date declared as such by *NEMMCO,* on which trading in the *market* commences.

market connection point

A *connection point* where any *load* is classified in accordance with Chapter 2 as a *market load* or which *connects* any *market generating unit* to the *national grid,* or where the *network service connected* at that *connection point* is a *market network service*.

Market Customer

A *Customer* who has classified any of its *loads* as a *market load* and who is also registered by *NEMMCO* as a *Market Customer* under Chapter 2.

market customer's additional claim

Has the meaning given in clause 3.12.11(c1)(4).

market floor price

A price floor on *regional reference prices* as described in clause 3.9.6.

market generating unit

A *generating unit* whose *sent out generation* is not purchased in its entirety by the *Local Retailer* or by a *Customer* located at the same *connection point* and which has been classified as such in accordance with Chapter 2.

Market Generator

A *Generator* who has classified at least one *generating unit* as a *market generating unit* in accordance with Chapter 2 and who is also registered by *NEMMCO* as a *Market Generator* under Chapter 2.

market information

Information, other than *confidential information*, concerning the operation of the *spot market* or relating to the operation of, inputs to, or outputs from the *central dispatch* process.

market information bulletin board

A facility established by *NEMMCO* on the *electronic communication system* for the posting of information which may then be available to *Registered Participants*.

market load

A *load* at a *connection point* the electricity relating to which is purchased other than from the *Local Retailer* and which is classified by the person *connected* at that *connection point* or, with the consent of that person, by some other person, as a *market load* in accordance with Chapter 2. There can be more than one *market load* at any one *connection point.*

market management systems

NEMMCO's market information systems and associated communications networks used to support the electronic communication by *Registered Participants* and others connected to or making use of the systems and networks in the operation of the *market*.

Market Management Systems Access Procedures

The procedures to be followed by *Registered Participants* and *Metering Providers* in connecting to and making use of the *market management systems* from time to time *published* by *NEMMCO* under clause 3.19.

market network service

A *network service* which is classified as a *market network service* in accordance with clause 2.5.2.

Market Network Service Provider

A *Network Service Provider* who has classified any of its *network services* as a *market network service* in accordance with Chapter 2 and who is also registered by *NEMMCO* as a *Market Network Service Provider* under Chapter 2.

market network service provider access

The *power transfer capability* of the *transmission network* and/or *distribution network* in respect of the *Market Network Service Provider's market network services* at a *connection point* which has been negotiated between the *Market Network Service Provider* and the relevant *Network Service Provider* in accordance with clause 5.5A.

market objective

The national electricity market objective set out in section 7 of the *National Electricity Law.*

Market Participant

A person who is registered by *NEMMCO* as a *Market Generator, Market Customer* or *Market Network Service Provider* under Chapter 2.

Market Participant registered data

The data kept on the register in accordance with schedule 5.5.

Market Settlement and Transfer Solution Procedures

The procedures from time to time *published* by *NEMMCO* under clause 7.2.8 which include those governing the recording of financial responsibility for *energy* flows at a *connection point*, the transfer of that responsibility between *Market Participants* and the recording of *energy* flows at a *connection point*.

market suspension

Suspension of the *market* by *NEMMCO* in accordance with clause 3.14.3.

material inter-network impact

A material impact on another *Transmission Network Service Provider's network*, which impact may include (without limitation):

(a) the imposition of *power transfer constraints* within another *Transmission Network Service Provider's network*; or

(b) an adverse impact on the quality of *supply* in another *Transmission Network Service Provider's network*.

maximum allowed revenue

A revenue amount determined in accordance with clause 6.2.4.

maximum credit limit

In relation to a *Market Participant* a credit limit determined by *NEMMCO* for that *Market Participant* in accordance with clause 3.3.8.

maximum demand

The highest amount of electrical power delivered, or forecast to be delivered, over a defined period (*day*, week, month, season or year) either at a *connection point*, or simultaneously at a defined set of *connection points*.

maximum power input (MPI)

The largest single *supply* input to a particular location or *region*, typically the output of the largest single *generating unit* or group of *generating units* or the highest *power transfer* of a single *transmission line* or *interconnection*.

maximum total payment

The amount determined in accordance with clause 3.15.22.

measurement element

An energy measuring component which converts the flow of electricity in a power conductor into an electronic signal and / or a mechanically recorded electrical measurement.

medium term capacity reserve

At any time, the amount of surplus generating capacity indicated by the relevant *Generators* as being available for a particular period, being more than 7 *days* in the future but not more than 12 weeks, and which is assessed as being in excess of the capacity requirement to meet the forecast *load* demand, taking into account the known or historical levels of demand management.

medium term capacity reserve standard

The level of *medium term capacity reserves* required for a particular period as set out in the *power system security and reliability standards*.

medium-term PASA

The PASA in respect of the period from the 8th *day* after the current *trading day* to 24 months after the current *trading day* in accordance with clause 3.7.2.

Member

A person appointed to the *Information Exchange Committee* pursuant to the *Information Exchange Committee Election Procedures*, and includes all membership categories, unless a contrary intention appears.

meter

A device complying with *Australian Standards* which measures and records the production or consumption of electrical *energy*.

metering

Recording the production or consumption of electrical *energy*.

metering data

The data obtained from a *metering installation*, the processed data or substituted data.

metering database

A database of *metering data* and *settlements ready data* maintained and administered by *NEMMCO* in accordance with clause 7.9.

metering installation

The assembly of components and/or processes that are controlled for the purpose of metrology and which lie between the *metering point(s)* or *non-metered connection point* and the point of connection to the *telecommunications network*, as shown in schedule 7.1. The assembly of components may include the combination of several *metering points* to derive the *metering data* for a *connection point*. The *metering installation* must be classified as a *revenue metering installation* and/or a *check metering installation.*

metering point

The point of physical connection of the device measuring the current in the power conductor.

Metering Provider

A person who meets the requirements listed in schedule 7.4 and has been accredited by and registered by *NEMMCO* as a Metering Provider.

metering register

A register of information associated with a *metering installation* as required by schedule 7.5.

metering system

The collection of all components and arrangements installed or existing between each *metering point* and the *metering database*, as shown in schedule 7.1 .

