

PROPOSED RULE

Reliability Panel Proposed National Electricity Amendment (NEM Reliability: VoLL, CPT, and Future Reliability Review) Rule

This document contains proposed amendments to the National Electricity Rules, in marked-up form, to incorporate changes to the level and name of VoLL, the level of CPT, and the timing of Future Reliability reviews.

Status Information

This is a draft consolidation based on the latest electronically available version of the National Electricity Rules as at 1 July 2008.

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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*;

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- (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) **[Deleted]**
 - (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 rule 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 rule 3.7, *publish* the details of these assessments in accordance with rule 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 rule 3.11.
- (b) *NEMMCO* must use reasonable endeavours to ensure adequate *non-market ancillary services* are available in accordance with rule 3.11.

3.2.5 [Deleted]

3.2.6 Settlements

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

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 rule 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 rule 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 rule 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 rule 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 rule 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 rule 3.3.

3.3.8 Maximum credit limit and prudential margin

- (a) NEMMCO must determine for each *Market Participant* a *maximum credit limit* and *prudential margin*.
- (b) The *maximum credit limit* for a *Market Participant* is a dollar amount determined by NEMMCO applying the principles set out in schedule 3.3, being an amount determined by NEMMCO on the basis of a *reasonable worst case* estimate of the aggregate payments for *trading amounts* (after *reallocation*) to be made by the *Market Participant* to NEMMCO over a period of up to the *credit period* applicable to that *Market Participant*.
- (c) The *prudential margin* for a *Market Participant* is a dollar amount to be determined by NEMMCO applying the principles set out in schedule 3.3, being an amount determined by NEMMCO on the basis of a *reasonable*

worst case estimate of the aggregate of the expected trading amount and the reallocation amount owing by the Market Participant to NEMMCO in respect of the reaction period.

- (d) *NEMMCO must publish details of the methodology used in determining maximum credit limits and prudential margins.*
- (e) *NEMMCO shall review the maximum credit limit and prudential margin of each Market Participant not less than once each year.*
- (f) *NEMMCO may change either or both of the maximum credit limit or prudential margin 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 or prudential margin will apply with effect from such time (not being earlier than the time of notification of the changed maximum credit limit or prudential margin, as the case may be, to the Market Participant) as NEMMCO specifies.*
- (g) *NEMMCO must notify the Market Participant of any determination or change under this clause 3.3.8 of that Market Participant's maximum credit limit or prudential margin (as the case may be) and, on request from that Market Participant, provide details of the basis for that determination or change, including the trading, price, volatility and prospective reallocation assumptions and the average spot prices and ancillary service prices and average trading amounts.*

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:

$$OS = - (A + B + SDA)$$

where:

OS is the amount of the *outstandings* of the *Market Participant*;

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

B is the net *settlement amount* payable by, or to, the *Market Participant* in respect of *transactions for trading intervals* that have already occurred in the current *billing period*; 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.

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).

Note: Where the value of *outstandings* of a *Market Participant* is a negative amount the absolute value of the *outstandings* amount will, for the purposes of rule 3.3, be treated as if it were an amount payable by NEMMCO to the *Market Participant*.

3.3.10 Trading limit

The trading limit for a *Market Participant* is the dollar amount determined by NEMMCO on the basis of a *reasonable worst case* estimate by NEMMCO applying the principles in schedule 3.3 and determined using the following formula:

$$TL = CS - PM$$

where:

TL is the *trading limit*;

CS is the *credit support* provided by the *Market Participant*; and

PM is the *prudential margin* determined in accordance with clause 3.3.8(c).

Note: If the *prudential margin* exceeds the *credit support* the *trading limit* will have a negative value.

3.3.11 Call notices

(a) If at any time the *outstandings* of a *Market Participant* is greater than 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*”) that 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:

$$\text{Call Amount} = \text{OS} - \text{TypA}$$

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

where:

OS is the *outstandings* for the *Market Participant* as at the date of the issue of the *call notice*; and

TypA is the *typical accrual* for the *Market Participant* as at the date of the issue of the *call notice*.

Note: If the value of *outstandings* of a *Market Participant* has a negative value and the *trading limit* also has a negative value, the *outstandings* will be greater than the *trading limit* if the absolute value of the *trading limit* is greater than the absolute value of the *outstandings*, in which case NEMMCO may exercise its powers under either or both of clauses 3.3.11(a)(1) or 3.3.11(a)(2).

- (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*.

Note: The value of the *typical accrual* of a *Market Participant* will be a negative amount if the average *settlement amount* of the *Market Participant* is a positive amount.

- (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 ~~MPL~~ ~~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 ~~MPL~~ ~~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 rule 3.3, *NEMMCO* must consult with *Market Participants* and any other person *NEMMCO* considers appropriate.
- (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 rule 3.9:
 - (1) a *spot price* for energy to apply at each *regional reference node* in each *trading interval*; and
 - (2) *ancillary 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 [Deleted]

3.5.2 [Deleted]

3.5.3 [Deleted]

3.5.4 [Deleted]

3.5.5 [Deleted]

3.5.6 Abolition of Snowy region

- (a) In this clause 3.5.6:

current *Regions Publication* means the document published by *NEMMCO* entitled “List of Regional Boundaries and Marginal Loss Factors for the 2007/08 Financial Year”.

New South Wales *region* comprises the *region* as identified in the current *Regions Publication*.

Snowy *region* comprises the *region* as identified in the current *Regions Publication*.

Victoria *region* comprises the *region* as identified in the current *Regions Publication*.

- (b) Despite any other provision of the *Rules*, at 00:00 hours *EST* on 1 July 2008:
- (1) the Snowy *region* is abolished;
 - (2) the *regional reference node* known as the Murray 330kV node is abolished;
 - (3) the New South Wales *region* and the Victoria *region* are modified by the allocation of the *loads* and *generators* to each *region* as set out in clause 11.13.8; and
 - (4) the location of the *region* boundary between the New South Wales *region* and the Victoria *region* is as set out in clause 11.13.9.

(c) For the avoidance of doubt:

- (1) the *regional reference node* (known as the Sydney West 330kV node) for the New South Wales *region*; and
- (2) the *regional reference node* (known as the Thomastown 66kV node) for the Victoria *region*,

are not affected by the abolition of the *regional reference node* known as the Murray 330kV node for the Snowy *region*.

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*.

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- (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 AER, 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-regional 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 rule 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 rule 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*.

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- (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.
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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 AER 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

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- (D) a *connection point* between two or more *distribution networks*; or
- (ii) derived, in accordance with the methodology determined by the AER 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.
- (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* 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 AER 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 AER for the determination of *distribution loss factors*; or
- (2) where the AER 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 AER 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 rule 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) subject to clause 3.6.5(c), 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 rule 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
 - (4A) subject to clause 3.6.5(c), if the *settlements residue* arising in respect of a *trading interval*, after taking into account any adjustment in accordance with clause 5.7.7(aa)(3) or (ab), is a negative amount, then:
 - (i) the whole or any part of the amount may be recovered from positive *settlements residue* amounts arising in the *billing period* in which the negative *settlements residue* arose; and
 - (ii) if the whole or a part of the amount is not recoverable under clause 3.6.5(a)(4A)(i), the unrecovered amount may be recovered from the proceeds of the first *auction* after that *billing period*; and

- (iii) if the whole or a part of the amount is recoverable under neither clause 3.6.5(a)(4A)(i) nor clause 3.6.5(a)(4A)(ii), the unrecovered amount may be recovered from the proceeds of successive *auctions* until the negative amount is recovered.
- (4B) subject to clause 3.6.5(a)(4A), interest costs incurred by *NEMMCO* in relation to any unrecovered negative *settlements residue* amounts referred to in clause 3.6.5(a)(4A) may be recovered:
 - (i) from proceeds of the first *auction* after the *billing period* in which the interest costs arose; and
 - (ii) if the whole or a part of the interest costs are not recoverable under clause 3.6.5(a)(4B)(i), unrecovered interest costs may be recovered from the proceeds of successive *auctions* until all the interests costs are recovered.
- (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 the expiry date referred to in subparagraph (iv), 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;
 - (iii) the amount of the charge described in subparagraph (ii) must not exceed the amount of the *settlements residue* referred to in subparagraph (i), and must be agreed between the *participating jurisdictions* in which the importing region and the exporting region are located; and
 - (iv) the expiry date referred to in subparagraph (ii), means 1 July 2009 or the date of commencement of rules which make alternative provision in the *Rules* for inter-regional *settlements*, whichever is the earlier date; and
- (6) any portion of *settlements residue* distributed to a *Network Service Provider* or amount paid on that portion under clause 3.15.10A (if any), or rule 3.18 to a *Network Service Provider*, including any such

payments as adjusted by a *routine revised statement* or *special revised statement* issued under rule 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 clause 3.3.1 and rule 3.15 (excluding clause 3.15.1(b)) but not otherwise.
- (c) Subject to clauses 11.1.1 and 11.1.2:
 - (i) clause 3.6.5(a)(4) does not have effect during the period commencing on 1 July 2006 and ending at the last moment of 30 June 2009 but comes into effect again at the end of that period; and
 - (ii) clauses 3.6.5(a)(4A) and (4B) expire at the end of that period.

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.

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- (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 *scheduled reserve*, adjusted to make allowance for *scheduled load*, for each *region* and for the total *power system*;
 - (1A) the aggregated MW allowance (if any) made by *NEMMCO* for *generation* from *non-scheduled generating systems* in each forecast of the most probable *peak power system load* referred to in clause 3.7.2(f)(1);
 - (1B) in respect of each forecast of the most probable *peak power system load* referred to in clause 3.7.2(f)(1), a value that is the sum of that forecast and the relevant aggregated MW allowance referred to in clause 3.7.2(f)(1A);
 - (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*;

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- (2) *scheduled 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 *scheduled 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;

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- (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;
 - (4B) the aggregated MW allowance (if any) made by *NEMMCO* for generation from *non-scheduled generating systems* in each forecast:
 - (i) of the most probable peak *power system load* referred to in clause 3.7.3(h)(1); and
 - (ii) referred to in clauses 3.7.3(h)(2), (3), (4) and (4A);
 - (4C) in respect of each forecast:
 - (i) of the most probable peak *power system load* referred to in clause 3.7.3(h)(1);
 - (ii) referred to in clauses 3.7.3(h)(2), (3), (4) and (4A),a value that is the sum of that forecast and the relevant aggregated MW allowance (if any) referred to in clause 3.7.3(4B); and
 - (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.

3.7A Market Information on planned network outages

- (a) The objective of this rule 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 rule 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 rule 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 rule 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 rule 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 rule 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 rule 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 rule 3.7A(a),

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

3.7C Energy Adequacy Assessment Projection

Purpose of EAAP

- (a) The purpose of the *energy adequacy assessment projection* (or *EAAP*) is to make available to *Market Participants* and other interested persons an analysis that quantifies the impact of *energy constraints* on *energy availability* over a 24 month period under a range of scenarios.

EAAP principles

- (b) The *EAAP* must:
 - (1) cover a 24 month period, commencing on the day the *EAAP* is *published* under this rule 3.7C;
 - (2) be *published* every three months;

- (3) provide a probabilistic assessment of projected *energy* availability for each *region*;
- (4) provide projected *unserved energy* levels for each *region* with a monthly resolution;
- (5) provide aggregated information on the adequacy of *energy* availability for each scenario that *NEMMCO* defines for the purposes of the *EAAP*, based on information received from *Registered Participants* and on anticipated *power system* constraints;
- (6) take into account:
 - (A) where relevant, the information and *medium term PASA* inputs referred to in clauses 3.7.1 and 3.7.2;
 - (B) where relevant, the matters *NEMMCO* considers in, and for the purposes of, clause 5.6.5(c) in carrying out the *ANTS review*;
 - (C) *Generator Energy Limitation Frameworks* provided in accordance with paragraph (g), including *GELFs* that apply to more than one *scheduled generating unit* under clause 3.7C(k)(6) where those *GELFs* adequately represent the relevant *generating units*; and
 - (D) *GELF parameters* for each *GELF* which are provided in accordance with the *EAAP guidelines* and are updated in accordance with the *timetable*.
- (c) *NEMMCO* must comply with the *EAAP principles* in preparing the *EAAP*.

Administration of EAAP

- (d) *NEMMCO* must *publish* the *EAAP* every three months in accordance with the *timetable* and the first *EAAP* must be published by 31 March 2010.
- (e) For the purposes of preparing the *EAAP*, a *Scheduled Generator* must provide *NEMMCO* with the following information in accordance with the *timetable*:
 - (1) updated *GELF parameters* for each *GELF* provided by it in accordance with paragraph (g); and
 - (2) other information that supplements the data provided under subparagraph (1) that is reasonably required by *NEMMCO* to study the scenarios defined in the *EAAP guidelines*.
- (f) In considering whether information referred to in subparagraph (e)(2) is reasonably required, *NEMMCO* must have regard to the likely costs that

may be incurred by the *Scheduled Generator* in preparing and providing that information compared to the likely benefits from the use of that information for the purposes of the *EAAP*.

Generator Energy Limitation Framework

- (g) A *Scheduled Generator* must prepare and submit to *NEMMCO*, in accordance with the *EAAP guidelines* and for the purposes of the *EAAP*, a description of the *energy constraints* that affect the ability of each of its *scheduled generating units* to generate electricity ('*GELF*' or '*Generator Energy Limitation Framework*'). The *GELF* must be in a form that adequately represents that *generating unit* sufficient for *NEMMCO* to include the *GELF* in the *EAAP*.
- (h) A *GELF* submitted under paragraph (g) must be supplemented by *GELF parameters* for that *GELF* as defined in the *EAAP guidelines*, and those parameters must be updated every three months in accordance with the *timetable*.
- (i) Where a *Scheduled Generator* has submitted a *GELF* under paragraph (g) and there has been a material *change* to any of its *scheduled generating units* which has an impact on the *energy constraints* associated with that *GELF*, the *Scheduled Generator* must revise and re-submit the *GELF* in accordance with that paragraph.
- (j) Subject to paragraph (r), a *GELF* or information provided in relation to a *GELF* to *NEMMCO* must be treated by *NEMMCO* as *confidential information*.

EAAP guidelines

- (k) *NEMMCO* must develop and *publish* guidelines (the '*EAAP guidelines*') that:
 - (1) define scenarios that *NEMMCO* must study in preparing the *EAAP*;
 - (2) define modelling assumptions for the *EAAP*;
 - (3) define the components of a *GELF* that a *Scheduled Generator* must include in a *GELF* submitted under paragraph (g);
 - (4) provide detail on the forms of the *GELF* sufficient for a *Scheduled Generator* to meet the requirements of paragraph (g);
 - (5) define variable parameters specific to a *GELF* ('*GELF parameters*') that are likely to have a material impact on the *GELF* and therefore the *EAAP*, and which may include, but are not limited to, parameters in relation to:

- (i) hydro storage including pump storage;
 - (ii) thermal generation fuel;
 - (iii) cooling water availability; and
 - (iv) gas supply limitations;
- (6) define circumstances where a *GELF* submitted under paragraph (g) can apply to a collection of *scheduled generating units* that face common *energy constraints* due to their geographic location, access to fuel source or another similar reason;
- (7) define the form of information to be submitted by each *Scheduled Generator* in accordance with paragraph (e); and
- (8) define arrangements for managing the confidentiality of information submitted to *NEMMCO* under this rule 3.7C.
- (l) The scenarios that are defined for the purposes of subparagraph (k)(1) may include, but are not limited to:
 - (1) water conditions such as normal rainfall and drought;
 - (2) material restrictions on the supply of a significant fuel source;
 - (3) other limits on a fuel source for a major form of generation; and
 - (4) any other scenario that *NEMMCO* reasonably considers will have a material impact on the *EAAP*.
- (m) *NEMMCO* must comply with the *EAAP principles* in preparing the *EAAP guidelines*.
- (n) *NEMMCO* must comply with the *EAAP guidelines* in preparing the *EAAP*.
- (o) *NEMMCO* must develop and *publish* the *EAAP guidelines* in accordance with the *Rules consultation procedures*.
- (p) *NEMMCO* must develop and *publish* the first *EAAP guidelines* by 30 June 2009 and there must be a set of *EAAP guidelines* available at all times after that date.
- (q) *NEMMCO* may from time to time in accordance with the *Rules consultation procedures* amend or replace the *EAAP guidelines*.

Provision of information to Scheduled Generators

- (r) *NEMMCO* must provide to each *Scheduled Generator*, based on the relevant *GELF*, an estimate of the total *energy* production of the *scheduled generating units* of that *Scheduled Generator* for the period of the *EAAP*.

Review

- (s) The *Reliability Panel* must conduct a review of the operation of this rule 3.7C by no later than the end of the third year after the *publication* of the first *EAAP*.