Metrology Coordinator

In relation to a *participating jurisdiction*, the *Jurisdictional Regulator* for that *participating jurisdiction*.

metrology procedure

A document that contains information on the devices and processes that are to be used to measure, or determine by means other than a device, the flow of electricity in a power conductor, to convey the measured or determined data to other devices using *communication link(s)*, to prepare the data using devices or algorithms to form *metering data* and to provide access to the *metering data* from a *telecommunication network*. In relation to type 5 and 6 *metering installations*, the document may also contain requirements for the engagement and payment of *Metering Providers* and, where applicable, must contain requirements for the provision of relevant details of the *metering installation* to the responsible person. The document can specify, in relation to *metering installations* types 5, 6 and 7 (as specified in schedule 7.2), in what circumstances *energy data* held in *metering installations* within the relevant *participating jurisdiction*, can be used by *Distribution Network Service Providers* to calculate charges for *distribution service* for the purposes of clause 6.16.1(e).

minimum access standard

In relation to a technical requirement of access, a standard of performance, identified in a schedule of Chapter 5 as a minimum access standard for that technical requirement, such that a *plant* that does not meet that standard will be denied access because of that technical requirement.

minimum technical ancillary service standards

The minimum technical service standards prepared by *NEMMCO* in accordance with clause 3.11.4.

Minister

A Minister that is a "Minister" under the *National Electricity Law*.

monitoring equipment

The testing instruments and devices used to record the performance of *plant* for comparison with expected performance.

month

Unless otherwise specified, the period beginning at 4.30 am on the relevant commencement date and ending at 4.30 am on the date in the next calendar month corresponding to the commencement date of the period.

nameplate rating

The maximum continuous output or consumption in MW of an item of equipment as specified by the manufacturer.

NATA

National Association of Testing Authorities.

National Electricity Law

The National Electricity Law set out in the schedule to the National Electricity (South Australia) Act 1996 (SA) and applied in each of the *participating jurisdictions.*

national grid

The sum of all *connected transmission systems* and *distribution systems* within the *participating jurisdictions*.

national transmission flow path

That portion of a *transmission network* or *transmission networks* used to transport significant amounts of electricity between *generation centres* and *load centres.*

negotiable service

1. In relation to *transmission services* means:

   (a) an *excluded transmission service*;

   (b) that part of a *prescribed transmission service* which is to be provided to a standard which is higher or lower than any standard:

      (1) described in schedule 5.1;

      (2) outlined in the standards published in accordance with clause 6.5.7(b); or

      (3) required by any regulatory regime administered by the *AER*;

(c) *connection services, use of system services* and *generator access* provided to a *Generator*, for which charges are negotiated under clause 5.5;

(d) *connection services*, *use of system services* and *market network service provider access* provided to a *Market Network Service Provider*, for which charges are negotiated under clause 5.5A; or

(e) that part of a *prescribed transmission service* which is to be provided at reduced *Customer TUOS general charges* or reduced *common service charges* (the "*agreed reduced charges*") under clause 6.5.8,

and does not include a *contestable* service.

2. In relation to *distribution services* means:

(a) an *excluded distribution service*;

(b) that part of a *prescribed distribution service* which is to be provided to a standard which is higher or lower than any standard:

(1) described in schedule 5.1;

(2) outlined in the standards published in accordance with 6.14.5(a)(3); or

(3) required by any regulatory regime administered by the *AER* or a *Jurisdictional Regulator* (as appropriate);

(c) *connection services, use of system services* and *generator access* provided to a *Generator*, for which charges are negotiated under clause 5.5; or

(d) *connection services*, *use of system services* and *market network service provider access* provided to a *Market Network Service Provider*, for which charges are negotiated under clause 5.5A,

and does not include a *contestable* service.

negotiated access standard

In relation to a technical requirement of access for a particular *plant*, an agreed standard of performance determined in accordance with clause 5.3.4A and identified as a negotiated access standard for that technical requirement in a *connection agreement.*

negotiated use of system service

The *use of system services* for which:

(a) a *Generator* may negotiate with a *Network Service Provider* to pay; and

(b) a *Market Network Service Provider* must negotiate with a *Network Service Provider* to pay or receive,

in accordance with clauses 5.5(f)(2) or 5.5A(g)(2), respectively.

negotiated use of system charges

The charges described in clause 5.5(f)(2) or 5.5A(g)(2) (as the case may be).

NEMMCO

National Electricity Market Management Company Limited A.C.N. 072 010 327.

NEMMCO co-ordinating centre

The control centre from which *NEMMCO* conducts *market* related activities and the coordination of the operation of the *national grid.*

NEMMCO power system security responsibilities

The responsibilities described in clause 4.3.1.

network

The apparatus, equipment, plant and buildings used to convey, and control the conveyance of, electricity to customers (whether wholesale or retail) excluding any *connection assets*. In relation to a *Network Service Provider*, a *network* owned, operated or controlled by that *Network Service Provider*.

network capability

The capability of the *network* or part of the *network* to transfer electricity from one location to another.

network connection

The formation of a physical link between the *facilities* of two *Registered Participants* or a *Registered Participant* and a customer being a *connection* to a *transmission* or *distribution network* via *connection assets.*

network constraint

A *constraint* on a *transmission network* or *distribution network.*

network control ancillary service or NCAS

A service 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.

network coupling point

The point at which *connection assets* join a *distribution network*, used to identify the *distribution service* price payable by a *Customer*, more fully described in schedule 6.6.

network dispatch offer

An notice submitted by a *Scheduled Network Service Provider* to *NEMMCO* relating to the *dispatch* of a *scheduled network service* in accordance with clause 3.8.6A.

network element

A single identifiable major component of a *transmission system* or *distribution system* involving:

(a) an individual *transmission* or *distribution* circuit or a phase of that circuit; or

(b) a major item of apparatus or equipment associated with the function or operation of a *transmission line*, *distribution line* or an associated *substation* or *switchyard* which may include *transformers,* circuit breakers, *reactive plant* and *monitoring equipment* and control equipment.

network loop

A set of *network elements* that are *connected* together in the form of a closed path, that is in such a way that by progressing from each element to the next it is possible to return to the starting point.

network losses

Energy losses incurred in the transfer of electricity over a *transmission network* or *distribution network*.

network service

Transmission service or *distribution service* associated with the conveyance, and controlling the conveyance, of electricity through the *network*.

Network Service Provider

A person who engages in the activity of owning, controlling or operating a *transmission or distribution system* and who is registered by *NEMMCO* as a *Network Service Provider* under Chapter 2.