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 *NEMMCO intervention event*:
 - (A) the number of *Affected Participants*; 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 rules 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 services* 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 rule 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:

$$RP = DOP \div LF$$

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 ~~MPL~~ ~~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:

$$\text{net revenue} = \text{PB} \times \text{FB} - \text{PA} \times \text{FA}$$

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:

$$P = \text{RP} \times \text{LF}$$

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 MPL ~~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 ~~MPL~~ ~~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 bands*;

- (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 ~~MPL~~ ~~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*.

3.8.8 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*.

3.8.12 System scheduled reserve constraints

NEMMCO must use its reasonable endeavours to ensure that the *dispatch* process meets all requirements for *scheduled 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

During times of *supply* scarcity, NEMMCO must use its reasonable endeavours to ensure that the actions set out below occur in the following sequence:

- (a) subject to:

- (1) any adjustments which may be necessary to implement action under paragraph (c); and
- (2) any *plant* operating restrictions associated with a *relevant NEMMCO intervention event*,

all valid *dispatch bids* and *dispatch offers* submitted by *Scheduled Generators* or *Market Participants* are *dispatched*, including those priced at MPL ~~VoLL~~;

- (b) subject to:

- (1) any adjustments which may be necessary to implement action under paragraph (c); and
- (2) any *plant* operating restrictions associated with a *relevant NEMMCO intervention event*,

after all valid *dispatch bids* and *dispatch offers* referred to in paragraph (a) have been exhausted, exercise the *reliability and emergency reserve trader* in accordance with rule 3.20 by:

- (3) *dispatching scheduled generating units*, *scheduled network services* or *scheduled loads* in accordance with any *scheduled reserve contract*; or

- (4) *activating loads or generating units under any unscheduled reserve contract; 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 rule 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 rule 3.9.

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- (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*.

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- (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

- (a) A *scheduling error* is any one of the following circumstances:

- (1) the *dispute resolution panel* determines under rule 8.2 that *NEMMCO* has failed to follow the *central dispatch* process set out in this rule 3.8; or
 - (2) *NEMMCO* declares that it failed to follow the *central dispatch* process set out in this rule 3.8; or
 - (3) *NEMMCO* determines under clause 3.9.2B(d) that a *dispatch interval* contained a manifestly incorrect input.
- (b) *Spot prices* and *market ancillary service* prices will not be adjusted due to the occurrence of a *scheduling error* except where the *scheduling error* arises through the application of clause 3.9.2B.

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.
- (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 ~~MPL~~ $\forall oLL$;
 - (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(c) and 3.9.3(d) NEMMCO must set the *dispatch price* in accordance with clause 3.9.3; and

- (3) **[Deleted]**
- (4) an *administered price period* in accordance with rule 3.14 applies, then *NEMMCO* must limit the *dispatch price* in accordance with clause 3.14.2(d1).
- (f) If *interruptible load* is shed as a result of a *contingency event* and *NEMMCO* has not set the *dispatch price* to equal *MPL* ~~*VoLL*~~ pursuant to clause 3.9.2(e)(1)(i), *NEMMCO* must not set the *dispatch price* to *MPL* ~~*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 ~~MPL VoLL~~, then the *ancillary service price* is reset to ~~MPL VoLL~~.

(c1) If a marginal price calculated pursuant to clause 3.9.2A(b) is greater than ~~MPL VoLL~~, then that marginal price is reset to ~~MPL 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*.

3.9.2B Pricing where NEMMCO determines a manifestly incorrect input

(a) For the purposes of this clause:

“Input” means any value that is used by the *dispatch algorithm* including measurements of *power system* status, five minute demand forecast values, *constraint* equations entered by NEMMCO, or software setup but not including *dispatch bids* and *dispatch offers* submitted by *Registered Participants*.

“Last correct *dispatch interval*” means the most recent *dispatch interval* preceding the affected *dispatch interval* that is not itself an affected *dispatch interval*.

- (b) NEMMCO may apply the automated procedures developed in accordance with clause 3.9.2B(h), to identify a *dispatch interval* as subject to review (“a *dispatch interval* subject to review”).
- (c) NEMMCO may also determine that a *dispatch interval* is subject to review if NEMMCO considers that it is likely to be subject to a manifestly incorrect input, but only where the *dispatch interval* immediately preceding it was a *dispatch interval* subject to review.
- (d) NEMMCO must determine whether a *dispatch interval* subject to review contained a manifestly incorrect input to the *dispatch algorithm* (“an affected *dispatch interval*”).
- (e) Where NEMMCO determines an affected *dispatch interval*, NEMMCO must:
 - (1) replace all *dispatch prices* and *market ancillary services* prices with the corresponding prices for the last correct *dispatch interval*; and
 - (2) recalculate, in accordance with clause 3.9.2(h), and adjust all *spot prices* relevant to each affected *dispatch interval*.
- (f) NEMMCO may only carry out the action described in clause 3.9.2B(e) if no more than 30 minutes have elapsed since the publication of the *dispatch prices* for the *dispatch interval* subject to review.
- (g) As soon as reasonably practicable after the action as described in clause 3.9.2B(e), NEMMCO must *publish* a report outlining:
 - (1) The reasons for the determination under clause 3.9.2B(d);
 - (2) Whether that determination was correct;
 - (3) What action will be taken to minimise the risk of a similar event in future.
- (h) NEMMCO must, in consultation with *Registered Participants*, develop procedures for the automatic identification of *dispatch intervals* subject to review under clause 3.9.2B (b) (the “automated procedures”).
- (i) The purpose of the automated procedures is to detect instances where manifestly incorrect inputs may have resulted in material differences in pricing outcomes.

- (j) The automated procedures must be designed to a performance standard, so that at least the majority of *dispatch intervals* subject to review are found either to:
 - (1) have had manifestly incorrect inputs; or
 - (2) be the result of the *dispatch algorithm* being run with correct inputs immediately after being run with manifestly incorrect inputs.
- (k) At least once each calendar year, *NEMMCO* must review the effectiveness of the automated procedures having regard to the performance standard referred to in clause 3.9.2B(j).
- (l) *NEMMCO* must report on the findings of the review under clause 3.9.2B(k) and must include in that report details of all *dispatch intervals* subject to review that were not affected *dispatch intervals* and an analysis of why such intervals were identified as subject to review.
- (m) If the report demonstrates that the automated procedures have not achieved the performance standards under clause 3.9.2B(j), then *NEMMCO* must carry out a review of the automated procedures, in consultation with *Registered Participants*, and where appropriate, amend the automated procedures.

3.9.3 Pricing in the event of intervention by NEMMCO

- (a) In respect of a *dispatch interval* where a *NEMMCO intervention event* occurs *NEMMCO* must declare that *dispatch interval* to be an *intervention price dispatch interval*.
- (b) Subject to paragraphs (c) and (d), *NEMMCO* must in accordance with the methodology or assumptions *published* pursuant to paragraph (e) 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 price* for that *dispatch interval* in the relevant *region* had the *NEMMCO intervention event* not occurred.
- (c) *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 *NEMMCO intervention event* occurred; or
 - (2) if applicable, the second *dispatch interval* after the restoration of the power system to a *secure operating state* after any *direction* which constitutes the *NEMMCO intervention event* was issued,

provided that *NEMMCO* must use its reasonable endeavours to set *dispatch prices* and *ancillary service prices* pursuant to this clause 3.9.3 as soon as practicable following the *NEMMCO intervention event*.

- (d) *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 any *direction* which constitutes the *NEMMCO intervention event* to be issued.
- (e) Subject to paragraph (g), *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 paragraph (b).
- (f) The methodology developed by *NEMMCO* under paragraph (e) 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.
- (g) *NEMMCO* may make minor and administrative amendments to the methodology developed under paragraph (e) without complying with the *Rules consultation procedures*.

3.9.3A Reliability standard and settings review

By 30 April of each second year (commencing 2010) the *Reliability Panel* must conduct a review in accordance with the *Rules consultation procedures* and publish a report on the review of the reliability standard and settings 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 3.9.3A the *Reliability Panel* must review the following:

- (1) reliability standard;
- (2) *MPL*;
- (3) *cumulative price threshold*; and
- (4) *market floor price*.

3.9.4 MPL ~~VoLL~~

- (a) MPL ~~VoLL~~ is a price cap which is to be applied to *dispatch prices*.
- (b) The value of MPL is \$10,000/MWh prior to 1 July 2010. Effective from 1 July 2010, the value of MPL is \$12,500/MWh.
- ~~(b) The value of VoLL is \$10,000/MWh. (c) The Reliability Panel must, as part of its review of the reliability standards and settings under clause 3.9.3A, conduct a review on the value of MPL. In conducting a review in accordance with clause 3.9.3A the Reliability Panel must have regard, in addition to any other Rules obligations, to the potential impact of any proposed increase in MPL on:~~
 - ~~(1) spot prices;~~
 - ~~(2) investment in the National Electricity Market; and~~
 - ~~(3) the reliability of the power system.~~
- ~~(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 MPL ~~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 3.20.7(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 MPL ~~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 MPL ~~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 3.9.3A, the *Reliability Panel* may review the value of *MPL* from 1 July in the year commencing 2 years after the year in which the current review is conducted. The *Reliability Panel* may only recommend a change to the level of *MPL* from 1 July in the year commencing 2 years after the year in which the current 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 *Reliability Panel* under clause 3.9.3A will eventuate; and
 - (2) the *Reliability Panel* has given due consideration to the impact of the change to the value of *MPL* on *Market Participants* and in the event of a decrease in the level of *MPL*, any alternative arrangements considered necessary to ensure that the reliability standard set out in the *power system security and reliability standards* is maintained.
- ~~(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 MPL ~~VoLL~~

- (a) *Dispatch prices at regional reference nodes must not exceed MPL ~~VoLL~~.*
- (b) *If central dispatch and determination of dispatch prices in accordance with rule 3.8, and clauses 3.9.2 and 3.9.3 would otherwise result in a dispatch price greater than MPL ~~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 MPL ~~VoLL~~.*
- (c) *If the dispatch price at any regional reference node is set to MPL ~~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 MPL ~~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 MPL ~~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) *The Reliability Panel must, as part of its review of the reliability standard and settings under clause 3.9.3A, conduct a review on the value of the market floor price.*
- ~~(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 rule 3.8, and clauses 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 rule 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 Acquisition of non-market ancillary services

- (a) *NEMMCO* must use reasonable endeavours to acquire *non-market ancillary services* in accordance with the remaining relevant provisions of rule 3.11.
- (b) The requirement for *NEMMCO* to acquire *non-market ancillary services* referred to in clause 3.11.3(a) must be met in the following ways:
 - (1) by *NEMMCO* setting minimum standards which are to be dealt with in *Registered Participants' connection agreements* for the technical performance of the service; or
 - (2) by *NEMMCO* acquiring *ancillary services* in accordance with this rule 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* generally; and
 - (4) take into account the obligations imposed on parties to *connection agreements* by Chapter 5 of the *Rules* and any applicable *derogation*.
- (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 of the *Rules*.
- (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*.
- (i) *NEMMCO* is not responsible for payment to a *Registered Participant* for services 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 that *Network Service Provider* is a party.
- (k) *NEMMCO* may instruct a *Registered Participant* to provide a *non-market ancillary service* agreed to be provided under a *connection agreement* and any *Registered Participant* so instructed must use reasonable endeavours to comply with any such instruction.

3.11.4 Procedure for determining quantities of network control ancillary services

- (a) *NEMMCO* must develop and *publish* a detailed description of each *network control ancillary service*.
- (b) *NEMMCO* must develop and *publish* a procedure for determining the quantities of each kind of *network control ancillary service* required for *NEMMCO*:
 - (1) to achieve the *power system security and reliability standards*; and

- (2) where practicable to enhance *network* transfer capability whilst still maintaining a *secure operating state* when, in *NEMMCO's* reasonable opinion, the resultant expected increase in *network control ancillary service* costs will not exceed the resultant expected increase in benefits of trade from the *spot market*.
- (c) *NEMMCO* may amend the description developed under clause 3.11.4(a) and the procedure referred to in clause 3.11.4(b).
- (d) *NEMMCO* must comply with the *Rules consultation procedures* when making or amending descriptions or procedures under clause 3.11.4.

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

- (a) The objective for *system restart ancillary services* is to minimise the expected economic costs to the *market* in the long term and in the short term, of a *major supply disruption*, taking into account the cost of supplying *system restart ancillary services*, consistent with the *national electricity objective* (the **SRAS objective**).
- (b) *NEMMCO* must use reasonable endeavours to acquire *system restart ancillary services* in accordance with the relevant provisions of clause 3.11.4A.
- (c) Each of the guidelines and *SRAS* description which *NEMMCO* is required to develop and *publish* in accordance with clause 3.11.4A must be:
 - (1) consistent with the *SRAS* objective;
 - (2) designed to ensure the *system restart standard* is met; and
 - (3) designed to ensure that the need for *system restart ancillary services* in each *electrical sub-network* is met, to the extent that it is practicable and reasonable to do so, by *NEMMCO* entering into *ancillary services agreements* for the provision of *primary restart services*.(referred to collectively as the **SRAS procurement objectives**).
- (d) *NEMMCO* must develop and *publish* a detailed description of each type of *system restart ancillary service* in accordance with the guidelines determined by the *Reliability Panel* under clause 8.8.3(aa)(4), which description must identify:
 - (1) whether the *system restart ancillary service* is a *primary restart service* or a *secondary restart service*;
 - (2) the technical and availability requirements of each type of *system restart ancillary service*; and

- (3) any other matter considered relevant by *NEMMCO*,
(the **SRAS description**).
- (e) In order to demonstrate that there is a reasonable degree of certainty that a *facility* is capable of delivering the relevant *system restart ancillary service* if required to do so, *NEMMCO* must develop and *publish* guidelines for undertaking:
 - (1) modelling and assessment of the technical capabilities of *system restart ancillary services* proposed to be submitted as part of a *SRAS* expression of interest or in response to a *NMAS* invitation to tender;
 - (2) physical testing of *system restart ancillary services* as required by the *NMAS* tender guidelines under clause 3.11.5(b)(2); and
 - (3) any other analysis which *NEMMCO* considers appropriate,
(the **SRAS assessment guidelines**).
- (f) *NEMMCO* must develop and *publish* the procedure for determining the number, type and location of *system restart ancillary services* required to be procured for each *electrical sub-network* consistent with the *system restart standard* determined by the *Reliability Panel* (the **SRAS quantity guidelines**).
- (g) *NEMMCO* may amend the *SRAS* assessment guidelines, the *SRAS* quantity guidelines and the *SRAS* description.
- (h) *NEMMCO* must comply with the *Rules consultation procedures* when making or amending the *SRAS* assessment guidelines, the *SRAS* quantity guidelines and the *SRAS* description.

3.11.4B Determination of electrical sub-network boundaries

- (a) For the purpose of acquiring *system restart ancillary services* and determining and implementing the *system restart plan*, the *power system* is to be divided into *electrical sub-networks*.
- (b) *NEMMCO* must determine the boundaries of the *electrical sub-networks* in accordance with the guidelines determined by the *Reliability Panel* under clause 8.8.3(aa)(5).
- (c) *NEMMCO* must comply with the *Rules consultation procedures* in determining the boundaries of the *electrical sub-networks*.