Network User

A *Generator*, a *Transmission Customer,* a *Distribution Customer* or a *Market Network Service Provider*.

new distribution network investment

Investment in a *new large distribution network asset* or a *new small distribution network asset*.

new large distribution network asset

An asset of a *Distribution Network Service Provider* which is an *augmentation* and in relation to which the *Distribution Network Service Provider* has estimated it will be required to invest a total capitalised expenditure in excess of $10 million, unless the *Jurisdictional Regulator* for the *participating jurisdiction* in which the relevant *distribution network* is located publishes a requirement that a *new large distribution network asset* is to be distinguished from a *new small distribution network asset* if it involves investment of a total capitalised expenditure in excess of another amount, or satisfaction of another criterion. Where such a specification has been made, an asset must require total capitalised expenditure in excess of that amount or satisfaction of those other criteria to be a *new large distribution network asset*.

new large network asset

A *new large distribution network asset* or a *new large transmission network asset.*

new large transmission network asset

An asset of a *Transmission Network Service Provider* which is an *augmentation* and in relation to which the *Transmission Network Service Provider* has estimated it will be required to invest a total capitalised expenditure in excess of $10 million, unless the *AER* publishes a requirement that a *new large transmission network asset* is to be distinguished from a *new small network asset* if it involves investment of a total capitalised expenditure in excess of another amount, or satisfaction of another criterion. Where such a specification has been made, an asset must require total capitalised expenditure in excess of that amount or satisfaction of those other criteria to be a *new large transmission network asset*.

new network investment

New distribution network investment or *new transmission network investment*.

new small distribution network asset

An asset of a *Distribution Network Service Provider* which is an *augmentation* and:

(a) in relation to which the *Distribution Network Service Provider* has estimated it will be required to invest a total capitalised expenditure in excess of $1 million, unless the *Jurisdictional Regulator* for the *participating jurisdiction* in which the relevant *distribution network* is located publishes a requirement that an asset will be a *new small distribution network asset* if it involves investment of a total capitalised expenditure in excess of another amount, or satisfaction of another criterion. Where such specification has been made, an asset must require total capitalised expenditure in excess of that amount or satisfaction of those other criteria to be a *new small distribution network asset*; and

(b) is not a *new large distribution network asset*.

new small network asset

A *new small distribution network asset* or a *new small transmission network asset*.

new small transmission network asset

An asset of a *Transmission Network Service Provider* which is an *augmentation* and:

(a) in relation to which the *Transmission Network Service Provider* has estimated it will be required to invest a total capitalised expenditure in excess of $1 million, unless the *AER* publishes a requirement that an asset will be a *new small transmission network asset* if it involves investment of a total capitalised expenditure in excess of another amount, or satisfaction of another criterion. Where such a specification has been made, an asset must require total capitalised expenditure in excess of that amount or satisfaction of those other criteria to be a *new small transmission network asset*; and

(b) is not a *new large transmission network asset*.

new transmission network investment

Investment in a *new large transmission network asset* or a *new small transmission network asset*.

NMI

A National Metering Identifier as described in clause 7.3.1(d).

NMI Standing Data

The following data in respect of a *connection point*:

(a) the *NMI* of the *connection point* and the street address of the relevant *connection point* to which that *NMI* is referable;

(b) the *NMI* checksum for the *connection point*;

(c) the identity of the *Local Network Service Provider*;

(d) the code (known as a TNI) identifying the relevant *transmission node* which identifies the *transmission loss factor* and/or *transmission use of system* charge for the *connection point*;

(e) the relevant *distribution loss factor* applicable to the *connection point*;

(f) the Network Tariff (identified by a code) applicable in respect of the *connection point*;

(g) the *NMI* classification code (as set out in the *Market Settlement and Transfer Solution Procedures*) of the *connection point*;

(h) the read cycle date, or date of next scheduled read or date in a relevant code representing the read cycle date or date of next scheduled read, for that *connection point*;

(i) the profile type applicable to the *connection point*; and

(j) such other categories of data as may be referred to in the *Market Settlement and Transfer Solution Procedures* as forming *NMI Standing Data,*

and, for the avoidance of doubt, does not include any *metering data* or other details of an end-user's consumption at that *connection point*.

nomenclature standards

The standards approved by *NEMMCO* in conjunction with the *Network Service Providers* relating to numbering, terminology and abbreviations used for information transfer between *Registered Participants* as provided for in clause 4.12.

non-credible contingency event

An event described in clause 4.2.3(e).

non-market ancillary service

A service identified in clause 3.11.4(a).

non-market generating unit

A *generating unit* whose *sent out generation* is purchased in its entirety by the *Local Retailer* or by a *Customer* located at the same *connection* point and which has been classified as such in accordance with Chapter 2.

Non-Market Generator

A *Generator* who has classified a *generating unit* as a *non-market generating unit* in accordance with Chapter 2.

non-metered connection point

A *connection point* at which it is determined that a *meter* is not necessary in accordance with schedule 7.2.

Non-Registered Customer

A person who:

1. purchases electricity through a *connection point* with the *national grid* other than from the *spot market;* and

2. is eligible to be registered by *NEMMCO* as a *Customer* and to classify the *load* described in (1) as a *first-tier load* or a *second-tier load*, but is not so registered.

non-scheduled generating unit

A *generating unit* so classified in accordance with Chapter 2.

Non-Scheduled Generator

A *Generator* in respect of which any *generating unit* is classified as a *non-scheduled generating unit* in accordance with Chapter 2.

non-scheduled load

A *market load* which is not a *scheduled load*.

normal operating frequency band

In relation to the *frequency* of the *power system*, means the range 49.9Hz to 50.1Hz or such other range so specified in the *power system security and reliability standards*.

normal operating frequency excursion band

In relation to the *frequency* of the *power system*, means the range specified as being acceptable for infrequent and momentary excursions of *frequency* outside the *normal operating frequency band*, being the range of 49.75 Hz to 50.25 Hz or such other range so specified in the *power system security and reliability standards*.

normally off

Describes a *scheduled load* which, unless *dispatched* in accordance with its *dispatch bid,* and in accordance with clause 3.8.7(j), should be considered as being switched off.

normally on

Describes a *scheduled load* which, unless *dispatched* in accordance with its *dispatch bid,* and in accordance with clause 3.8.7(i), should be considered as being switched on.

off-loading price

The price specified for a *price band* and a *trading interval* in a *dispatch offer,* in accordance with clause 3.8.6, for the *off-loading* of a *scheduled generating unit* below its *self-dispatch level.*

off-loading price band

A *price band* submitted for *off-loading* below a *self-dispatch level* for a *trading interval* in a *dispatch offer.*

off-loading, off-load

The reduction in electricity output or consumption.

operational communication

A communication concerning the arrangements for, or actual operation of, the *power system* in accordance with the *Rules*.

operational frequency tolerance band

The range of *frequency* within which the *power system* is to be operated to cater for the occurrence of a *contingency event* as specified in the *power system security and reliability standards*.

outage

Any full or partial unavailability of equipment or *facility*.

outstandings

In relation to a *Market Participant*, the dollar amount determined by the formula in clause 3.3.9.

Participant compensation fund

The fund of that name referred to in clause 3.16.

participant derogation

Has the meaning given in the *National Electricity Law*. The participant derogations are included in Chapter 8A.

Participant fees

The fees payable by *Registered Participants* described in clause 2.11.

participating jurisdiction

A jurisdiction that is a "participating jurisdiction" under the *National Electricity Law.*

PASA availability

The *physical plant capability* of a *scheduled generating unit*, *scheduled load* or *scheduled network* service, including any capability that can be made available within 24 hours.

payment date

The 20th *business day* after the end of a *billing period.*

payment period

The typical period between trading and payment defined in schedule 3.3.

peak load

Maximum *load*.

performance standard

A standard of performance established as a result of it being:

(1) accepted by *NEMMCO* in accordance with clause 4.14(d)(1);

(2) taken to be an applicable performance standard in accordance with clause 5.3.4A(g);

(3) deemed to apply in accordance with clause 4.14(h); or

(4) determined pursuant to clause 4.14(m).

performance standards commencement date

For:

(a) *Generators*, *Customers* and *Network Service Providers* who plan, own, operate or control a *facility* located in a *participating jurisdiction* (other than Tasmania), the *performance standards commencement date* is, in relation to that *facility*, 16 November 2003; and

(b) *Generators*, *Customers* and *Network Service Providers* who plan, own, operate or control a *facility* located in Tasmania, the *performance standards commencement date* is, in relation to that *facility*, the date that Tasmania becomes a *participating jurisdiction*.

physical plant capability

The maximum MW output or consumption which an item of electrical equipment is capable of achieving for a given period.

plant

In relation to a *connection point*, includes all equipment involved in generating, utilising or transmitting electrical *energy*.

In relation to *dispatch bids and offers,* controllable generating equipment and controllable *loads.*

In relation to the *statement of opportunities* prepared by *NEMMCO*, individually controllable generating facilities registered or capable of being registered with *NEMMCO*.

plant standard

An Australian or international standard or a part thereof that:

(a) the *Reliability Panel* determines to be an acceptable alternative to a particular *minimum access standard* or *automatic access standard* for a particular class of *plant*, or

(b) a schedule in Chapter 5 establishes as an acceptable alternative to a particular *minimum access standard* or *automatic access standard* for a particular class of *plant*.

postage stamp basis

A system of charging *Network Users* for *transmission service* or *distribution service* in which the price per unit is the same regardless of how much *energy* is used by the *Network User* or the location in the *transmission network* or *distribution network* of the *Network User*.

potential value

In relation to a *transaction* for a *Market Participant*, the dollar amount determined by the procedure in clause 3.3.14.

power factor

The ratio of the *active power* to the *apparent power* at a *metering point*.

power station

In relation to a *Generator*, a *facility* in which any of that *Generator's generating units* are located.

power system

The electricity power system of the *national grid* including associated *generation* and *transmission* and *distribution networks* for the *supply* of electricity, operated as an integrated arrangement.

power system damping

The rate at which disturbances to the *satisfactory operating state* reduce in magnitude.

power system demand

The total *load* (in MW) supplied by the *power system*.

power system operating procedures

The procedures to be followed by *Registered Participants* in carrying out operations and/or maintenance activities on or in relation to primary and *secondary equipment connected* to or forming part of the *power system* or *connection points,* as described in clause 4.10.1.

power system reserve constraint

A *constraint* in the *central dispatch* due to the need to provide or maintain a specified type and level of *reserve*.

power system security

The safe scheduling, operation and control of the *power system* on a continuous basis in accordance with the principles set out in clause 4.2.6.

power system security and reliability standards

The standards governing *power system security* and *reliability* of the *power system* which are approved by the *Reliability Panel* on the advice of *NEMMCO*. They 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 and utilisation), *short term capacity reserves*, *medium term capacity reserves* and *system restart*.

power transfer

The instantaneous rate at which *active energy* is transferred between *connection points*.

power transfer capability

The maximum permitted *power transfer* through a *transmission* or *distribution network* or part thereof.

pre-dispatch

Forecast of *dispatch* performed one *day* before the *trading day* on which *dispatch* is scheduled to occur.

pre-dispatch schedule

A schedule prepared in accordance with clause 3.8.20(a).

preliminary program

The program to be prepared by a *Network Service Provider* showing proposed milestones for *connection* and access activities as specified in clause 5.3.3(b)(4).

preliminary statement

Has the meaning given in clause 3.15.14(a).

prescribed distribution services

Distribution services provided by *distribution network* assets or associated *connection assets* which are determined by the *Jurisdictional Regulator* under clause 6.10.4(a) as those which should be subject to economic regulation in accordance with the principles set out in clause 6.10.5.

prescribed transmission services

Transmission services provided by *transmission network* assets or associated *connection assets* to which a *revenue cap* applies.

price band

A MW quantity specified in a *dispatch bid, dispatch offer* or *market ancillary service offer* as being available for *dispatch* at a specified price.

price cap

In Parts D and E of Chapter 6, the maximum price determined by the *Jurisdictional Regulator* which a *Distribution Network Service Provider* is entitled to charge for certain *distribution services* in any year.

pricing zone

A geographic area within which *Network Users* are charged a specific set of *distribution service* prices.

profile

Energy data or costs for a period longer than a *trading interval* allocated into *trading intervals*.

projected assessment of system adequacy process ("PASA")

The medium term and short term processes described in clause 3.7 to be administered by *NEMMCO*.

Proponent

In respect of clause 5.7.7 has the meaning given in clause 5.7.7(a).

protection system

A system, which includes equipment, used to protect a *Registered Participant's facilities* from damage due to an electrical or mechanical fault or due to certain conditions of the *power system*.

prudential factor

A factor to be determined and used by *NEMMCO* in accordance with clause 3.3.10 for the purpose of determining a *Market Participant's trading limit*.

prudential requirements

The requirements which must be satisfied as a condition of eligibility to remain a *Market Participant* in accordance with clause 3.3.

publish/publication

Make available to *Registered Participants* electronically.

quantity reallocation transaction

A *reallocation transaction* under which the *Market Participants* have requested *NEMMCO* to debit one of them with a *trading amount* (being a quantity multiplied by the *spot price* for a *region*) and credit the other with a similar *trading amount*.

ramp rate

The rate of change of *active power* supplied from a *generating unit,* supplied to a *load* or transferred by a *scheduled network service*.

reaction period

The estimated period of time taken to remove defaulting *Market Participants* from the *market* as defined in schedule 3.3.

reactive energy

A measure, in varhours (varh), of the alternating exchange of stored energy in inductors and capacitors, which is the time-integral of the product of *voltage* and the out-of-phase component of current flow across a *connection point*.

reactive plant

Plant which is normally specifically provided to be capable of providing or absorbing *reactive power* and includes the *plant* identified in clause 4.5.1(g).

reactive power

The rate at which *reactive energy* is transferred.