3.11.5 Tender process for non-market ancillary services

- (a) Except as provided in clause 4.8.9, if *NEMMCO* proposes to acquire a *non-market ancillary service*, *NEMMCO* must call for offers in accordance with the *NMAS* tender guidelines from persons who are in a position to provide the *non-market ancillary service* so as to have the required effect at a *connection* to a *transmission network*.
- (b) *NEMMCO* must determine and *publish* the *NMAS* tender guidelines. Separate *NMAS* tender guidelines may be prepared in respect of *network control ancillary services* and *system restart ancillary services*. The *NMAS* tender guidelines must contain the following:
 - (1) a requirement for *NEMMCO* to call for *NMAS* expressions of interest before issuing an *NMAS* invitation to tender in relation to any required *non-market ancillary services*;
 - (2) a requirement that a person who is required to provide *SRAS* under an *ancillary services agreement* has the *facility* tested in accordance with:
 - (i) the *SRAS* assessment guidelines referred to in clause 3.11.4A(e); and
 - (ii) the timeframes for physical testing referred to in subparagraph (5);
 - (3) a requirement that a person who is to provide *network control ancillary services* under an *ancillary services agreement* has the *facility* tested in accordance with the *NMAS* tender guidelines;
 - (4) a requirement for a *Network Service Provider* or other *Registered Participant* to assist a prospective tenderer in identifying and, if possible, resolving issues that would prevent the delivery of effective *system restart ancillary services* proposed by a prospective tenderer;
 - (5) the timeframes over which *NEMMCO*'s assessment of *NMAS* tenders and physical testing of selected *non-market ancillary services* will occur;
 - (6) the period for which each *non-market ancillary service* may be contracted;
 - (7) a requirement for a tenderer to provide data, models and parameters of relevant *plant*, sufficient to facilitate a thorough assessment of the *network* impacts and *power station* impacts of the use of the relevant *non-market ancillary service*;

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- (8) the minimum terms and conditions of the *ancillary services agreement* that a successful tenderer would be expected to enter into with *NEMMCO*;
 - (9) the principles *NEMMCO* must adopt in assessing *NMAS* tenders; and
 - (10) any other matter considered appropriate by *NEMMCO*.
- (c) *NEMMCO* may amend the *NMAS* tender guidelines and must comply with the *Rules consultation procedures* when making or amending the *NMAS* tender guidelines.
 - (d) A *Registered Participant* is not under any obligation to submit an *NMAS* tender in response to an *NMAS* invitation to tender.
 - (e) *NEMMCO* is not under any obligation to accept the lowest priced *NMAS* tender or any *NMAS* tender in response to an *NMAS* invitation to tender.
 - (f) A *Network Service Provider* must:
 - (1) negotiate in good faith with a prospective tenderer in respect of issues the *NMAS* tender guidelines require a prospective tenderer to discuss and, if possible, resolve with a *Network Service Provider*; and
 - (2) participate in, or facilitate, testing of a *system restart ancillary service* required by the *NMAS* tender guidelines where it is reasonable and practicable to do so, and when participating in or facilitating such activities, the *Network Service Provider* will be entitled to recover from the relevant *Registered Participant* all reasonable costs incurred by the *Network Service Provider* and for such purposes the activities of the *Network Service Provider* will be treated as *negotiable services*.
 - (g) Where a *Registered Participant* submits a *NMAS* tender in response to a *NMAS* invitation to tender and *NEMMCO* wishes to negotiate an aspect of that *NMAS* tender, *NEMMCO* and the *Registered Participant* must negotiate in good faith concerning that aspect.
 - (h) Where the tender is for *network control ancillary services*, 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 *network control ancillary services* determined in accordance with clause 3.11.4 by competitive tender and in accordance with this clause 3.11.5(h). A tender will be deemed to be a competitive tender for a particular *network control ancillary service* if the required quantity of that service determined in accordance with clause 3.11.4 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 *network control 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 *network control ancillary service*, taking into account the need to:

- (1) subject to clause 3.11.5(h)(2), so far as practicable minimise the overall cost of supply of that service; and
 - (2) appropriately remunerate the providers of the relevant *network control ancillary service* for that service.
- (i) If *NEMMCO* and the *Registered Participants* selected by *NEMMCO* cannot agree on the terms and conditions for the supply of a *network control 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 rule 8.2.
 - (j) Subject to clause 3.11.5(k), *NEMMCO* must not acquire *non-market ancillary services* from any person who is not a *Registered Participant*.
 - (k) *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*.
 - (l) If *NEMMCO* calls for offers under clause 3.11.5(a) in respect of a type of *non-market ancillary service*, *NEMMCO* must give notice to *Registered Participants* when it believes that it has available, under *ancillary services agreements*, a sufficient quantity of that type of *non-market ancillary service* (as determined by applying the procedure developed under clause 3.11.4(b) or clause 3.11.4A(f), whichever is relevant).
 - (m) Within 5 *business days* of *NEMMCO* giving a notice under clause 3.11.5(l), *NEMMCO* must *publish* the total quantity of each kind of *network control ancillary service* acquired by *NEMMCO* under *ancillary services agreements* under clause 3.11.5.
 - (n) Within 5 *business days* of *NEMMCO* giving a notice under clause 3.11.5(l), *NEMMCO* must *publish*:
 - (1) the total estimated annual cost for the provision of *system restart ancillary services*, broken down to charges for availability and use, or other factors that *NEMMCO* considers appropriate for each *electrical sub-network*; and

- (2) the number of those services procured for each *electrical sub-network*.
- (o) 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*.
- (p) A dispute concerning any aspect, (other than the aspect of price), of a *system restart ancillary services agreement* or a tender conducted by *NEMMCO* for the acquisition of *system restart ancillary services*, must be dealt with in accordance with rule 8.2.

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 rule 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.

3.12 Market Intervention by NEMMCO

3.12.1 Intervention settlement timetable

- (a) *NEMMCO* must use reasonable endeavours to complete and fulfil its obligations set out in clauses 3.12.2, 3.12.3, 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 *NEMMCO intervention event* or the end of a series of related *NEMMCO intervention events* 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 *NEMMCO intervention event* or the end of a series of related *NEMMCO intervention events* if *NEMMCO* is required to appoint an independent expert pursuant to clause 3.15.7A.
- (b) Subject to clause 3.12.1(a), *NEMMCO* must *publish* a timetable that sets a date for each of *NEMMCO's* and the independent expert's obligations pursuant to clauses 3.12.2, 3.12.3, 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*.

3.12.2 Affected Participants and Market Customers entitlements to compensation in relation to NEMMCO intervention

- (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 3.12.2 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 *NEMMCO intervention event* not occurred, taking into account solely the items listed in paragraph (j);
- (2) a *Market Customer*, other than a *Market Customer* which was the subject of any *direction* that constituted the *NEMMCO intervention event*, is entitled, in respect of one or more of its *scheduled loads*, to receive an amount calculated by applying the following formula:

$$DC = ((RRP \times LF) - BidP) \times QD$$

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 *NEMMCO intervention event* had not occurred,

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.

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- (b) 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 3.12.2 if such an amount is less than \$5,000.
- (c) 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 *scheduled network service* or *scheduled generating unit* would have been *dispatched* at had the *NEMMCO intervention event* not occurred; and
 - (ii) an amount equal to:
 - (A) the estimated *trading amount* that it would have received had the *NEMMCO intervention event* not occurred based on the level of *dispatch* in subparagraph (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 *NEMMCO intervention event* not occurred; 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 *NEMMCO intervention event* not occurred based upon the flows referred to in subparagraph (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 paragraph (a)(2) for that *Market Customer*.
- (d) *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:
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- (1) the amount notified by *NEMMCO* pursuant to paragraph (c) 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 this clause 3.12.2.
 - (e) If the figure calculated in accordance with paragraph (c) 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.
 - (f) Subject to paragraphs (h) and (i), within 7 *business days* of receipt of the notice referred to in paragraph (c) an *Affected Participant* or *Market Customer* may make a written submission to *NEMMCO* in accordance with paragraph (g) claiming that the amount set out in the notice is greater than, less than, or equal to its entitlement pursuant to paragraph (a)(1) as an *Affected Participant* or paragraph (a)(2) as a *Market Customer*, as the case may be.
 - (g) A written submission made by an *Affected Participant* or *Market Customer* pursuant to paragraph (f) 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 paragraphs (c)(1) or (c)(2) is less than the amount the *Affected Participant* is entitled to receive pursuant to paragraph (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 paragraph (c)(3) is less than the amount the *Market Customer* is entitled to receive pursuant to paragraph (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.
 - (h) If an *Affected Participant* or *Market Customer* does not deliver to *NEMMCO* a written submission in accordance with paragraph (f) it shall cease to have an entitlement to compensation under this clause 3.12.2.
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- (i) In respect of a single *intervention price trading interval* an *Affected Participant* or *Market Customer* may only make a claim pursuant to paragraph (f) in respect of that *intervention price trading interval* if it claims that its entitlement or liability pursuant to this clause 3.12.2 is greater than \$5,000.
 - (j) In determining the amount for the purposes of paragraph (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 *NEMMCO intervention event* including:
 - (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).
 - (k) *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 *NEMMCO intervention event*, or in respect of, in *NEMMCO’s* reasonable opinion, a series of related *NEMMCO intervention events*; 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 *NEMMCO intervention event*, or in respect of that series of related *NEMMCO intervention events*.
 - (l) *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 3.12.3 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.
- (m) If *NEMMCO* determines pursuant to paragraph (l) that an *affected participant's adjustment claim* or *market customer's additional claim* in respect of a *NEMMCO intervention event* 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 3.12.3.
- (n) For the purposes of clauses 3.15.8 and 3.15.10C(b) any payment pursuant to paragraph (a) must include interest on the sum of that amount less the payment made in accordance with 3.15.10C(a)(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 *NEMMCO intervention event* occurred to the date on which payment is required to be made pursuant to clause 3.15.10C.

3.12.3 Role of the Independent Expert in calculating payments in relation to intervention by NEMMCO

- (a) Subject to clause 3.12.3(a1), if a matter is to be referred to an independent expert pursuant to clauses 3.12.2(l), 3.12.2(m) 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 3.12.3(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 3.12.3(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 3.12.3.
- (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 3.12.2(f) or 3.15.7B (a).

- (b1) To the extent reasonably practicable, all claims arising out of a single *NEMMCO intervention event* or arising out of, in *NEMMCO*'s reasonable opinion, a series of related *NEMMCO intervention events*, 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 3.12.2(a) pursuant to claims referred to the independent expert pursuant to clauses 3.12.2(l) and 3.12.2(m) 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 3.12.3(c)(1)(ii) and 3.12.3(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 3.12.2(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 Participants*, *Referred Market Customers* and *Referred Directed Participants* after *publishing* the draft report and delivering the draft assessment under clause 3.12.3(c)(1).
 - (3) Before the *publication* of the final report and delivery of the final assessment pursuant to clause 3.12.3(c)(4), the independent expert must:

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- (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 3.12.2(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 3.12.3(c)(ii).
 - (5) A report prepared under clauses 3.12.3(c)(1)(i) and 3.12.3(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 3.12.2(f) 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 3.12.3(e).
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- (d) A final report and a final assessment of an independent expert prepared in accordance with clause 3.12.3(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 3.12.3.

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.

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- (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 offer*; 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 day*:
 - (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*.
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- (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 restrictions*:
 - (1) in consultation with such *participating jurisdiction*, and in accordance with any procedures developed with that *participating jurisdiction*, 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 *scheduled 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 or may become the subject of a *NEMMCO intervention event*;
 - (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 offers*, *dispatch bids* 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 MPL ~~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 MPL ~~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:

$$MCP = RSA \quad \times \quad \frac{(AGE)}{(AAGE)}$$

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:

$$RCP = (RSA + IE) \times (RD/TRD)$$

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:

$$RCRP = RSA \quad \times \quad \frac{(AGE)}{(AAGE)}$$

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 Customers*.
 - (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 3.12A.7(g).

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- (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 Customers*, 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).

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- (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 Customers*.
- (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 schedule*, *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 period*.

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.

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;

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- (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.
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- (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) Subject to the requirements relating to disclosure of information under clause 5.3.8(a), a *Registered Participant* may request from *NEMMCO*:
 - (1) *registered bid and offer data*;
 - (2) information that is reasonably required by the *Registered Participant* to carry out *power system* studies (including load flow and dynamic simulations) for planning and operational purposes including:
 - (i) historical information relating to the operating conditions of the *power system* that is not *confidential information*;
 - (ii) information and data provided to *NEMMCO* under paragraphs (f)(1), (f)(3) and (g); and
 - (iii) details of the shared *transmission and distribution network* impedance data and other technical data as listed in schedules 5.5.3 and 5.5.4; and
 - (3) operation and maintenance procedures and practices for *transmission network* or *distribution network* operation, developed for the purposes of schedule 5.1 sufficient to enable the *Registered Participant* to carry out *power system* modelling under normal, *outage* and emergency conditions.
 - (l) Where *NEMMCO* holds information requested under paragraph (k), it must be provided to the *Registered Participant* as soon as practicable.
 - (m) Where special approvals or exemptions have been granted by *NEMMCO*, including approval to aggregate *generating units*, *market network services*, *loads* for *central dispatch*, or exemptions from *central dispatch*, details of such special arrangements must be *published* by *NEMMCO*.
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- (n) *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.
- (o) *Network Service Providers* must advise *NEMMCO* of their *distribution loss factors*, duly authorised by the *AER*, and *NEMMCO* must *publish* such *distribution loss factors* in accordance with clause 3.6.3(i).
- (p) *NEMMCO* must *publish* on a quarterly basis details of:
 - (1) *interconnector* transfer capability; and
 - (2) 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*.

Statement of opportunities

- (q) 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:
 - (i) *Scheduled Generators* and *Market Participants*; and
 - (ii) potential *Scheduled Generators* and *Market Participants*.
- (r) If after the publication of the most recent *statement of opportunities*, significant new information becomes available to *NEMMCO* relating to:
 - (1) the matters covered by paragraphs (q)(1),(2) and (3); or

- (2) the matters covered by clause 5.6.5(c)(8) and (9),

NEMMCO must, as soon as practicable, *publish* that information in a descriptive form that is consistent with the *statement of opportunities*.

- (s) In preparing a *statement of opportunities* *NEMMCO* may seek the assistance of the *Inter-regional Planning Committee*.
- (t) 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 paragraph (q), that information must be provided to *NEMMCO* by that *Scheduled Generator, Market Participant* or *Network Service Provider*.
- (u) By 1 November each year, *NEMMCO* must prepare and provide a report to the *Reliability Panel* on:
- (1) the accuracy of the demand forecasts to date in the most recent *statement of opportunities*; and
- (2) any improvements made by *NEMMCO* or other relevant parties to the forecasting process that will apply to the next *statement of opportunities*.
- (v) The *Reliability Panel* must *publish* each report provided to it under paragraph (u) within ten *business days* after being provided with that report.

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 *scheduled reserve* for each *region* and for the total *power system*;

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- (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 *scheduled reserve* and projected *market ancillary service* surpluses and deficits for each *region*;
 - (5A) the aggregated MW allowance (if any) made by *NEMMCO* for generation from *non-scheduled generating systems* in each forecast:
 - (i) of the most probable peak *power system load* referred to in clause 3.13.4(f)(1);
 - (ii) referred to in clause 3.13.4(f)(2);
 - (iii) of aggregate *generating plant* availability referred to in clause 3.13.4(f)(4); and
 - (iv) of projected *supply* surpluses and deficits referred to in clause 3.13.4(f)(5) but not including shortages of *scheduled reserve* or projected *market ancillary service* surpluses and deficits for each *region*.
 - (5B) in respect of each forecast:
 - (i) of the most probable peak *power system load* referred to in clause 3.13.4(f)(1);
 - (ii) referred to in clause 3.13.4(f)(2);
 - (iii) of aggregate *generating plant* availability referred to in clause 3.13.4(f)(4); and
 - (iv) of projected *supply* surpluses and deficits referred to in clause 3.13.4(f)(5) but not including shortages of *scheduled reserve* or projected *market ancillary service* surpluses and deficits for each *region*,

a value that is the sum of that forecast and the relevant aggregated MW allowance (if any) referred to in clause 3.13.4(f)(5A); and
 - (6) identification and quantification of:
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- (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 actual *generation*, *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 actual *generation* for each *non-scheduled generating unit* or *non-scheduled generating system*, in each *trading interval* for the previous *trading day*.
- (s) Where NEMMCO *publishes* details as referred to in clause 3.13.4(r), the requirement to *publish* applies only to data available to NEMMCO.
- (t) NEMMCO may, in *publishing* the details referred to in clause 3.13.4(s), *publish* aggregated information of actual *generation* for *non-scheduled generating units* or *non-scheduled generating systems* that have a *nameplate rating* that is less than 30 MW.
- (u) Each time NEMMCO runs the *dispatch algorithm* it must, within 5 minutes, *publish* for the relevant *dispatch interval*:
 - (1) details of any MW allowance made by NEMMCO for *generation* from *non-scheduled generating systems* in its forecast regional demand;
 - (2) for each *regional reference node* the sum of the actual *generation* for each *non-scheduled generating unit* or *non-scheduled generating system*; and
 - (3) for each *regional reference node*, a value that is the sum of the *regional demand* value used by NEMMCO in its *dispatch algorithm* to calculate the *dispatch price* referred to in clause 3.13.4(l) and the sum of the actual *generation* referred to in clause 3.13.4(u)(2).
- (v) Where NEMMCO *publishes* the information referred to in clause 3.13.4(u), the requirement for NEMMCO to *publish* applies only to data available to NEMMCO.
- (w) 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*.
- (x) Each *trading interval*, NEMMCO must, for each *regional reference node*, *publish* the demand for that *trading interval*, both inclusive and exclusive of the aggregate actual *generation* from *non-scheduled generating systems*.

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 rule 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 [Deleted]

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 rule 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(b);
 - (7) details of the adequacy and effectiveness of responses to inquiries made by *NEMMCO* under clause 4.8.5A(d); 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*.

3.13.7 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).

3.13.11 [Deleted]

3.13.12 NMI Standing Data

- (a) The authority responsible for administering the *jurisdictional electricity legislation* in 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 responsible authority 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 authority responsible for administering the *jurisdictional electricity legislation* 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 responsible authorities 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).

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- (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 responsible authority 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 *AER* and the relevant responsible authority of the failure and the failure by the *Registered Participant* to provide the *NMI Standing Data* is to be dealt with by the responsible authority under the relevant *participating jurisdiction's* legislation or licensing requirements unless the responsible authority 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 responsible authority notifies *NEMMCO* that the relevant *participating jurisdiction's* legislation or licensing requirements do not contain a regime which empowers the responsible authority 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 responsible authority 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 responsible authority 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 responsible authority under the relevant *participating jurisdiction's* legislation or licensing requirements unless the responsible authority 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 responsible authority notifies *NEMMCO* that the relevant *participating jurisdiction's* legislation or licensing requirements do not contain a regime which empowers the responsible authority 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 responsible authority:
- (1) develop a regime for monitoring and reporting to the responsible authority 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 responsible authority; and
 - (2) provide information to the responsible authority 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.

3.14 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 rule 3.14.
- (b) The *administered floor price* 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 15 times MPL.

~~(e) The cumulative price threshold is \$150,000/MWh.~~

3.14.2 Application of Administered Price Cap

- (a) [Deleted]

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- (b) *NEMMCO* must immediately notify all *Market Participants* of the commencement and closing of an *administered price period* under rule 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 floor price*, *NEMMCO* must set the *dispatch price* to the *administered floor price*.
 - (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 floor price 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 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 administered floor price 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.*

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 ~~MPL~~ ~~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 rule 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, it must follow the procedures in the *Rules* for *PASA*, *dispatch* and *spot price* and *ancillary service price*, subject to the application of 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 clause 3.14.5.
- (c) Subject to clauses 3.14.5(d), (g) and (j), if the *spot market* is suspended in a *region* then *dispatch* and the determination of *spot prices* and *ancillary service prices* in the *region* where the *spot market* is suspended are to continue in accordance with rules 3.8 and 3.9.
- (d) If at any time on or during suspension of the *spot market* in a *region*:
 - (1) in *NEMMCO's* reasonable opinion it is not possible to continue *dispatch* and the determination of *spot prices* in the *suspended region* in accordance with rules 3.8 and 3.9;
 - (2) the *suspended region* is *connected* by an *unconstrained interconnector* to another *region*;
 - (3) the *dispatch* and determination of *spot prices* and *ancillary service prices* in the other *region* is continuing in accordance with rules 3.8 and 3.9; and

- (4) *local market ancillary service requirements* do not apply in the *suspended region*,

NEMMCO must:

- (5) determine the *spot price* in the *suspended region* in accordance with clause 3.14.5(e); and
- (6) continue to determine *ancillary service prices* in the *suspended region* in accordance with rules 3.8 and 3.9.
- (e) In the circumstances described in clause 3.14.5(d) the *spot price* is to be determined by application of an appropriate *inter-regional loss factor* to the *spot price* in the adjacent *region* referred to in clause 3.14.5(d)(2), such *inter-regional loss factor* being determined by *NEMMCO* in accordance with the methodology in clause 3.6.2A and the actual flows on the relevant *unconstrained interconnectors*.
- (f) If the *spot price* in the *suspended region* is being determined in accordance with clause 3.15.4(e), the *spot price* must continue to be determined in accordance with that clause until the earlier of:
- (1) the time that the *spot market* is no longer suspended in the *region*; and
- (2) the time that the *spot price* in the *region* is required to be determined in accordance with either clause 3.14.5(g) or clause 3.14.5(j).
- (g) If at any time during suspension of the *spot market* in a *region*:
- (1) either:
- (A) *dispatch* and the determination of *spot prices* and *ancillary service prices* is being effected in accordance with rules 3.8 and 3.9; or
- (B) the *spot prices* and *ancillary service prices* in the *suspended region* are being determined in accordance with clause 3.14.5(e); and
- (2) in *NEMMCO*'s reasonable opinion it is no longer practical to continue *dispatch* and the determination of *spot prices* and *ancillary service prices* in the *suspended region* in accordance with the clauses under which *dispatch*, *spot prices* and *ancillary service prices* are currently being determined; and
- (3) in *NEMMCO*'s reasonable opinion a current *pre-dispatch schedule* exists in respect of the *suspended region*,

then NEMMCO must determine the *spot prices* and *ancillary service prices* in the *suspended region* in accordance with clause 3.14.5(h).

- (h) In the circumstances described in clause 3.14.5(g), the *spot prices* and *ancillary service prices* in the *suspended region* are set at NEMMCO's forecast *regional reference price* and *ancillary service prices* determined in accordance with the most recently published *pre-dispatch schedule* if it is still current.
- (i) If the *spot prices* and *ancillary service prices* in the *suspended region* are being determined in accordance with clause 3.15.4(h), they must continue to be determined in accordance with that clause until the earlier of:
 - (1) the time that the *spot market* is no longer suspended in the relevant *region*; and
 - (2) the time that the *spot prices* or the *ancillary service prices* (as the case may be) in the *suspended region* are determined in accordance with clause 3.14.5(j).
- (j) If at any time on or during suspension of the *spot market* in a *region*:
 - (1) either:
 - (A) *dispatch* and the determination of *spot prices* and *ancillary service prices* is being effected in accordance with rules 3.8 and 3.9; or
 - (B) the *spot prices* and *ancillary service prices* in the *suspended region* are being determined in accordance with either clause 3.14.5(e) or clause 3.14.5(h); and
 - (2) in NEMMCO's reasonable opinion it is no longer practical to set the *spot prices* and *ancillary service prices* in the *suspended region* in accordance with either clauses rules 3.8, 3.9, clause 3.14.5(e) or clause 3.14.5(h) (as the case may be),

then NEMMCO must set the *spot prices* and *ancillary service prices* in the *suspended region* at the prices set out in the relevant market suspension pricing schedule developed and published in accordance with clause 3.14.5(l).

- (k) If the *spot prices* and *ancillary service prices* in the *suspended region* are being determined in accordance with clause 3.15.4(j), they must continue to be determined in accordance with that clause until the *spot market* is no longer suspended in that *region*.
- (l) NEMMCO must:

- (1) develop in accordance with the *Rules consultation procedures* a methodology to be used by NEMMCO (**estimated price methodology**) to prepare and update schedules containing reasonable estimates of typical *market* prices during the periods to which the schedules relate (**estimated price schedules**);
 - (2) develop and update estimated price schedules in accordance with the estimated price methodology and that set out NEMMCO's reasonable estimate of typical *market* prices during periods in which the *spot market* is suspended; and
 - (3) *publish* the estimated price methodology promptly after it has been developed and *publish* the estimated price schedule at least 14 days prior to the first day to which the schedule relates.
- (m) If a *spot price* is set in accordance with clause 3.14.5(g) or clause 3.14.5(j) at a *regional reference node* (**suspension node**), *spot prices* at all other *regional reference nodes connected* by an *interconnector* that has an actual flow towards the suspension node must not exceed the *spot price* in the *suspended region* multiplied by the average *loss factor* between that *regional reference node* and the *suspension node* for that *trading interval*.
 - (n) NEMMCO must use reasonable endeavours to ensure that any adjustments required to *regional reference prices* so that they do not exceed the limits set by clause 3.14.5(m) are finalised as soon as practicable but in any event by no later than one *business day* following the day on which the *spot market* in the *region* ceased to be suspended.
 - (o) NEMMCO must calculate the average *loss factor* applicable to clause 3.14.5(m) by reference to the *inter-regional loss factor* equations relating to the relevant *regulated interconnector*.

3.14.6 Compensation due to the application of an administered price, MPL ~~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*, MPL ~~VoLL~~, the *market floor price* or an *administered floor price*, 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 floor price* 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*, ~~MPL VoLL~~ or an *administered floor price* 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 floor price* 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 floor price* and the price specified by the *ancillary service load* in its *market ancillary service offer*.

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 rule 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:

$$AGE = ME \times DLF$$

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:

$$TA = AGE \times TLF \times RRP$$

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 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 a NEMMCO *intervention event* 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 NEMMCO *intervention event*, rendered as a consequence of that event.

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:

$$TA \text{ (in \$)} = \text{the } \textit{trading amount} \text{ to be determined (which is a positive number);}$$

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 <i>trading amount</i> to be determined (which is a negative number);
TSRP (in \$)	=	the total of all amounts payable by <i>NEMMCO</i> in respect of the <i>trading interval</i> under <i>ancillary services agreements</i> in respect of the provision of <i>system restart ancillary services</i> ;
TGE (in MWh)	=	the <i>generator energy</i> for the <i>Market Generator</i> for the <i>trading interval</i> ; and
ATGE (in MWh)	=	the aggregate of the <i>generator energy</i> figures for all <i>Market Generators</i> for the <i>trading interval</i> .

- (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 <i>trading amount</i> to be determined (which is a negative number);
TSRP (in \$)	=	has the meaning given in clause 3.15.6A(d);
TCE (in MWh)	=	the <i>customer energy</i> for the <i>Market Customer</i> for the <i>trading interval</i> ; and
ATCE (in MWh)	=	the aggregate of the <i>customer energy</i> figures for all <i>Market Customers</i> for the <i>trading interval</i> .

- (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:

$$TA = \text{RTCRSP} \times \frac{TGE}{\text{RATGE}} \times -1$$

where:

TA (in \$)	=	the <i>trading amount</i> to be determined (which is a negative number);
RTCRSP (in \$)	=	the total of all amounts calculated by <i>NEMMCO</i> as appropriate to recover from the given <i>region</i> as calculated in this clause 3.15.6A(f) for the <i>fast raise service</i> , <i>slow raise service</i> or <i>delayed raise service</i> in respect of <i>dispatch intervals</i> which fall in the <i>trading interval</i> ;
TGE (in MWh)	=	the <i>generator energy</i> figures for the <i>Market Generator</i> in that <i>region</i> for the <i>trading interval</i> ; and
RATGE (in MWh)	=	the aggregate of the <i>generator energy</i> figures for all <i>Market Generators</i> in that <i>region</i> for the <i>trading interval</i> .

- (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 <i>NEMMCO</i> as appropriate to recover from the given <i>region</i> as calculated in this clause 3.15.6A(g) for the <i>fast lower service</i> , <i>slow lower service</i> or <i>delayed lower service</i> in respect of <i>dispatch intervals</i> which fall in the <i>trading interval</i> ;
TCE (in MWh)	=	the <i>customer energy</i> for the <i>Market Customer</i> in that <i>region</i> for the <i>trading interval</i> ; and
RATCE (in MWh)	=	the aggregate of the <i>customer energy</i> figures for all <i>Market Customers</i> in that <i>region</i> for the <i>trading interval</i> .

- (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

$$PTA = \text{the aggregate of } \left(TSFCAS \times \frac{MPF}{AMPF} \right) \text{ for each}$$

dispatch interval in the *trading interval*

where:

TA (in \$)	=	the <i>trading amount</i> to be determined (which is a negative number);
TSFCAS (in \$)	=	the total of all amounts calculated by <i>NEMMCO</i> under clause 3.15.6A(a) for the <i>regulating raise service</i> or the <i>regulating lower service</i> in respect of a <i>dispatch interval</i> ;
MPF (a number)	=	the factor last set by <i>NEMMCO</i> for the <i>Market Generator</i> or <i>Market Customer</i> , as the case may be, under clause 3.15.6A(j); and
AMPF (a number)	=	the aggregate of the MPF figures for all <i>Market Participants</i> for the <i>dispatch interval</i> .

- (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

$$PTA = \text{the aggregate of } (TSFCAS \times \frac{MPF}{AMPF}) \text{ for each}$$

dispatch interval in the *trading interval*

where:

TA (in \$)	=	the <i>trading amount</i> 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 <i>NEMMCO</i> under clause 3.15.6A(j) for <i>Market Customers</i> , for whom the <i>trading amount</i> 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 <i>Market Participants</i> for the <i>dispatch interval</i> ;
TCE (in MWh)	=	the <i>customer energy</i> for the <i>Market Customer</i> for the <i>trading interval</i> ; and
ATCE (in MWh)	=	the aggregate of the <i>customer energy</i> figures for all <i>Market Customers</i> , for whom the <i>trading amount</i> is not calculated in accordance with the formula in clause 3.15.6A(h), for the <i>trading interval</i> .

- (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*;

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- (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(k).
 - (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;
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- (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:

$$DCP = AMP \times DQ$$

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.

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- (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:

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- (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

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- (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 3.12.3 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 3.12.3.

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 3.12.2 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 3.12.2 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 3.12.3(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*.

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- (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.
 - (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 3.12.2 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 3.12.2 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 3.12.3(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 3.12.2 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*.

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* in respect of the relevant *billing period*;
 - (2) any amounts determined as payable by *NEMMCO*:
 - (i) by the independent expert under clause 3.12.3; or
 - (ii) as a result of a *scheduled generating unit*, *scheduled network service* or *scheduled load* under a *scheduled reserve contract*

being *dispatched* or *generating units* or *loads* under an *unscheduled 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* during the relevant *billing period*.
- (c) Separate statements must be provided under paragraph (b):
- (1) for *reserve contracts* entered into by *NEMMCO* specifically in respect of the *Market Participant's region* in accordance with paragraph (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 paragraph (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 occurs between 0800 hours and 2000 hours (EST) 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 3.20.3(f); and

ΣE is the sum of all amounts determined as “E” in accordance with this paragraph (e) in respect of that *region*.

- (f) A *Market Customer* is liable to pay *NEMMCO* an amount equal to the sum calculated under paragraph (e) in respect of that *Market Customer*.
- (g) 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 rule 2.11.
- (h) For the purposes of clause 3.15.19, a re-determination by a panel established under clause 3.12.2 is to be taken to be an agreement between *NEMMCO* and each of the *Market Participants* and *Scheduled Generators*.

3.15.10 Administered price, ~~MPL 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 ~~*MPL 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 ~~MPL 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 ~~MPL 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 Goods and services tax

- (a) In this clause 3.15.10A:

“**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 3.15.10A(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 3.15.10A(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.

3.15.10B 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:

$$EMCP = RSA \quad \times \quad \frac{(AGE)}{(AAGE)}$$

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 Providers* pursuant to *accepted restriction offers*.
- (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 Providers* pursuant to all *accepted restriction offers*.

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:

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- (1) for each *Affected Participant* and *Market Customer* in relation to that *direction* the amount calculated pursuant to clause 3.12.2(c);
 - (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 3.12.2(c);
 - (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 3.12.2(c);
 - (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 3.12.2, 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 3.12.2:
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- (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 3.12.2:
 - (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 3.12.2, 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:
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- (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*.

3.15.11 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) *Reallocation transactions* may be of any type permitted in the *reallocation procedures*.
- (c) A *reallocation transaction* is initiated by a *reallocation request* lodged with *NEMMCO* by or on behalf of two *Market Participants*.
- (d) A *reallocation request* must:
 - (1) contain the information required by the *reallocation procedures*; and
 - (2) be lodged with *NEMMCO* in accordance with the *reallocation procedures* and the timetable for *reallocation requests* as published by *NEMMCO* from time to time (the **reallocation timetable**).
- (e) Upon receipt of a *reallocation request* *NEMMCO* must register the *reallocation request* within the time specified in the *reallocation procedures* and the reallocation timetable and may impose conditions on that registration as contemplated by the *reallocation procedures*.
- (f) After a *reallocation request* has been registered in respect of two *Market Participants*, *NEMMCO* may deregister the *reallocation request* if:
 - (1) the *prudential requirements* are not satisfied by either of those *Market Participants*;

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- (2) either of the *Market Participants* fails to comply with any conditions imposed by *NEMMCO* in respect of the *reallocation request* at the time it was registered;
 - (3) both *Market Participants* notify *NEMMCO* in accordance with the *reallocation procedures* that they require the *reallocation request* to be terminated; or
 - (4) a *default event* occurs in respect of either of the *Market Participants* and *NEMMCO* exercises its powers under paragraph (l).
 - (g) Deregistration of a *reallocation request* prevents *reallocation transactions* occurring in respect of all the *trading intervals* that occur after the time of deregistration.
 - (h) *NEMMCO* must not deregister a *reallocation request* under paragraph (f) otherwise than in accordance with the *reallocation procedures*.
 - (i) The *Market Participants* may agree to reverse the effect of a registered *reallocation request* by lodging a new *reallocation request* in accordance with the *reallocation procedures* and the reallocation timetable.
 - (j) *NEMMCO* must include details of *reallocation transactions* in the *settlement statements* issued to all parties to those *reallocation transactions*.
 - (k) 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*.
 - (l) If a *default event* occurs in relation to a party to a *reallocation request* when one or more of the *trading intervals* specified in the *reallocation request* has not occurred, *NEMMCO* may deregister the *reallocation request* by notice given at any time whilst the *default event* is subsisting.
 - (m) The deregistration under paragraph (l) is effective immediately upon *NEMMCO* notifying both parties to a *reallocation request* of the deregistration and the deregistration:
 - (1) is effective for all *trading intervals* commencing after the time specified in the notice, and notwithstanding that the *default event* may be subsequently cured; and
 - (2) prevents the completion of the requested *reallocation transactions* in the *trading intervals* that commence at or after the time specified in the deregistration notice.
 - (n) In addition to any other right *NEMMCO* may exercise following a *default event*, upon deregistration of a *reallocation request* *NEMMCO* may redetermine the *maximum credit limit* and *trading limit* for either or both of
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the parties to the *reallocation request*, having regard to the deregistration that has occurred.