Reactive power is a necessary component of alternating current electricity which is separate from *active power* and is predominantly consumed in the creation of magnetic fields in motors and *transformers* and produced by *plant* such as:

(a) alternating current generators;

(b) capacitors, including the capacitive effect of parallel *transmission* wires; and

(c) *synchronous condensers*.

reactive power capability

The maximum rate at which *reactive energy* may be transferred from a *generating unit* to a *connection point* as specified or proposed to be specified in a *connection agreement* (as the case may be).

reactive power reserve

Unutilised sources of *reactive power* arranged to be available to cater for the possibility of the unavailability of another source of *reactive power* or increased requirements for *reactive power*.

reactive power support/reactive support

The provision of *reactive power*.

reactor

A device, similar to a *transformer*, specifically arranged to be *connected* into the *transmission system* during periods of low *load* demand or low *reactive power* demand to counteract the natural capacitive effects of long *transmission lines* in generating excess *reactive power* and so correct any *transmission voltage* effects during these periods.

reallocated dollar amount

In relation to a *dollar reallocation transaction*, the amount specified as such in the applicable *reallocation request*.

reallocated quantity

In relation to a *quantity reallocation transaction*, the amount specified as such in the applicable *reallocation request*.

reallocation

A process under which two *Market Participants* request *NEMMCO* to make matching debits and credits to the position of those *Market Participants* with *NEMMCO*.

reallocation request

A request to *NEMMCO* for a *reallocation*, pursuant to clause 3.15.11(d).

reallocation termination request

A request to *NEMMCO* for early termination of a *reallocation*, pursuant to clause 3.15.11(d1).

reallocation transaction

A *transaction* which occurs when the applicable *trading interval* specified in a *reallocation request* occurs and the *reallocation request* has been registered and not deregistered before the expiration of the *trading interval*.

rebid

A variation to a bid or offer made in accordance with clause 3.8.22.

reduced payment period request

A written request to *NEMMCO* for the purpose of schedule 3.3, paragraph VI(C).

Referred Affected Participant

An *Affected Participant* who has a claim referred to an independent expert pursuant to clauses 3.12.11(f) or 3.12.11(g).

Referred Directed Participant

A *Directed Participant* who has a claim referred to an independent expert pursuant to clauses 3.15.7B(c) or 3.15.7B(d).

Referred Market Customer

A *Market Customer* who has a claim referred to an independent expert pursuant to clauses 3.12.11(f) or 3.12.11(g).

region, regional

An area recommended by *NEMMCO* and approved by the AEMC in accordance with clause 3.5, being an area served by a particular part of the *transmission network* containing one or more major *load centres* or *generation centres* or both.

regional benefit directions procedures

Has the meaning given in clause 3.15.8(b2).

regional reference node

A location on a *transmission* or *distribution network* to be determined for each *region* by *NEMMCO* in accordance with clause 3.5.1.

regional reference price

Spot price at the *regional reference node*.

regional specific power system operating procedures

The procedures described in clause 4.10.1(a)(3).

registered bid and offer data

Data submitted by *Scheduled Generators* and *Market Participants* to *NEMMCO* in relation to their *scheduled loads, scheduled generating units* and *scheduled market network services* in accordance with schedule 3.1.

registered network pricing software

The *transmission service* pricing software specified in clause 6.8.

Registered Participant

A person who is registered by *NEMMCO* in any one or more of the categories listed in clauses 2.2 to 2.7 (in the case of a person who is registered by *NEMMCO* as a *Trader*, such a person is only a *Registered Participant* for the purposes referred to in clause 2.5A). However, as set out in clause 8.2.1(a1), for the purposes of some provisions of clause 8.2 only, *NEMMCO* and *Connection Applicants* who are not otherwise *Registered Participants* are also deemed to be *Registered Participants*.

Registered Participant Agent

An agent of a *Registered Participant* appointed under clause 4.11.5.

regulated interconnector

An *interconnector* which is deemed to be a *regulated interconnector* under clause 6.19 and is subject to the *transmission service* regulation and pricing arrangements in Parts B and C of Chapter 6.

regulating capability

The capability to perform *regulating duty*.

regulating capability constraints

Constraints on the formulation of a realisable *dispatch* or *predispatch schedule* due to the need to provide for *regulating capability*.

regulating duty

In relation to a *generating unit,* the duty to have its *generated* output adjusted frequently so that any *power system frequency* variations can be corrected.

regulating lower service

The service of controlling the level of *generation* or *load* associated with a particular *facility*, in accordance with the requirements of the *market ancillary service specification*, in accordance with electronic signals from *NEMMCO* in order to lower the *frequency* of the *power system.*

regulating raise service

The service of controlling the level of *generation* or *load* associated with a particular *facility*, in accordance with the requirements of the *market ancillary service specification*, in accordance with electronic signals from *NEMMCO* in order to raise the *frequency* of the *power system.*

regulation services

The *regulating raise service* and *regulating lower service*.

regulatory cap

In Parts D and E of Chapter 6, means a *price cap*, a *revenue cap* or a combination of them.

regulatory control period

In Chapter 5 and in Parts B and C of Chapter 6, means a period in which a *revenue cap* is imposed on a *Transmission Network Service Provider* by the *AER,* and in Parts D and E of Chapter 6, means a period in which a *price cap* and/or a *revenue cap* is imposed on a *Distribution Network Service Provider* by the relevant *Jurisdictional Regulator*.

regulatory test

The test promulgated by the *AER* in accordance with clause 5.6.5A.

related body corporate

In relation to a body corporate, a body corporate that is related to the first-mentioned body by virtue of the Corporations Act 2001 (Cth).

Relevant Transmission Network Service Provider, Relevant TNSP

In respect of clause 5.7.7 has the meaning given in clause 5.7.7(a).

reliability

The probability of a system, device, *plant* or equipment performing its function adequately for the period of time intended, under the operating conditions encountered.

reliability augmentation

A *transmission network augmentation* that is necessitated solely by inability to meet the minimum *network* performance requirements set out in schedule 5.1 or in relevant legislation, regulations or any statutory instrument of a *participating jurisdiction*.

Reliability Panel

The panel established by the *AEMC* under section 38 of the *National Electricity Law*.

reliable

The expression of a recognised degree of confidence in the certainty of an event or action occurring when expected.

reliable operating state

In relation to the *power system*, has the meaning set out in clause 4.2.7.

remote control equipment

Equipment used to control the operation of elements of a *power station* or *substation* from a *control centre*.

remote monitoring equipment

Equipment installed to enable monitoring of a *facility* from a *control centre.*

representative

In relation to a person, any employee, agent or professional adviser of:

(a) that person; or

(b) a *related body corporate* of that person; or

(c) a third party contractor to that person.

reserve

Short term capacity reserve and *medium term capacity reserve* as contracted by *NEMMCO* under clause 3.12.

reserve contract

A contract between a *Registered Participant* and *NEMMCO* to provide any *reserve* and includes a contract between a *Market Network Service Provider* and *NEMMCO* to facilitate *reserves* in one *region* being made available in another *region.*

response breakpoint

(a) In relation to a *market ancillary service offer* to raise the *frequency* of the *power system*, the level of associated *generation* or *load* (in MW) above which the amount of response specified in the *offer* reduces with increased *generation* or *load* level; and

(b) in relation to a *market ancillary service offer* to lower the *frequency* of the *power system*, the level of associated *generation* or *load* (in MW) below which the amount of response specified in the *offer* reduces with decreased *generation* or *load* level.

response capability

(a) In relation to a *market ancillary service offer* to raise the *frequency* of the *power system*, the amount of the response in (MW) which is specified in the *offer* for every level of associated *generation* or *load* below the associated *response breakpoint*; and

(b) in relation to a *market ancillary service offer* to lower the *frequency* of the *power system*, the amount of the response in (MW) which is specified in the *offer* for every level of associated *generation* or *load* above the associated *response breakpoint.*

responsible person

The person who has responsibility for the provision of a *metering installation* for a particular *connection point*, being either the *Local Network Service Provider* or the *Market Participant* as described in Chapter 7.

restriction demand reduction

The reduction in a *Market Customer's* demand due to the imposition of *mandatory restrictions* as reasonably determined by an independent expert in accordance with clause 3.12A.7. For the avoidance of doubt, the reduction of a *Market Customer's* demand due to the imposition of *mandatory restrictions* should exclude any reduction in its demand which the *Market Customer* claims was due to the operation of *generation* and as reasonably verified by the independent expert in a similar manner to that used by the independent expert to determine restrictions due to demand management.

restriction offer

An offer by a *Scheduled Generator* or a *Scheduled Network Service Provider* to provide capacity to *NEMMCO* for all or part of a *mandatory restriction period* made in accordance with the *restriction offer procedures.*

restriction offer procedures

The procedures developed by *NEMMCO* in accordance with clause 3.12A.1.

restriction shortfall amount

The amount determined in accordance with clause 3.12A.7(b).

retailer of last resort

In relation to a jurisdiction, means a person or persons required under the retailer of last resort arrangements of that jurisdiction to assume the obligations under the *Rules* (including the obligation to pay *trading amounts* and other amounts due under the *Rules*) of a *Market Customer* that has defaulted in the performance of its obligations under the *Rules*.

revenue cap

In Parts B and C of Chapter 6, the *maximum allowed revenue* for a year determined by the *AER* for *prescribed transmission services* applicable to a *Transmission Network Service Provider*;

In Parts D and E of Chapter 6, the *aggregate annual revenue requirement* for a year determined by the *Jurisdictional Regulator* applicable to a *Distribution Network Service Provider.*

revenue meter

The *meter* that is used for obtaining the primary source of *metering data*.

revenue metering data

The *metering data* obtained from a *revenue metering installation*.

revenue metering installation

A *metering installation* used as the primary source of *metering data* for the *settlements* process.

revenue metering point

The *metering point* at which the *revenue metering installation* is *connected*.

review

An examination of the specified matters conducted to the standard specified for a "review" in Auditing Standard AUS106: "Explanatory Framework for standards on Audit and Audit Related Services" prepared by the Auditing Standards Board, as varied from time to time.

revised statement

A statement issued by *NEMMCO* under clause 3.15.19 following the resolution of a dispute regarding a *final statement*.

RMS phase voltage

The *voltage* of *supply* measured as the average of the root mean square of the *voltages* between each pair of phases.

routine revised statement

A *settlement statement* issued by *NEMMCO* under clause 3.15.19(b).

Rule fund

A fund referred to in clause 1.11(a).

Rules

The rules called the National Electricity Rules made under Part 7 of *the National Electricity Law* as amended from time to time in accordance with that Part.

Rules bodies

Any person or body, other than *NEMMCO*, the *AER*, the *AEMC*, the *ACCC* or *Jurisdictional Regulators,* that is appointed or constituted by the *Rules* to perform functions under the *Rules*.

Rules consultation procedures

The procedures for consultation with *Registered Participants* or other persons as set out in clause 8.9.

satisfactory operating state

In relation to the *power system*, has the meaning given in clause 4.2.2.

scheduled generating unit

A *generating unit* so classified in accordance with Chapter 2.

Scheduled Generator

A *Generator* in respect of which any *generating unit* is classified as a *scheduled generating unit* in accordance with Chapter 2.

scheduled high price

The dollar amount per MWh or MW, as the case may be, determined as such by *NEMMCO* pursuant to clause 3.3.17.

scheduled load

A *market load* which has been classified by *NEMMCO* in accordance with Chapter 2 as a *scheduled load* at the *Market Customer's* request. Under Chapter 3, a *Market Customer* may submit *dispatch bids* in relation to *scheduled loads.*

scheduled low price

The dollar amount per MWh or MW, as the case may be, determined as such by *NEMMCO* pursuant to clause 3.3.17.

scheduled network service

A *network service* which is classified as a *scheduled network service* in accordance with Chapter 2.

Scheduled Network Service Provider

A *Network Service Provider* who has classified any of its *network services* as a *scheduled network service.*

scheduled plant

In respect of a *Registered Participant,* a *scheduled generating unit*, a *scheduled network service* or a *scheduled load* classified by or in respect to that *Registered Participant* in accordance with Chapter 2.

scheduling error

A failure by *NEMMCO* to follow the *central dispatch* process in accordance with Chapter 3.

secondary equipment

Those assets of a *Market Participant*'s *facility* which do not carry the *energy* being traded, but which are required for control, protection or operation of assets which carry such *energy*.