3.15.11A Reallocation procedures

- (a) *NEMMCO* must develop and *publish* procedures in accordance with the *Rules consultation procedures*, to enable *Market Participants* to create and record *reallocation requests* and *reallocation transactions* in accordance with clause 3.15.11 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 (the “*reallocation procedures*”).
- (b) *NEMMCO* may, from time to time and in accordance with the *Rules consultation procedures*, amend or replace the *reallocation procedures*.
- (c) Paragraph (b) does not apply to amendments to the *reallocation procedures* that are of a minor or administrative nature and *NEMMCO* may make such amendments at any time.
- (d) *NEMMCO* must develop and *publish* the first *reallocation procedures* by 1 January 2008 and there must be such procedures available at all times after that date.
- (e) *NEMMCO* is not required to meet its obligations under paragraph (a) in any way which increases *NEMMCO*’s risks in the collection of moneys owed to it in accordance with any provisions of the *Rules*.

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 rule 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 rule 8.2;
 - (2) must be resolved by agreement or pursuant to rule 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 rule 8.2 and an adjustment to the *settlement amount* stated in the disputed *final statement* is required, or an adjustment is required under clause 3.15.10A, *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*:

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- (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 3.15.10A, 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 3.15.10A) 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 rule 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

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- (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 Participants* 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 rule 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:

$$AAP = SAP \quad \times \quad \frac{A}{B}$$

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*;

A₁ 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*;

B₁ 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:

$$SS_1 = (SAP_1 - SS) - AAP_1$$

where:

SS₁ is the shortfall or surplus payable by or due to the *Market Participant* in respect of the *financial year*;

SAP₁ 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

AAP₁ 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 Participants* 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 rule 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 a *scheduling error* occurs, a *Market Participant* may apply to the *dispute resolution panel* for a determination as to compensation under this clause 3.16.2.

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- (b) Where a *scheduling error* occurs, the *dispute resolution panel* may determine that compensation is payable to *Market Participants* and the amount of any such compensation payable from the *Participant compensation fund*.
 - (c) A determination by the *dispute resolution panel* as to compensation must be consistent with this clause 3.16.2.
 - (d) A *Scheduled Generator* who receives an instruction in respect of a *scheduled generating unit* to operate at a lower level than the level 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*.
 - (e) 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*.
 - (f) A *Scheduled Generator* who receives a *dispatch instruction* in respect of a *scheduled generating unit* to operate at a level consistent with a *dispatch offer price* (with reference to the relevant *regional reference node*) which is higher than the *dispatch price*, due to the operation of clause 3.9.2B, is entitled to receive in compensation an amount determined by the *dispute resolution panel*.
 - (g) A *Scheduled Network Service Provider* who receives an instruction in respect of its *scheduled network services* to transfer power on the *scheduled network service* consistent with a *network dispatch offer price* but receives less net revenue than would be expected under clause 3.8.6A(f) due to adjustment of the *spot price* for a trading interval under clause 3.9.2B, is entitled to receive in compensation an amount determined by the *dispute resolution panel*.
 - (h) In determining the level of compensation to which *Market Participants* are entitled in relation to a *scheduling error*, the *dispute resolution panel* must:
 - (1) Where the entitlement to compensation arises under clause 3.16.2(f), determine compensation on the basis of the actual loading level and not the *dispatch instruction* applicable to the relevant *scheduled generating unit* for that *dispatch interval*;
 - (2) Where the entitlement to compensation arises under clause 3.16.2(g), determine compensation on the basis of the actual loading level and not the *dispatch instruction* applicable to the relevant *scheduled network service* for that *dispatch interval*;

- (3) Use the *spot price* as determined under rule 3.9, including any *spot prices* that have been adjusted in accordance with clause 3.9.2B;
 - (4) Take into account the current balance of the *Participant compensation fund* and the potential for further liabilities to arise during the year;
 - (5) Recognise that 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.
- (i) The manner and timing of payments from the *Participant compensation fund* are to be determined by the *dispute resolution panel*.
 - (j) 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 rule 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*.
- (e) Where a person registered as a *Trader* is required to appoint an agent for the purposes of rule 2.5A(c)(2):
 - (1) the *Trader* must ensure that the agent is a party to the *auction participation agreement* and the *SRD agreement* between *NEMMCO* and the *Trader*; and
 - (2) *NEMMCO* and the *Trader* must ensure that the *auction participation agreement* and the *SRD agreement* referred to in subparagraph (1) provide that the *Trader* and the agent are jointly and severally liable in relation to the obligations of the *Trader* under those agreements.

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

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- (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 subparagraphs (1) – (6) below and must exclude the persons specified in subparagraphs (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) **[Deleted]**
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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.

3.18.4 Proceeds and fees

- (a) *NEMMCO* must distribute:
 - (1) subject to clause 3.6.5(a)(4A) and (4B), 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 rule 3.18, in conducting *auctions* under this rule 3.18 and in entering into and administering *auction participation agreements* and *SRD agreements* under this rule 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 rule 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 *auction 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 rule 3.18; and
 - (4) approve the costs and expenses incurred by NEMMCO in conducting *auctions* under this rule 3.18 and in entering into and administering *auction participation agreements* and *SRD agreements* under this rule 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.*

3.20 Reliability and Emergency Reserve Trader

3.20.1 Expiry of reserve and emergency reliability trader

This rule 3.20 expires on the earlier of:

- (a) 30 June 2012; or
- (b) a date determined by the AEMC on the advice of the *Reliability Panel* in accordance with clause 3.20.9.

3.20.2 Reliability and emergency reserve trader

- (a) *NEMMCO must take all reasonable actions to ensure reliability of supply by negotiating and entering into contracts to secure the availability of reserves under reserve contracts ('reliability and emergency reserve trader' or 'RERT') in accordance with:*
 - (1) this rule 3.20;

- (2) where relevant:
 - (i) clauses 1.11, 3.8.1, 3.8.14, 3.9.3, 3.12, 3.12A.5, 3.15.6, 3.15.9, 4.8.5A and 4.8.5B; and
 - (ii) any other provision of the *Rules* necessary to exercise the *RERT*;
 - (3) the *RERT principles*; and
 - (4) the *RERT guidelines*.
- (b) *NEMMCO* must have regard to the following principles ('RERT principles') in exercising the RERT under paragraph (a):
- (1) actions taken should be those which *NEMMCO* reasonably expects, acting reasonably, to have the least distortionary effect on the operation of the *market*; and
 - (2) actions taken should aim to maximise the effectiveness of *reserve contracts* at the least cost to end use consumers of electricity.
- (c) In having regard to the *RERT principles*, *NEMMCO* must have regard where relevant to the *RERT guidelines*.

3.20.3 Reserve contracts

- (a) *NEMMCO* may enter into one or more contracts with any person in relation to the capacity of:
- (1) *scheduled generating units, scheduled network services or scheduled loads* (being *scheduled reserve contracts*); and
 - (2) *unscheduled reserves* (being *unscheduled reserve contracts*).
- (b) *NEMMCO* may determine to enter into *reserve contracts* to ensure that the reliability of *supply* in a *region* or *regions* meets the relevant *power system security and reliability standards* established by the *Reliability Panel* for the *region*.
- (c) *NEMMCO* must consult with persons nominated by the relevant *participating jurisdictions* in relation to any determination to enter into contracts under paragraph (b).
- (d) *NEMMCO* must not enter into, or renegotiate, a *reserve contract* more than nine months prior to the date that *NEMMCO* reasonably expects that the *reserve* under that contract may be required to ensure reliability of *supply*.
- (e) Subject to paragraph (d), *NEMMCO* may :

- (1) enter into *reserve contracts*; or
- (2) renegotiate existing *reserve contracts*,

in addition to the contracts already entered into by *NEMMCO* under this rule 3.20.

- (f) In entering into *reserve contracts* under paragraph (b) *NEMMCO* must agree with the relevant nominated persons referred to in paragraph (c) cost-sharing arrangements between the *regions* for the purpose of clause 3.15.9.
- (g) If, at any time *NEMMCO* determines that it is necessary to commence contract negotiations for the provision of additional *reserves*, *NEMMCO* must *publish* a notice of its intention to do so.
- (h) When contracting for the provision of *scheduled reserves* under *scheduled 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.

Terms and conditions of a contract

- (i) If *NEMMCO* seeks to enter into a *reserve contract* with a *Registered Participant* then the *Registered Participant* must *negotiate* with *NEMMCO* in good faith as to the terms and conditions of the contract.
- (j) *NEMMCO* may only enter into a *reserve contract* if the contract contains a provision that the other party to the contract has not and will not otherwise offer the *reserve* the subject of the contract in the *market* for the *trading intervals* to which the contract with *NEMMCO* relates except in accordance with the contract.

3.20.4 Dispatch pricing methodology for unscheduled reserve contracts

- (a) Subject to paragraph (c), *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 *unscheduled reserve contracts* be *activated*.
- (b) *NEMMCO* may develop and *publish* the methodology developed in accordance with this clause 3.20.4 as part of the methodology *NEMMCO* is required to develop under clause 3.9.3(e).
- (c) *NEMMCO* may make minor and administrative amendments to the methodology developed in accordance with this clause 3.20.4 without complying with the *Rules consultation procedures*.

3.20.5 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 RERT* activities described in this rule 3.20.
- (b) *NEMMCO* must ensure that it maintains in its books separate accounts relating to the *RERT* functions and powers granted to *NEMMCO* under this rule 3.20.

3.20.6 Reporting on RERT by NEMMCO

- (a) If a *scheduled generating unit*, *scheduled network service* or *scheduled load* under a *scheduled reserve contract* with *NEMMCO* is *dispatched* or *generating units* or *loads* are activated under an *unscheduled reserve contract*, then *NEMMCO* must, as soon as practicable thereafter, *publish* a report detailing:
 - (1) the circumstances giving rise to the need for the *dispatch* of *scheduled reserves* or *activation of unscheduled reserves*;
 - (2) the basis on which it determined the latest time for that *dispatch* of *scheduled reserves* or *activation of unscheduled reserves* and on what basis it determined that a market response would not have avoided the need for the *dispatch* of *scheduled reserves* or the *activation of unscheduled reserves*;
 - (3) the changes in *dispatch* outcomes due to the *dispatch* of *scheduled reserves* or *activation of unscheduled reserves*; and
 - (4) the processes implemented by *NEMMCO* to *dispatch* the *scheduled reserves* or *activate the unscheduled reserves*,and if applicable:
 - (5) reasons why *NEMMCO* did not follow any or all of the processes set out in rule 4.8 either in whole or in part prior to the *dispatch* of *scheduled reserves* or the *activation of unscheduled reserves*; and
 - (6) the basis upon which *NEMMCO* considered it impractical to set *spot prices* and *ancillary service prices* in accordance with clause 3.9.3(b).
- (b) 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 *Market Customer*, as determined by NEMMCO, in each *region*.
- (c) Within 30 *days* of the end of each *financial year* in which NEMMCO has exercised the *RERT*, NEMMCO must *publish* a report detailing:
 - (1) each occasion during the *financial year* on which it intervened to secure the availability of *reserves*;
 - (2) each occasion during the *financial year* when a *scheduled generating unit*, *scheduled network service* or *scheduled load* under a *scheduled reserve contract* was *dispatched* or *generating units* or *loads* under an *unscheduled reserve contract* were *activated*; and
 - (3) its costs and finances in connection with its *RERT* activities during the *financial year* according to appropriate accounting standards including profit and loss, balance sheet, sources and applications of funds.

3.20.7 NEMMCO's exercise of the RERT

- (a) Notwithstanding clauses 4.8.5A and 4.8.5B, if NEMMCO considers the latest time for exercising the *RERT* by:
 - (1) the *dispatch* of *scheduled reserves* it has available under *scheduled reserve contracts*; or
 - (2) the *activation* of *unscheduled reserves* it has available under *unscheduled reserve contracts*,has arrived, NEMMCO may *dispatch* such *scheduled reserves* or *activate* such *unscheduled reserves*.
- (b) NEMMCO must follow the relevant procedures in this rule 3.20 prior to *dispatching* a *scheduled generating unit*, *scheduled network service* or *scheduled load* the subject of a *scheduled reserve contract* or *activating generating units* or *loads* the subject of an *unscheduled reserve contract* unless it is not reasonably practicable to do so.
- (c) Subject to paragraph (b), NEMMCO must only *dispatch* a *scheduled generating unit*, a *scheduled network service* or a *scheduled load* the subject of a *scheduled reserve contract* or *activate generating units* or *loads* the subject of an *unscheduled reserve contract* in accordance with the procedures developed pursuant to paragraph (e).
- (d) In order to effect the *dispatch* of a *scheduled generating unit*, *scheduled network service* or *scheduled load* the subject of a *scheduled reserve*

contract or the *activation* of *generating units* or *loads* the subject of an *unscheduled 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 *scheduled reserve contract*; or
 - (2) change other inputs to the *dispatch process* to give effect to the *dispatch* of *scheduled generating units*, *scheduled network services* or *scheduled loads* the subject of a *scheduled revenue contract* or the *activation* of *generating units* or *loads* the subject of an *unscheduled reserve contract*.
- (e) NEMMCO must develop, *publish*, and may amend from time to time, in accordance with the *Rules consultation procedures*, procedures for the exercise of the *RERT* under this rule 3.20 that take into account the *RERT principles* and *RERT guidelines*. These procedures must include measures to be adopted in order to reduce the possibility that *generating units* or *loads* likely to be *activated* under *unscheduled reserve contracts* are otherwise engaged at the time the *unscheduled reserve contracts* are entered into by NEMMCO.
- (f) When exercising the *RERT* under this rule 3.20, NEMMCO must take into account the *RERT guidelines*.
- (h) NEMMCO must *publish* the first procedures referred to in paragraph (e) by 30 June 2009.

3.20.8 RERT Guidelines

- (a) For the purposes of this rule 3.20, the *Reliability Panel* must develop and *publish* guidelines (the '*RERT guidelines*') for or with respect to:
- (1) what information NEMMCO must take into account when deciding whether to exercise the *RERT*;
 - (2) the relevance of the *RERT principles* to the exercise of the *RERT*;
 - (3) the actions that NEMMCO may take to be satisfied that the *reserve* that is to be the subject of a *reserve contract* is not available to the *market* through any other arrangement;
 - (4) the process NEMMCO should undertake in contracting for *reserves* including the process for tendering for contracts for such *reserves*;

- (5) any specific or additional assumptions about key parameters that *NEMMCO* must take into account in assessing the cost effectiveness of exercising the *RERT*;
 - (6) matters relevant to *NEMMCO* managing a portfolio of *reserve contracts*; and
 - (7) additional forecasts that *NEMMCO* should take into account prior to exercising the *RERT*.
- (b) The *Reliability Panel* must develop, *publish* and amend from time to time, the *RERT guidelines* in accordance with clauses 8.8.3(d) – (l).
 - (c) The *Reliability Panel* must *publish* the first *RERT guidelines* by 30 November 2008 and there must be such guidelines in place at all times after that date.

3.20.9 Review of reserve and emergency reliability trader

- (a) The Reliability Panel must, no later than one year prior to the date the *RERT* is due to expire under clause 3.20.1, complete a review of the *RERT* ('*RERT review*') to determine:
 - (1) whether the *RERT* should expire on the date specified in clause 3.20.1(a); or
 - (2) whether the *RERT* should expire prior to the date referred to in subparagraph (1) and, if so, that date;
- (b) The *Reliability Panel* must conduct the *RERT review* in accordance with clauses 8.8.3(d) – (l).
- (c) The *Reliability Panel* may conduct the review referred to in paragraph (a) as part of the review conducted by the *Reliability Panel* under clause 8.8.3(b).
- (d) On receipt of the written report from the *RERT review* in accordance with clause 8.8.3(j), the *AEMC* may, taking into account the report, make a determination that the *RERT* is to expire and specify the date of expiry.
- (e) The *AEMC* must *publish* the determination referred to in paragraph (d).