Second-Tier Customer

A *Customer* which has classified any *load* as a *second-tier load* in accordance with Chapter 2*.*

second-tier load

Electricity purchased at a *connection point* in its entirety other than directly from the *Local Retailer* or the *spot market* and which is classified as a *second-tier load* in accordance with Chapter 2.

secure operating state

In relation to the *power system* has the meaning given in clause 4.2.4.

self-commitment, self-commit

Commitment, where the decision to *commit* a *generating unit* was made by the relevant *Generator* without instruction or direction from *NEMMCO.*

self-decommitment

Decommitment, where the decision to *decommit* a *generating unit* was made by the relevant *Generator* without instruction or direction from *NEMMCO.*

self-dispatch level

The level of *generation* in MW, as specified in a *dispatch offer* for a *generating unit* and a *trading interval,* which is the level at which that *generating unit* must be *dispatched* by *NEMMCO* in that *trading interval* unless otherwise *dispatched* in accordance with clause 3.8 or unless required to operate under a *direction* issued by *NEMMCO* in accordance with clause 4.8.9.

sensitive loads

Loads defined as sensitive for each *participating jurisdiction* by the *Jurisdictional System Security Coordinator* for that *participating jurisdiction*.

sent out generation

In relation to a *generating unit,* the amount of electricity *supplied* to the *transmission* or *distribution network* at its *connection point*.

settlement amount

The amount calculated by *NEMMCO* pursuant to clause 3.15.12.

settlement statement

Includes an *interim statement, preliminary statement* and *final statement.*

settlements

The activity of producing bills and credit notes for *Market Participants*.

settlements ready data

The *metering data* that has undergone a validation and substitution process by *NEMMCO* for the purpose of *settlements* and is delivered to the *metering database.*

settlements residue

Any surplus or deficit of funds retained by *NEMMCO* upon completion of *settlements* to all *Market Participants* in respect of a *trading interval*.

settlement residue committee

The committee established by *NEMMCO* in accordance with clause 3.18.5.

settlement residue distribution agreement or SRD agreement

Has the meaning given in clause 3.18.1(b).

short circuit fault

A fault having a metallic conducting path between any two or more conductors or between any conductor and ground, including touching conductors and faults through earthing facilities, and excluding faults within equipment at a station.

short term capacity reserve

At any time, the amount of surplus or unused generating capacity indicated by the relevant *Generators* as being available for any half hour period during the next 7 *days* and which is assessed as being in excess of the capacity requirement to meet the current forecast *load* demand, taking into account the known or historical levels of demand management.

short term capacity reserve standard

The level of *short term capacity reserve* required for a particular period in accordance with the *power system security and reliability standards*.

short term PASA

The *PASA* in respect of the period from 2 *days* after the current *trading day* to the end of the 7th day after the current *trading day* inclusive in respect of each *trading interval* in that period.

short term PASA inputs

The inputs to be prepared by *NEMMCO* in accordance with clause 3.7.3(d).

shunt capacitor

A type of *plant connected* to a *network* to generate *reactive power*.

shunt reactor

A type of *plant connected* to a *network* to absorb *reactive power*.

single contingency

In respect of a *transmission* or *distribution network* and *Network Users*, a sequence of related events which result in the removal from service of one *Network User*, *transmission* or *distribution line*, or *transformer*. The sequence of events may include the application and clearance of a fault of defined severity.

single credible contingency event

An event described in clause 4.2.3(c).

slow lower service

The service of providing, in accordance with the requirements of the *market ancillary service specification,* the capability of controlling the level of *generation* or *load* associated with a particular *facility* in response to the locally sensed *frequency* of the *power system* in order to stabilise a rise in that *frequency*.

slow raise service

The service of providing, in accordance with the requirements of the *market ancillary service specification,* the capability of controlling the level of *generation* or *load* associated with a particular *facility* in response to the locally sensed *frequency* of the *power system* in order to stabilise a fall in that *frequency*.

slow start generating unit

A *generating unit* described in clause 3.8.17(a).

slow start reserve generating unit

A *slow start generating unit* providing *reserve*.

Special Participant

A *System Operator* or a *Distribution System Operator*.

special revised statement

A *settlement statement* issued by *NEMMCO* under clause 3.15.19(a)(3).

spot market

The spot market established and operated by *NEMMCO* in accordance with clause 3.4.1.

spot market transaction

A transaction as defined pursuant to clause 3.15.6 which occurs in the *spot market*.

spot price

The price for electricity in a *trading interval* at a *regional reference node* or a *connection point* as determined in accordance with clause 3.9.2.

spot price forecast

A forecast of the *spot price*.

Standards Australia

The Standards Association of Australia and includes its heirs or successors in business.

statement of opportunities

A statement prepared by *NEMMCO* to provide information to assist *Scheduled Generators*, *Transmission Network Service Providers* and *Market Participants* in making an assessment of the future need for electricity generating or demand management capacity or augmentation of the *power system*.

static excitation system

An *excitation control system* in which the power to the rotor of a *synchronous generating unit* is transmitted through high power solid-state electronic devices.

static VAR compensator

A device specifically provided on a *network* to provide the ability to generate and absorb *reactive power* and to respond automatically and rapidly to *voltage* fluctuations or *voltage* instability arising from a disturbance or disruption on the *network.*

substation

A *facility* at which two or more lines are switched for operational purposes. May include one or more *transformers* so that some *connected* lines operate at different nominal *voltages* to others.

supply

The delivery of electricity.

survey period

An agreed sample period used to determine the allocation of costs and prices for use of *transmission network* or *distribution network* assets*.*

suspension notice

A notice issued by *NEMMCO* to a *defaulting Market Participant* pursuant to clause 3.15.21(c).

switchyard

The *connection point* of *a generating unit* into the *network*, generally involving the ability to *connect* the *generating unit* to one or more outgoing *network* circuits.

Sydney time

Eastern Standard Time or Eastern Daylight Saving Time as applicable in Sydney.

synchronise

The act of *synchronising* a *generating unit* or a *scheduled network service* to the *power system*.

synchronising, synchronisation

To electrically *connect* a *generating unit* or a *scheduled network service* to the *power system*.

synchronous condensors

Plant, similar in construction to a *generating unit* of the *synchronous generator* category, which operates at the equivalent speed of the *frequency* of the *power system,* specifically provided to generate or absorb *reactive power* through the adjustment of rotor current.

synchronous generating unit

The alternating current generators of most thermal and hydro (water) driven power turbines which operate at the equivalent speed of the *frequency* of the *power system* in its *satisfactory operating state*.

synchronous generator voltage control

The automatic *voltage control system* of a *generating unit* of the *synchronous generator* category which changes the output *voltage* of the *generating unit* through the adjustment of the generator rotor current and effectively changes the *reactive power* output from that *generating unit.*

System Operator

A person whom *NEMMCO* has engaged as its agent, or appointed as its delegate, under clause 4.3.3 to carry out some or all of *NEMMCO's* rights, functions and obligations under Chapter 4 of the *Rules* and who is registered by *NEMMCO* as a *System Operator* under Chapter 2.