Schedule 3.1 - Registered Bid and Offer Data

- (a) 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.
- (b) *Scheduled Generators, Semi-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, semi-scheduled generating units* and *scheduled generating units* at least six weeks prior to commencing participation in the *market*.
- (c) *Scheduled Generators, Semi-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.
- (d) *Registered bid and offer data* may be updated by a *Scheduled Generator, Semi-Scheduled Generator* or *Market Participant* at any time but may be subject to audit at NEMMCO's request.
- (e) A copy of all *changes* to the data must be returned to each *Scheduled Generator, Semi-Scheduled Generator* and *Market Participant* for verification and resubmission by the *Scheduled Generator, Semi-Scheduled Generator* or *Market Participant* as necessary.
- (f) *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 <i>sent out generation</i> at registered capacity	MW
daily <i>energy constraint</i> , if applicable	MWh per day
Generating unit information:	
full <i>load</i>	MW (<i>generated and sent out</i>)
normal or technical minimum <i>load</i>	MW (<i>generated and sent out</i>)

additional emergency <i>generation</i> above registered capacity	MW
normal and maximum <i>ramp rates</i>	MW/minute
response time to full <i>load</i> from cold standby	minutes
aggregation data	
capability chart	
notice to <i>synchronise</i>	minutes
minimum shutdown time	minutes
maximum shutdowns per day	

Semi-Scheduled Generating Unit Data:

Data	Units of Measurement
<i>Power station information:</i>	
node number/identifier	
total registered capacity	MW
<i>Generating unit information</i>	
capacity	MW
normal and maximum <i>ramp rate</i>	MW/minute
aggregation data	

Scheduled Load Data:

Data	Units of Measurement
node number/identifier	
<i>normally on</i> or <i>normally off</i>	
<i>maximum load</i>	MW
daily <i>energy constraint</i> , if applicable	MWh per day
normal and maximum <i>ramp rates</i>	MW/minute
aggregation data	

Scheduled Network Service Data:

Data	Units of Measurement
node number/identifier for <i>connection points</i>	

<i>A</i> and <i>B</i>	
registered <i>power transfer capability</i> to node 1 (may be seasonal etc)	MW
registered <i>power transfer capability</i> to node 2 (may be seasonal etc)	MW
additional transient <i>power transfer capability</i> in each direction	MW
normal and maximum transfer <i>ramp rates</i> (if applicable)	MW/minute
loss vs flow as piecewise linear relationships for each direction which, taken together, are convex over the entire range of <i>power transfer capabilities</i> in both directions	
aggregation data	

Dispatch Inflexibility Profile:

Data	Units of Measurement
time for response from receipt of <i>dispatch</i> instruction from zero <i>load</i> , T1 (see clause 3.8.19(e)(1))	minutes
time after T1 required to reach minimum <i>loading level</i> , T2 (see clause 3.8.19(e)(2))	minutes
time after T2 for which <i>plant</i> must operate at or above the minimum <i>loading level</i> , T3 (see clause 3.8.19(e)(3))	minutes
time required by <i>plant</i> to reduce from its minimum <i>loading level</i> to zero, T4 (see clause 3.8.19(e)(4))	minutes
minimum <i>loading level</i> (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*, *Semi-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.

Semi-scheduled generating units which together are taken to be one *semi-scheduled generating unit* under clause 2.2.7(k) must provide the information required in accordance with this schedule 3.1 for each *generating unit* both separately and in aggregate.

Schedule 3.2 - [Deleted]

Schedule 3.3 - Principles for Determination of Maximum Credit Limits & Prudential Margins

This schedule sets out the principles to be followed by *NEMMCO* in determining the *maximum credit limit* and *prudential margin* for a *Market Participant*.

S3.3.1 Principles for determining maximum credit limits

- (a) The *maximum credit limit* should be set on the principle of imposing a guarantee of payment being made to *NEMMCO* to a level of a *reasonable worst case*.
- (b) When calculating the *maximum credit limit* *NEMMCO* should have regard to:
 - (1) 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;
 - (2) the average level and volatility of the *regional reference price* for the *region* for which the *maximum credit limit* is being calculated, measured over a period of time comparable to the frequency of breaches of the *maximum credit limit*;
 - (3) the pattern of the quantity of electricity recorded in the *metering data* for the *Market Participant*;
 - (4) the quantity and pattern of the *prospective reallocation* in the immediate future;
 - (5) the correlation between the metered amounts of electricity and the *regional reference price*;
 - (6) the length of the *credit period*, which is the number of days from the start of a *billing period* to the end of the *reaction period* taking into account:
 - (i) the length of the *billing period*;

- (ii) 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*);
 - (iii) any current written request from the *Market Participant* to *NEMMCO* for the *maximum credit limit* to be determined on a *payment period* taken, for the purposes of clause 3.3.8 and not otherwise, to be 14 days; and
 - (iv) the time from a *default event* to the suspension or other removal of the *defaulting Market Participant* from the *market*, being a period of up to 7 days (the *reaction period*);
- (7) the statistical distribution of accrued amounts that may be owed to *NEMMCO*; and
 - (8) the degree of confidence that the *maximum credit limit* will be large enough to meet large defaults (i.e. the degree of reasonableness in a *reasonable worst case*).
- (c) As far as practicable, this schedule 3.3 must be read and construed as taking into account *market ancillary service transactions* for the calculation of the *maximum credit limit* for the relevant *Market Participant*.

S3.3.2 Principles for determining prudential margins

The value of the *prudential margin* for a *Market Participant* is set on the same principles as the *maximum credit limit* except that:

- (1) if the aggregate of all *trading amounts* for the *Market Participant* is a positive amount the quantity and pattern of those *trading amounts* are not taken into account when determining the *prudential margin*;
- (2) if the aggregate of all *reallocation amounts* for the *Market Participant* is a positive amount the quantity and pattern of those *reallocation amounts* are not taken into account when determining the *prudential margin*; and
- (3) the *prudential margin* is calculated in respect of the *reaction period*.

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 TransGrid

8A.1 Derogation for the Treatment of Contingent Projects under Revenue Determination

8A.1.1 Expiry date

This derogation expires on 1 July 2009.

8A.1.2 Definitions

In this *participant derogation*:

contingent project means a project approved by the ACCC and identified in the Determination as a contingent project.

current regulatory control period means the period 1 July 2004 to 30 June 2009.

Determination means the “Final Decision, NSW and ACT Transmission Network Revenue Cap TransGrid 2004-05 to 2008-09” dated 27 April 2005 determined by the ACCC pursuant to clause 6.2.4(b) of the National Electricity Code.

maximum allowed revenue means the maximum allowed revenue in the Determination.

TransGrid means the energy services corporation constituted under section 6A of the Energy Services Corporations Act 1995 (NSW).

trigger event means an event identified as a trigger in Attachment G of the Determination in respect of a contingent project.

8A.1.3 Treatment of contingent projects

(a) Where the trigger event identified in respect of a contingent project occurs prior to 1 July 2009, the *AER* must, in accordance with the Determination:

(1) determine:

- (i) the total capital expenditure which the *AER* considers is reasonably required for the purpose of undertaking the contingent project;
- (ii) the forecast capital and incremental operating expenditure for that contingent project for each remaining regulatory year of the current regulatory control period, which the *AER* considers is

reasonably required for the purpose of undertaking the contingent project in accordance with Appendix F of the Determination;

- (iii) the likely commencement and completion dates for the contingent project;
 - (iv) the incremental revenue which is likely to be earned by TransGrid in each remaining regulatory year of the current regulatory control period as a result of the contingent project being undertaken; and
 - (v) the maximum allowed revenue for each regulatory year in the remainder of the current regulatory control period by adding the incremental revenue for that regulatory year; and
 - (2) calculate the estimate referred to in subparagraph (1)(iii) in accordance with the Determination, including:
 - (i) on the basis of the rate of return for TransGrid for the current regulatory control period; and
 - (ii) consistently with the manner in which depreciation is calculated under the Determination; and
 - (3) vary the Determination to apply for the remainder of the current regulatory control period in accordance with paragraph (b).
- (b) The *AER* may only vary the Determination to the extent necessary:
- (1) to adjust the forecast capital expenditure for the current regulatory control period to accommodate the amount of additional capital expenditure determined under paragraph (a)(1)(i); and
 - (2) to adjust the forecast operating expenditure for the current regulatory control period to accommodate the amount of additional operating expenditure determined under paragraph (a)(1)(ii); and
 - (3) to reflect the effect of any resultant increase in forecast capital expenditure and incremental operating expenditure on the maximum allowed revenue for each regulatory year in the remainder of the current regulatory control period.
- (c) The intended date for commencing the contingent project must be during the current regulatory control period.

Part 2 - Derogations Granted to EnergyAustralia

8A.2 Derogation from clause 3.18.2(g)(2) - Auctions and eligible persons

8A.2.1 Definitions

In this *participant derogation*, rule 8A.2:

commencement date means the day the National Electricity Amendment (EnergyAustralia Participant Derogation (Settlement Residue Auctions)) Rule 2006 commences operation.

EnergyAustralia means the energy distributor known as EnergyAustralia and established under the Energy Services Corporations Act 1995 (NSW).

8A.2.2 Expiry date

This *participant derogation* expires on the earlier of:

- (1) 30 June 2009;
- (2) the date that EnergyAustralia's retail business is transferred to a new legal entity pursuant to a NSW Government restructure of EnergyAustralia or by any other means;
- (3) the date that EnergyAustralia ceases to engage in the activity of owning, controlling or operating a *transmission system*;
- (4) the first date after the commencement date on which EnergyAustralia engages in the activity of owning, controlling or operating a *transmission system* that NEMMCO determines, in accordance with the criteria developed pursuant to clause 5.6.3(i), is capable of having a material impact on *interconnector* capability; or
- (5) the date that EnergyAustralia is not excluded from entering into *SRD agreements* under clause 3.18.2(g)(2).

8A.2.3 Derogation

- (a) The reference in clause 3.18.2(g)(2) to *Transmission Network Service Provider* does not include EnergyAustralia.
- (b) If this *participant derogation* expires due to the occurrence of the event in clause 8A.2.2(4) of clause 8A.2.2, then any *SRD agreement* between NEMMCO and EnergyAustralia which is in existence on that date, will terminate on that date.

8A.2A Derogation from inspection and testing of metering installations

8A.2A.1 Definitions

In this *participant derogation*, rule 8A.2A:

EnergyAustralia means the energy distributor known as EnergyAustralia and established under the Energy Services Corporations Act 1995 (NSW).

EnergyAustralia transmission metering installations means any type 2 and type 3 *metering installation* located at the interface between EnergyAustralia's *transmission network* and EnergyAustralia's *distribution network* in New South Wales on the date that the National Electricity Amendment (EnergyAustralia Participant Derogation (Metering Installations)) Rule 2006 commences operation.

expiry date means 1 July 2009 or the publishing of an expiration notice by the *AEMC* under clause 8A.2A.2(h) of this *participant derogation*.

report means a report in writing submitted by EnergyAustralia at 6 monthly intervals, which is prepared as soon as practicable after the EnergyAustralia transmission metering installations are tested, that outlines compliance of the EnergyAustralia transmission metering installations with the requirements of the derogated provisions of the *Rules* as identified in clause 8A.2A.2.

type 2 and type 3 metering installation means the meaning given to type 2 and type 3 *metering installations* in Chapter 7 of the *Rules*.

8A.2A.2 Derogation

- (a) Until the expiry date, the following clauses of the *Rules* (referred to as the '**derogated provisions of the Rules**') do not apply to EnergyAustralia transmission *metering installations*:
 - (1) clause 7.3.1(a)(2);
 - (2) clause 7.3.4(a); and
 - (3) clause 7.6.1(a)(2).
- (b) Until the expiry date, the EnergyAustralia transmission *metering installations* and the *metering data* generated from them is taken to comply with the requirements of the derogated provisions of the *Rules*.
- (c) Until the expiry date, EnergyAustralia must provide a report to *NEMMCO*.
- (d) If *NEMMCO* is not satisfied that a report is satisfactory, *NEMMCO* may give notice to EnergyAustralia that it will recommend to the *AEMC* the

issue of a notice under paragraph (f) if the next report continues to be unsatisfactory.

- (e) Where a report is unsatisfactory, *NEMMCO* may make appropriate adjustments to the *metering data* in the report to take account of errors in that data, in order to minimise adjustments to the final *settlements* account or for any other requirement of the *Rules*.
- (f) If notice was given to EnergyAustralia under paragraph (d) and *NEMMCO* considers that the next report continues to be unsatisfactory, *NEMMCO* may recommend to the *AEMC* the issue of an expiration notice under paragraph (g).
- (g) If *NEMMCO* recommends to the *AEMC* the issue of an expiration notice, the *AEMC* may issue a notice having regard to that recommendation and the *national electricity objective*.
- (h) A notice must be published in the South Australian Government Gazette and takes effect 4 weeks after it is published.

Part 3 - Derogations Granted to Woolnorth Studland Bay Wind Farm Pty Ltd

8A.3 Derogation for ride through of frequency disturbances

8A.3.1 Definitions

For the purposes of this rule 8A.3:

expiry date means the earlier of:

- (1) the date on which the National Electricity Amendment (Technical Standards for Wind Generation and other Generator Connections) Rule 2007 commences operation; or
- (2) 1 August 2007.

Studland Bay Wind Farm means Woolnorth Studland Bay Wind Farm Pty Ltd with ACN 111 996 377.

8A.3.2 Non-scheduled generating units as generating units

Until the expiry date referred to in clause 8A.3.1, any *non-scheduled generating units* registered under the *Rules* by Studland Bay Wind Farm are taken to be *scheduled generating units* for the purposes of clause S5.2.5.8(a)(2) of the *Rules*.

8A.3A Derogation for voltage disturbance ride through regime

8A.3A.1 Definitions

For the purposes of this rule 8A.3:

expiry date means the earlier of:

- (1) the date on which the National Electricity Amendment (Technical Standards for Wind Generation and other Generator Connections) Rule 2007 commences operation; or
- (2) 1 October 2007.

generating units means those *generating units* registered in accordance with the *Rules* to Studland Bay Wind Farm.

Studland Bay Wind Farm means Woolnorth Studland Bay Wind Farm Pty Ltd with ACN 111 996 377.

8A.3A.2 Continuous uninterrupted operation

- (a) Subject to paragraphs (b) and (c), until the expiry date, clause S5.2.5.3(a)(2) of the *Rules* requiring *generating units* to be capable of continuous uninterrupted operation at voltages in excess of 110% of normal voltage at the *connection point*, does not apply to the generating units.
- (b) The total capacity of the generating units referred to in paragraph (a) must not exceed 80MW.
- (c) The capability of the generating units of continuous uninterrupted operation during the occurrence of *power system* voltages in excess of 110% of normal voltage at the *connection point*, must be negotiated and agreed between Studland Bay Wind Farm and the relevant *Network Service Provider*.

Part 4 - Derogations Granted to NEMMCO

8A.4 Deferral of Settlement Payments due to APEC

8A.4.1 Expiry of derogation

This rule 8A.4 expires on 31 December 2007.

8A.4.2 Derogation

- (a) For the purposes of clause 3.15.16 of the *Rules* and the *timetable*, the 21st *business day* after the *billing period* commencing on 5 August 2007 is taken to be the 20th *business day*.
- (b) For the purposes of the *billing period* commencing on 5 August 2007, clause S3.3.1(b)(6)(ii) of the *Rules* continues to apply as if the *Amending Rule* known as the National Electricity Amendment (NEMMCO Participant Derogation (Deferral of Settlement Payments due to APEC)) Rule 2007 had not been made.

Part 5 [Deleted]

Part 6 - Derogations Granted to Victorian Market Participants

[Deleted]

Part 7 - [Deleted]

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.
- (c1) Paragraph (c) does not apply to the use of a *network constraint* referred to in the 'Murray/Tumut constraint list' developed pursuant to paragraph (f).
- (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) Paragraphs (a) – (d) of this *participant derogation* will cease to apply on:
 - (1) 31 October 2008; or
 - (2) as otherwise determined by the *AEMC*.

Specific pricing arrangements for Snowy region

- (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 stations* 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:

$$\alpha_k \times LT + \beta_k \times UT + \delta_k \times MURR + \lambda_k \times GUTH + \gamma_k \times V-Sn + \eta_k \times Sn-NSW \leq RHS_k$$

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 stations 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 stations 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 stations* 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 stations* 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*:

$$SPd_p = \left[DP_{\text{Snowy}} \times TLF_p \right] - \left[\sum_k (CSPa_k \times \text{Coeff}_{p,k}) \right] \text{ for } p = \text{Lower Tumut and Upper Tumut}$$

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
- $\text{Coeff}_{p,k}$ 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 ~~MPL VoLL~~ it must be deemed to be equal to ~~MPL 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:

$$EVD_p = SP_p - (TLF_p \times RRP_{\text{Snowy}}) \text{ for } p = \text{Lower Tumut and Upper Tumut}$$

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:

$$EVA_N = \sum_p (AGE_p \times EVD_p) \text{ for } p = \text{Lower Tumut and Upper Tumut}$$

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:

$$TA_1 = \text{Min} (EVA_N, IRSR_{Sn-NSW})$$

$$TA_7 = -1 \times \text{Min} (0, IRSR_{Vic-Sn})$$

$$TA_2 = -1 \times TA_1 - TA_7$$

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*;

$IRSR_{Vic-Sn}$ is the inter-regional settlement residue allocated to flows **from the Victorian region to the Snowy region** for the relevant *trading interval*;

TA_2 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Snowy region to the NSW region**; and

TA_7 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Victorian region to the Snowy 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:

$$TA_3 = \sum_p (AGE_p \times EVD_p) \text{ for } p = \text{Lower Tumut and Upper Tumut}$$

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:

$$TA_8 = -1 \times \text{Min} (0, IRSR_{Sn-Vic})$$

where:

TA_8 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the Snowy region to the Victorian region**; and
 $IRSR_{Sn-Vic}$ is the inter-regional settlement residue allocated to flows **from the Snowy region to the Victorian region** for the relevant *trading interval*.

- (5) A *settlements residue trading amount* determined as follows:

$$TA_6 = (-1 \times TA_3) - TA_4 - TA_5 - TA_8$$

where:

TA_6 is a *trading amount* for the inter-regional settlement residue allocated to flows **from the NSW region to the Snowy region**; and

$IRSR_{Sn-Vic}$ is the inter-regional settlement residue allocated to flows **from the Snowy region to the Victorian region** for the relevant *trading interval*.

- (p) *NEMMCO* must *publish* all *trading amounts* arising from application of this *participant derogation* (if any) using the current settlement cycle.
- (q) Paragraph (c1) and paragraphs (e1) – (p) of this *participant derogation* will cease to apply at 00:00 hours *EST* on 1 July 2008.

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 2008 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 10



10. GLOSSARY

AARR

The *aggregate annual revenue requirement* for *prescribed transmission services*.

abnormal conditions

A condition described in clause 4.2.3(f).

above-standard system shared transmission service

A *shared transmission service* that exceeds the requirements referred to in paragraph (a)(1) or (2) of the definition of *negotiated transmission service* principally as a consequence of investments that have *system-wide benefits*.

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*.

access charge

For a *Transmission Network Service Provider* - an amount described in clause 5.4A(g)-(j).

For a *Distribution Network Service Provider* - in respect of access to:

- (a) *negotiated distribution services* which would have been *negotiated distribution services* regardless of the operation of clause 6.24.2(c), an amount described in clause 5.5(f)(4); and
- (b) *negotiated distribution services* which would have been treated as *negotiated transmission services* were it not for the operation of clause 6.24.2(c), an amount described in clause 5.4A(g)-(j).

access standard

Either an *automatic access standard* or a *negotiated access standard* for a particular technical requirement as recorded in a *connection agreement*.

Accredited Service Provider category

A category of registration of a *Metering Provider* established by NEMMCO under S7.4.2(b) as a consequence of requirements of a *participating jurisdiction* to install *metering installations*.

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*.

activate, activated, activation

The 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 an *unscheduled reserve contract*.

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 watthour (Wh).

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 3.12.2(k).

adequately damped

In relation to a *control system*, when tested with a step change of a feedback input or corresponding reference, or otherwise observed, any oscillatory response at a *frequency* of:

- (a) 0.05 Hz or less, has a damping ratio of at least 0.4;

- (b) between 0.05 Hz and 0.6 Hz, has a halving time of 5 seconds or less (equivalent to a damping coefficient -0.14 nepers per second or less); and
- (c) 0.6 Hz or more, has a damping ratio of at least 0.05 in relation to a *minimum access standard* and a damping ratio of at least 0.1 otherwise.

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.

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 3.12.2(g)(3).

Affected Participant

- (a) In respect of a particular *direction* in an *intervention price trading interval*:
 - (1) a *Scheduled Generator* or *Scheduled Network Service Provider*:
 - (i) which was not the subject of the *direction*, that had its *dispatched* quantity affected by that *direction*; or
 - (ii) which was the subject of the *direction*, that had its *dispatched* quantity for other *generating units* or other services which were not the subject of that *direction* affected by that *direction*, however, the *Scheduled Generator* 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
 - (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 for the *intervention price trading interval*, as a result of the *direction*; and
- (b) in relation to the exercise of the *RERT* under rule 3.20:
 - (1) a *Scheduled Generator* or *Scheduled Network Service Provider*:
 - (i) whose *plant* or *scheduled network service* was not *dispatched* under a *scheduled reserve contract*, that had its *dispatched* quantity affected by the *dispatch* of *plant* or *scheduled network service* under that *scheduled reserve contract*; and
 - (ii) who was not the subject of *activation* under an *unscheduled reserve contract*, that had its *dispatched* quantity affected by the *activation* of *generating units* or *loads* under that *unscheduled reserve contract*;
 - (2) a *Scheduled Generator* or *Scheduled Network Service Provider* whose *plant* or *scheduled network service* was *dispatched* under a *scheduled reserve contract*, that had its *dispatched* quantity for other *generating units* or other services which were not *dispatched* under the *scheduled reserve contract* affected by that *dispatch* of *plant* or *scheduled network service* under that *scheduled reserve contract*, however, the *Scheduled Generator* or *Scheduled Network Service Provider* is only an *Affected Participant* in respect of those *generating units* and services which were not *dispatched* under that *scheduled 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 *dispatch* of *plant* or *scheduled network service* under a *scheduled reserve contract* or the *activation* of *generating units* or *loads* under an *unscheduled 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

For *prescribed transmission services*, the meaning in clause 6A.22.1 and for any other service, 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 *connection agreement*.

alternative control service

A *distribution service* that is a *direct control service* but not a *standard control service*.

Amending Rule

A Rule made by the *AEMC* under section 103 of the *National Electricity Law* on and from the date of commencement of the operation of that Rule, or parts of that Rule.

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 building block revenue requirement

The amount representing the revenue requirement of a *Transmission Network Service Provider* for each *regulatory year* of a *regulatory control period* calculated in accordance with clause 6A.5.4.

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 revenue for a *Distribution Network Service Provider*, for each *regulatory year* of a *regulatory control period*, calculated in accordance with Part C of Chapter 6.

annual service revenue requirement

Has the meaning set out in clause 6A.22.2.

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*.

approved pass through amount

In respect of a *positive change event* for a *Transmission Network Service Provider*:

- (a) the amount which the *AER* determines should be passed through to *Transmission Network Users* under clause 6A.7.3(d)(2); or
- (b) the amount which the *AER* is taken to have determined under clause 6A.7.3(e)(1),

as the case may be.

In respect of a *positive change event* for a *Distribution Network Service Provider*:

- (a) the amount the *AER* determines should be passed through to *Distribution Network Users* under clause 6.6.1(d)(2); or
 - (b) the amount the *AER* is taken to have determined under clause 6.6.1(e)(3),
- as the case may be.

approved pricing proposal

A *pricing proposal* approved by the *AER*.

ASRR

The *annual service revenue requirement*.

asynchronous generating unit

A *generating unit* that is not a *synchronous generating unit*.

attributable connection point cost share

Has the meaning set out in clause 6A.22.4.

attributable cost share

Has the meaning set out in clause 6A.22.3.

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).

Authority

Any government, government department, instrumentality, *Minister*, agency, statutory authority or other body in which a government has a controlling interest, and includes the *AEMC*, *NEMMCO*, the *AER* and the *ACCC* and their successors.

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 charges

The charges described in rule 5.5(h).

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

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

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

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

black system

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

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.

building block determination

The component of a distribution determination relevant to the regulation of *standard control services* (See rule 6.3).

building block proposal

For a *Distribution Network Service Provider*, the part of the provider's *regulatory proposal* relevant to the regulation of *standard control services* (See clause 6.3.1).

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*.

capital expenditure criteria

For a *Transmission Network Service Provider* – the matters listed in clause 6A.6.7(c)(1)–(3).

For a *Distribution Network Service Provider* – the matters listed in clause 6.5.7(c)(1)–(3).

capital expenditure factors

For a *Transmission Network Service Provider* – the factors listed in clause 6A.6.7(e)(1)–(10).

For a *Distribution Network Service Provider* – the factors listed in clause 6.5.7(e)(1)–(10).

capital expenditure objectives

For a *Transmission Network Service Provider* – the objectives set out in clause 6A.6.7(a).

For a *Distribution Network Service Provider* – the objectives set out in clause 6.5.7(a).

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.

categories of prescribed transmission services

For the purposes of pricing for *prescribed transmission services*:

- (a) *prescribed entry services*;
- (b) *prescribed exit services*;
- (c) *prescribed common transmission services*; and
- (d) *prescribed TUOS services*.

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.

charging parameters

The constituent elements of a tariff.

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.

commercial arbitrator

A dispute resolution panel (within the meaning of section 58 of the *National Electricity Law*) established pursuant to clause 6A.30.2(b).

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 *distribution system* and benefits all *Distribution Customers* and cannot reasonably be allocated on a locational basis.

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 a group of *Generators*, or a *Network Service Provider* or a group of *Network Service Providers*, at a single *connection point*) or an *exit service* (being a service provided to serve a *Transmission Customer* or *Distribution Customer* or a group of *Transmission Customers* or *Distribution Customers*, or a *Network Service Provider* or a group of *Network Service Providers*, at a single *connection point*).

considered project

- (a) In respect of a *transmission network augmentation*, a project that meets the following criteria:
 - (1) the *Network Service Provider* has acquired the necessary land and easements;
 - (2) the *Network Service Provider* has obtained all necessary planning and development approvals;
 - (3) as applicable:
 - (i) the *augmentation* project has passed the *regulatory test*;
 - (ii) in respect of a *new small transmission network asset*, an intention to proceed with the project has been published in the *Network Service Provider's Annual Planning Report*; or
 - (iii) in respect of a *funded augmentation* the arrangements have been made for its funding; and
 - (4) construction has either commenced or the *Network Service Provider* has set a firm date for it to commence.
- (b) In respect of a *distribution network augmentation*, a project that meets the following criteria:
 - (1) the *Network Service Provider* has acquired the necessary land and easements;
 - (2) the *Network Service Provider* has obtained all necessary planning and development approvals; and
 - (3) construction has either commenced or the *Network Service Provider* has set a firm date for it to commence.

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

- (a) In relation to *transmission services* a service which is permitted by the laws of the relevant *participating jurisdiction* to be provided by more than one *Transmission Network Service Provider* as a contestable service or on a competitive basis.
- (b) In relation to *distribution services*, a service which is permitted by the laws of the relevant *participating jurisdiction* to be provided by more than one *Distribution 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).

contingent project

In relation to a *revenue determination*, a *proposed contingent project* that is determined by the *AER*, in accordance with clause 6A.8.1(b), to be a *contingent project* for the purposes of that *revenue determination*.

continuous uninterrupted operation

In respect of a *generating system* or operating *generating unit* operating immediately prior to a *power system* disturbance, not *disconnecting* from the *power system* except under its *performance standards* established under clauses S5.2.5.8 and S5.2.5.9 and, after clearance of any electrical fault that caused the disturbance, only substantially varying its *active power* and *reactive power* required by its *performance standards* established under clauses S5.2.5.11,

S5.2.5.13 and S5.2.5.14, with all essential auxiliary and *reactive plant* remaining in service, and responding so as to not exacerbate or prolong the disturbance or cause a subsequent disturbance for other *connected plant*.

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-ordinated Universal Time (UTC)

The time as determined by the International Bureau of Weights and Measures and maintained under section 8AA of the *National Measurement Act*.

Co-ordinating Network Service Provider

A *Network Service Provider* appointed by multiple *Transmission Network Service Providers* to allocate *AARR* in accordance with rule 6A.29.

Cost Allocation Guidelines

For a *Transmission Network Service Provider* – the guidelines referred to in clause 6A.19.3.

For a *Distribution Network Service Provider* – the guidelines referred to in clause 6.15.3.

Cost Allocation Method

For a *Distribution Network Service Provider*, the Cost Allocation Method approved by the *AER* for that *Distribution Network Service Provider* under clause 6.15.4(c) and (d) as amended from time to time in accordance with clause 6.15.4(f) and (g).

Cost Allocation Methodology

For a *Transmission Network Service Provider*, the Cost Allocation Methodology approved or taken to be approved by the *AER* for that *Transmission Network Service Provider* under clauses 6A.19.4(c) and (d) as amended from time to time in accordance with clauses 6A.19.4(f) and (g).

Cost Allocation Principles

For a *Transmission Network Service Provider* – the principles set out in clause 6A.19.2.

For a *Distribution Network Service Provider* – the principles set out in clause 6.15.2.

cost reflective network pricing

A cost allocation method which reflects the value of assets used to provide *transmission or distribution services to Network Users*.

cost reflective network pricing methodology or CRNP methodology or modified CRNP methodology

The cost allocation methodologies described in schedule 6A.3.

CPI

As at a particular time, the Consumer Price Index: All Groups Index Number, weighted average of eight capital cities published by the Australian Bureau of Statistics for the most recent quarter that precedes that particular time and for which the index referred to has been published by the Australian Bureau of Statistics as at that time. If that index ceases to be published or is substantially changed, *CPI* will be such other index as is determined by the *AER* as a suitable benchmark for recording general movements in prices.

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 transmission use of system, Customer transmission use of system service

A service provided to a *Transmission Network User* for use of the *transmission network* for the conveyance of electricity (including where it has been negotiated in accordance with clause 5.4A(f)(3)) that can be reasonably allocated to a *Transmission 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.

demand management incentive scheme

An incentive scheme for certain *Distribution Network Service Providers* developed and *published* by the AER under clause 6.6.3.

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.

direct control service

A *distribution service* that is a direct control network service within the meaning of section 2B of the Law.

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*.

disconnect, disconnected, disconnection

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 *scheduled reserve contract* in accordance with rule 3.20 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 consultation procedures

The procedures set out in Part G of Chapter 6.

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 network user access

The power transfer capability of the distribution network in respect of:

- (a) generating units or a group of generating units; and*
- (b) network elements,*

at a connection point which has been negotiated in accordance with rule 5.5.

Distribution Ring-Fencing Guidelines

The guidelines developed by the AER under clause 6.17.2.

distribution service

A service provided by means of, or in connection with, a distribution system.

distribution services access dispute

A dispute referred to in clause 6.22.1.

distribution standard control service revenue

Has the meaning given in rule 6.26(b)(2).

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).

DRP

A *dispute resolution panel*.

dual function asset

Means any part of a *network* owned, operated or controlled by a *Distribution Network Service Provider* which operates between 66 kV and 220 kV and which operates in parallel, and provides support, to the higher voltage *transmission network* which is deemed by clause 6.24.2(a) to be a *dual function asset*. For the avoidance of doubt:

- (a) a *dual function asset* can only be an asset which forms part of a *network* that is predominantly a *distribution network*; and
- (b) an asset which forms part of a *network* which is predominantly a *transmission network* cannot be characterised as a *dual function asset*,

through the operation of clause 6.24.2(a).

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.

EAAP guidelines

The guidelines *published* by NEMMCO in accordance with clause 3.7C(k) that NEMMCO must comply with in preparing the EAAP.

EAAP principles

The principles referred to in clause 3.7C(b) that NEMMCO must comply with in preparing the EAAP and the EAAP guidelines.

Eastern Standard Time (EST)

The time which is set at 10 hours in advance of *Co-ordinated Universal Time*.

efficiency benefit sharing scheme

For a *Transmission Network Service Provider* – a scheme developed and *published* by the AER under clause 6A.5.

For a *Distribution Network Service Provider* – a scheme developed and *published* by the AER under clause 6.5.8.

efficiency benefit sharing scheme parameters

For an *efficiency benefit sharing scheme*, those parameters that are *published* by the AER in respect of that scheme pursuant to clause 6A.6.5(c).

electrical energy loss

Energy loss incurred in the production, transportation and/or use of electricity.

electrical sub-network

A part of the *national grid* determined by NEMMCO in accordance with clause 3.11.4B.