system restart

In respect of a *generating unit*, means the service of generating in order to assist other *generating units* to start during a *black system* condition.

system standard

A standard for the performance of the *power system* as set out in schedule 5.1a.

take or pay contract

A contract between a buyer and a seller of an asset-based service under which the buyer undertakes to pay regularly to the seller a fixed or minimum sum regardless of the actual level of consumption of the service by the buyer. The contract has the effect of transferring market risk associated with the assets from the seller (as the owner of the assets) to the buyer.

tap-changing transformer

A *transformer* with the capability to allow internal adjustment of output *voltages* which can be automatically or manually initiated and which is used as a major component in the control of the *voltage* of *transmission* and *distribution networks* in conjunction with the operation of *reactive plant*. The *connection point* of a *generating unit* may have an associated tap-changing transformer, usually provided by the *Generator.*

technical envelope

The limits described in clause 4.2.5.

telecommunications network

A telecommunications network that provides access for public use or an alternate telecommunications network that has been approved by *NEMMCO* for the delivery of *metering data.*

test program

In respect of an *inter-network test*, means the program and co-ordination arrangements for the test including, without limitation:

(1) test procedures;

(2) the proposed timing of the test;

(3) operational procedures to manage *power system security* during the test;

(4) required *power system* conditions for conducting the test;

(5) test facilitation services including, as necessary, *ancillary services* required to achieve those *power system* conditions;

(6) criteria for continuing or concluding a test and the decision-making process relevant to the test; and

(7) contingency arrangements.

tie

Identically priced *dispatch bids* or *dispatch offers*.

time

Eastern Standard Time, being the time at the 150th meridian of longitude east of Greenwich in England, or Co-ordinated Universal Time, as required by the National Measurement Act, 1960 (Cth).

time stamp

The means of identifying the *time* and date at which data is transmitted or received.

timetable

The timetable published by *NEMMCO* under clause 3.4.3 for the operation of the *spot market* and the provision of *market* information.

Trader

A person who is registered by *NEMMCO* as a *Trader* under Chapter 2.

trading amount

The positive or negative dollar amount resulting from a *transaction*, determined pursuant to clauses 3.15.6, 3.15.6A or 3.15.11.

trading day

The 24 hour period commencing at 4.00 am and finishing at 4.00 am on the following *day*.

trading interval

A 30 minute period ending on the hour (EST) or on the half hour and, where identified by a time, means the 30 minute period ending at that time.

trading limit

A dollar amount for a *Market Participant*, determined pursuant to clause 3.3.10.

trading margin

Has the meaning given in clause 3.3.15.

transaction

A *spot market transaction*, *reallocation transaction* or any other transaction either in the *market* or to which *NEMMCO* is a party.

transformer

A *plant* or device that reduces or increases the *voltage* of alternating current.

transformer tap position

Where a tap changer is fitted to a *transformer*, each tap position represents a change in *voltage* ratio of the *transformer* which can be manually or automatically adjusted to change the *transformer* output *voltage*. The tap position is used as a reference for the output *voltage* of the *transformer*.

transmission

Activities pertaining to a *transmission system* including the conveyance of electricity through that *transmission system*.

Transmission Customer

A *Customer, Non-Registered Customer* or *Distribution Network Service Provider* having a *connection point* with a *transmission network*.

transmission element

A single identifiable major component of a *transmission system* involving:

(a) an individual *transmission* circuit or a phase of that circuit;

(b) a major item of *transmission plant* necessary for the functioning of a particular *transmission* circuit or *connection point* (such as a *transformer* or a circuit breaker).

transmission line

A power line that is part of a *transmission network*.

transmission network

A *network* within any *participating jurisdiction* operating at nominal *voltages* of 220 kV and above plus:

(a) any part of a *network* operating at nominal *voltages* between 66 kV and 220 kV that operates in parallel to and provides support to the higher voltage *transmission network*;

(b) any part of a *network* operating at nominal *voltages* between 66 kV and 220 kV that is not referred to in paragraph (a) but is deemed by the *AER* to be part of the *transmission network*.

transmission network connection point

A *connection point* on a *transmission network*.

Transmission Network Service Provider

A person who engages in the activity of owning, controlling or operating a *transmission system.*

Transmission Network User

In relation to a *transmission network*, a *Transmission Customer*, a *Generator* whose *generating unit* is directly *connected* to the *transmission network* or a *Network Service Provider* whose *network* is *connected* to the *transmission network.*

transmission or distribution system

A *transmission system* or *distribution system* that:

1. is used to convey, and control the conveyance of, electricity to customers (whether wholesale or retail); and

2. is *connected* to another such system.

transmission plant

Apparatus or equipment associated with the function or operation of a *transmission line* or an associated *substation* or *switchyard*, which may include *transformers*, circuit breakers, *reactive plant* and *monitoring equipment* and control equipment.

Transmission Ring-Fencing Guidelines

Has the meaning given in clause 6.20.2(a).

transmission service

The services provided by a *transmission system* which are associated with the conveyance of electricity through the *transmission system*. *Transmission services* include *entry services, transmission use of system service*s and *exit services* which are provided by part of a *transmission system.*

transmission system

A *transmission network*, together with the *connection assets* associated with the *transmission network*, which is connected to another *transmission or distribution system*.

transmission use of system, transmission use of system service

A *Generator transmission use of system service* or a *Customer transmission use of system service.*

two-terminal link

One or more *network elements* that together enable the transfer of *energy* between two, and only two, *connection points.*

typical accrual

Has the meaning given in clause 3.3.12(a).

uncompleted transaction

Has the meaning given in clause 3.3.16(b).

unconstrained

Free of *constraint*.

use of system

Includes *transmission use of system* and *distribution use of system.*

use of system services

Transmission use of system service and *distribution use of system service.*

value of lost load (VoLL)

A price cap on *regional reference prices,* described in clause 3.9.4.

verifying authorities

Authorities appointed by the National Standards Commission under the National Measurements Act 1960 (Cth).

violation

In relation to *power system security*, a failure to meet the requirements of Chapter 4 or the *power system security and reliability standards.*

virtual transmission node

A non-physical node used for the purpose of *market settlements*, having a *transmission loss factor* determined in accordance with clause 3.6.2(b)(3).

voltage

The electronic force or electric potential between two points that gives rise to the flow of electricity.

voltage transformer (VT)

A *transformer* for use with *meters* and/or protection devices in which the *voltage* across the secondary terminals is, within prescribed error limits, proportional to and in phase with the *voltage* across the primary terminals.

weighted average cost of capital

An amount determined in a manner consistent with schedule 6.1.