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 pass through amount

In respect of a *positive change event* for a *Transmission Network Service Provider*, the increase in costs in the provision of *prescribed transmission services* that the *Transmission Network Service Provider* has incurred and is likely to incur until the end of the *regulatory control period* as a result of that *positive change event* (as opposed to the revenue impact of that event).

In respect of a *positive change event* for a *Distribution Network Service Provider*, the increase in costs in the provision of *direct control services* that the *Distribution Network Service Provider* has incurred and is likely to incur until the end of the *regulatory control period* as a result of that *positive change event* (as opposed to the revenue impact of that event).

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 adequacy assessment projection (EAAP)

A projection of *NEMMCO*'s assessment of *energy* availability that accounts for *energy constraints* for each month over a 24 month period, which is prepared and *published* in accordance with rule 3.7C and is measured as *unserved energy* for each *region*.

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 constraint

A limitation on the ability of a *generating unit* or group of *generating units* to generate *active power* due to the restrictions in the availability of fuel or other necessary expendable resources such as, but not limited to, gas, coal, or water for operating turbines or for cooling.

energy conversion model

The model that defines how the *intermittent* input energy source (such as wind) is converted by the *semi-scheduled generating unit* into electrical output. That model must contain the information set out in the guidelines *published* by NEMMCO in accordance with clause 2.2.7(d).

energy data

Interval energy data or *accumulated energy data*.

energy data services

The services that involve:

- (1) collation of *energy data* from the *meter* or *meter/associated data logger*;
- (2) the processing of the *energy data* in the *metering installation* database;
- (3) storage of the *energy data* in the *metering installation* database; and
- (4) the provision of access to the data for those parties that have rights of access to the data.

energy packets

The value of *energy data* which is accumulated for a period of 30 minutes and stored as a separate data record.

energy support arrangement

A contractual arrangement between a *Generator* or *Network Service Provider* on the one hand, and a customer or *participating jurisdiction* on the other, under which *facilities* not subject to an *ancillary services agreement* for the provision of *system restart ancillary services* are used to assist *supply* to a customer during a *major supply disruption* affecting that customer, or customers generally in the *participating jurisdictions*, as the case may be.

entry charge

The charge payable by an *Embedded Generator* to a *Distribution Network Service Provider* for an *entry service* at a *distribution network connection point*.

entry cost

For each *distribution network connection point*, the amount of the *aggregate 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 a group of *Generators*, or a *Network Service Provider* or a group of *Network Service Providers*, 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 an *unmetered 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).

exit charge

The charge payable by a *Distribution Customer* to a *Distribution Network Service Provider* for *exit service* at a *distribution network connection point*.

exit cost

For each *distribution network connection point*, the amount of the *aggregate 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 Customer* or *Distribution Customer* or a group of *Transmission Customers* or *Distribution Customers*, or a *Network Service Provider* or a group of *Network Service Providers*, 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*.

facilities

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

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

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.

framework and approach paper

A document prepared and issued as a framework and approach paper under clause 6.8.1.

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.

GELF parameters

Variable parameters specific to a *Generator Energy Limitation Framework (GELF)* which are defined in the *EAAP guidelines* and supplement the *GELF*, and are submitted by a *Scheduled Generator* and updated in accordance with rule 3.7C for the purpose of the *EAAP*.

general purpose

The term applied by the National Measurement Institute 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) Subject to paragraph (b), for the purposes of the *Rules*, a system comprising one or more *generating units*.
- (b) For the purposes of clause 2.2.1(e)(3), clause 4.9.2, Chapter 5 and a *jurisdictional derogation* from Chapter 5, a system comprising one or more *generating units* and includes auxiliary or *reactive plant* that is located on the *Generator's* side of the *connection point* and is necessary for the *generating system* to meet its *performance standards*.

Generating System Design Data Sheet

The data sheet *published* by NEMMCO under clause S5.5.7(a)(1).

Generating System Model Guidelines

The guidelines *published* by NEMMCO under clause S5.5.7(a)(3).

Generating System Setting Data Sheet

The data sheet *published* by NEMMCO under clause S5.5.7(a)(2).

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 and, for the purposes of Chapter 5, the term includes a person who is required to, or intends to register in that capacity.

Generator Energy Limitation Framework (GELF)

A description of the *energy constraints* that affect the ability of a *scheduled generating unit* to generate electricity prepared in accordance with the *EAAP guidelines*.

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 5.4A(f)(3)(i); 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*.

indexed amount

As at any time and in relation to a dollar value that is expressly set out in Part C of Chapter 6 or Part C of Chapter 6A, that dollar value multiplied by CPI_a/CPI_b

where:

CPI_a is the *CPI* as at that time; and

CPI_b is the Consumer Price Index: All Groups Index Number, weighted average of eight capital cities published by the Australian Bureau of Statistics for the quarter ending 30 June 2006.

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*.

information guidelines

Guidelines made by the *AER* for the purpose of guiding a *Transmission Network Service Provider* in the submission of certified annual statements and other related information in accordance with clause 6A.17.2.

instrument transformer

Either a *current transformer (CT)* or a *voltage transformer (VT)*.

insurance event

An event for which the risk of its occurrence is the subject of insurance taken out by or for a *Transmission Network Service Provider*, for which an allowance is provided in the *total revenue cap* for the *Transmission Network Service Provider* and in respect of which:

- (a) the cost of the premium paid or required to be paid by the *Transmission Network Service Provider* in the *regulatory year* in which the cost of the premium changes is higher or lower than the premium that is provided for in the *maximum allowed revenue* for the provider for that *regulatory year* by an amount of more than 1% of the *maximum allowed revenue* for the provider for that *regulatory year*;
- (b) the risk eventuates and, as a consequence, the *Transmission Network Service Provider* incurs or will incur all or part of a deductible where the amount so incurred or to be so incurred in a *regulatory year* is higher or lower than the allowance for the deductible (if any) that is provided for in the *maximum allowed revenue* for the provider for that *regulatory year* by an amount of more than 1% of the *maximum allowed revenue* for the provider for that *regulatory year*;
- (c) insurance becomes unavailable to the *Transmission Network Service Provider*; or
- (d) insurance becomes available to the *Transmission Network Service Provider* on terms materially different to those existing as at the time the *revenue determination* was made (other than as a result of any act or omission of the provider which is inconsistent with good electricity industry practice).

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).

- 1A. Notwithstanding the definition in 1. above, in clause 5.6.6(j), a person including an end user or its *representative* who, in the *AER's* opinion, has or identifies itself to the *AER* as having, the potential to suffer a material and adverse market impact from the *new large transmission network asset* identified in the clause 5.6.6(j) final report.
2. In Chapter 6 or Chapter 6A, a person (not being a *Registered Participant* or *NEMMCO*) that has, in the *AER's* opinion, or identifies itself to the *AER* as having, an interest in the *Transmission Ring-Fencing Guidelines* or the *Distribution Ring-Fencing Guidelines*.
3. **[Deleted]**
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 3.12.1(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 electricity legislation

Has the meaning given to that term in the *National Electricity Law*.

jurisdictional metrology material

Jurisdictional metrology matters that are to be included in the *metrology procedure* for one or more of the *participating jurisdictions* and which is submitted by the *Ministers of the MCE* to NEMMCO under clause 7.14.2.

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).

last resort planning power

The *AEMC's* power to direct a *Registered Participant* under clause 5.6.4(c).

last resort planning power guidelines

The guidelines made by the *AEMC* relating to the exercise of the *last resort planning power* and referred to in clause 5.6.4(o)-(r).

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 the authority responsible for administering the *jurisdictional electricity legislation* in the relevant *participating jurisdiction*.

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 authority responsible for administering the *jurisdictional electricity legislation* in the relevant *participating jurisdiction*.

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).

major supply disruption

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

mandatory restrictions

Restrictions imposed by a *participating jurisdiction* by a relevant law, other than the *Rules*, on the use of electricity in a *region*.

mandatory restriction period

The period of *mandatory restrictions*.

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 3.12.2(g)(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 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 price limit (MPL)

A price cap limit on regional reference prices, described in clause 3.9.4.

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*.

materially

For the purposes of the application of clause 6A.7.3, an event (other than a *network support event*) results in a *Transmission Network Service Provider* incurring materially higher or materially lower costs if the change in costs (as opposed to the revenue impact) that the *Transmission Network Service Provider* has incurred and is likely to incur in any *regulatory year* of the *regulatory control period*, as a result of that event, exceeds 1% of the *maximum allowed revenue* for the *Transmission Network Service Provider* for that *regulatory year*. In other contexts, the word has its ordinary meaning.

maximum allowed revenue

For a *Transmission Network Service Provider* for a *regulatory year* of a *regulatory control period*, the amount calculated as such in accordance with rule 6A.3.

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 *unmetered connection point* and the point of connection to the *telecommunications network*, as shown in schedule 7.1.

[**Note:** 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 procedure

The procedure developed and published by *NEMMCO* in accordance with rule 7.14.

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*.

Minister of (a, that, another, or other, etc) participating jurisdiction

Has the same meaning as Minister of a participating jurisdiction has in the *National Electricity Law*.

Ministers of the MCE

Ministers of the participating jurisdictions acting as the MCE where MCE has the same meaning as in 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, or as subsequently modified.

NATA

National Association of Testing Authorities.

National Electricity Code

Has the same meaning as in the *National Electricity Law*.

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 Electricity Market

Has the same meaning as in the *National Electricity Law*.

national electricity objective

The objective stated in section 7 of the Law.

national grid

The sum of all *connected transmission systems* and *distribution systems* within the *participating jurisdictions*.

National Measurement Act

The National Measurement Act 1960 of the Commonwealth as amended from time to time.

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*.

NCAS

A network control ancillary service.

negative change event

For a *Transmission Network Service Provider*, a *pass through event* which entails the *Transmission Network Service Provider* incurring *materially* lower costs in providing *prescribed transmission services* than it would have incurred but for that event.

For a *Distribution Network Service Provider*, a *pass through event* that materially reduces the costs of providing *direct control services*.

negative network support event

A *network support event* which entails a *Transmission Network Service Provider* making lower *network support payments* in the preceding *regulatory year* than the amount of *network support payments* (if any) that is provided for in the *annual building block revenue requirement* for the provider for that *regulatory year*.

negative pass through amount

In respect of a *negative change event* for a *Transmission Network Service Provider*, an amount that is not greater than a *required pass through amount* as determined by the AER under clause 6A.7.3(g).

In respect of a *negative change event* for a *Distribution Network Service Provider*, an amount that is not greater than a *required pass through amount* as determined by the AER under clause 6.6.1(g).

negotiable service

- (a) In relation to *transmission services* means *negotiated transmission services*.
- (b) In relation to *distribution services* means *negotiated distribution services*.

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 distribution service

A *distribution service* that is a *negotiated network service* within the meaning of section 2C of the Law;

Negotiated Distribution Service Criteria

The criteria specified in a distribution determination in accordance with clause 6.7.4.

Negotiated Distribution Service Principles

The principles set out in clause 6.7.1.

negotiated transmission service

Any of the following services:

- (a) a *shared transmission service* that:
 - (1) exceeds the *network* performance requirements (whether as to quality or quantity) (if any) as that *shared transmission service* is required to meet under any *jurisdictional electricity legislation*; or
 - (2) except to the extent that the *network* performance requirements which that *shared transmission service* is required to meet are prescribed under any *jurisdictional electricity legislation*, exceeds or does not meet the *network* performance requirements (whether as to quality or quantity) as are set out in schedule 5.1a or 5.1;
- (b) *connection services* that are provided to serve a *Transmission Network User*, or group of *Transmission Network Users*, at a single *transmission network connection point*, other than *connection services* that are provided by one *Network Service Provider* to another *Network Service Provider* to *connect* their *networks* where neither of the *Network Service Providers* is a *Market Network Service Provider*; or
- (c) *use of system services* provided to a *Transmission Network User* and referred to in rule 5.4A(f)(3) in relation to *augmentations* or *extensions* required to be undertaken on a *transmission network* as described in rule 5.4A,

but does not include an *above-standard system shared transmission service* or a *market network service*.

Negotiated Transmission Service Criteria

For a *Transmission Network Service Provider* under a *transmission determination*, the criteria set out in that *transmission determination* pursuant to clause 6A.9.4.

Negotiated Transmission Service Principles

The principles set out in clause 6A.9.1.

negotiated use of system service

A *use of system service* in respect of which:

- (a) a *Connection Applicant* may negotiate with a *Transmission Network Service Provider*;
- (b) an *Embedded Generator* may negotiate with a *Distribution Network Service Provider*; or

- (c) a *Market Network Service Provider* may negotiate with a *Distribution Network Service Provider*,

in accordance with clauses 5.4A(f)(3) or 5.5(f)(3).

negotiated use of system charges

The charges described in clauses 5.4A(f)(3) or 5.5(f)(3).

negotiating framework

For a *Transmission Network Service Provider*, the negotiating framework approved or included by the *AER* for that *Transmission Network Service Provider* in a final decision under clause 6A.14.1(6).

For a *Distribution Network Service Provider*, a negotiating framework as approved or substituted by the *AER* in its final decision under clause 6.12.1(15).

NEM

The *National Electricity Market*.

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 intervention event

An event where *NEMMCO* intervenes in the *market* under the *Rules* by:

- (a) issuing a *direction* in accordance with clause 4.8.9; or
- (b) exercising the *reliability and emergency reserve trader* in accordance with rule 3.20 by:
 - (1) *dispatching scheduled generating units, scheduled network services or scheduled loads* in accordance with a *scheduled reserve contract*; or
 - (2) *activating loads or generating units* under an *unscheduled reserve contract*.

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

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

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

network coupling point

The point at which *connection assets* join a *distribution network*, used to identify the *distribution service* price payable by a *Customer*.

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 service provider performance report

A report prepared by the AER under section 28V of the Law.

network support event

- (a) If, at the end of a *regulatory year* of a *regulatory control period*, the amount of *network support payments* made by a *Transmission Network Service Provider* for that previous *regulatory year* is higher or lower than the amount of *network support payments* (if any) that is provided for in the *annual building block revenue requirement* for the *Transmission Network Service Provider* for that *regulatory year*, this constitutes a *network support event*.
- (b) In calculating the amount for the purposes of a *network support event* referred to in paragraph (a), the amount of *network support payments* made by a *Transmission Network Service Provider* must not include an amount of *network support payments* that are a substitute for a *network augmentation* where an allowance for capital expenditure in relation to that *network augmentation* has been provided for in the *revenue determination*.

network support pass through amount

The amount that should be passed through to *Transmission Network Users* in the *regulatory year* following the preceding *regulatory year*, in respect of a *network support event* for a *Transmission Network Service Provider*.

network support payment

A payment by a *Transmission Network Service Provider* to:

- (a) any *Generator* providing *network* support services in accordance with clause 5.6.2; or
- (b) any other person providing a *network* support service that is an alternative to *network augmentation*.

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 *AER* 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 *AER* 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*.

NMAS

A *non-market ancillary service*.

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.

nominal voltage

The design *voltage* level, nominated for a particular location on the *power system*, such that power lines and circuits that are electrically connected other than through transformers have the same *nominal voltage* regardless of operating *voltage* and *normal voltage*.

non-credible contingency event

An event described in clause 4.2.3(e).

non-market ancillary service

Network control ancillary services and *system restart ancillary services*.

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-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-regulated transmission services

A *transmission service* that is neither a *prescribed transmission service* nor a *negotiated transmission service*.

non-scheduled generating unit

A *generating unit* so classified in accordance with Chapter 2.

non-scheduled generating system

A *generating system* comprising *non-scheduled generating units*.

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*.

normal voltage

In respect of a *connection point*, its *nominal voltage* or such other *voltage* up to 10% higher or lower than *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*.

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.

operating expenditure criteria

For a *Transmission Network Service Provider* – the matters listed in clause 6A.6.6(c)(1)–(3).

For a *Distribution Network Service Provider* – the matters listed in clause 6.5.6(c)(1)–(3).

operating expenditure factors

For a *Transmission Network Service Provider* – the factors listed in clause 6A.6.6(e)(1)–(10).

For a *Distribution Network Service Provider* – the factors listed in clause 6.5.6(e)(1)–(10).

operating expenditure objectives

For a *Transmission Network Service Provider* – the objectives set out in clause 6A.6.6(a).

For a *Distribution Network Service Provider* – the objectives set out in clause 6.5.6(a).

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.

over-recovery amount

Any amount by which the revenue earned from the provision of *prescribed transmission services* in previous *financial years* exceeds the sum of the *AARR* in those *financial years*, grossed up by the application of an annual interest rate approved by the *AER* for this purpose.

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.

pass through event

Any of the following is a pass through event:

- (a) a regulatory change event;
- (b) a service standard event;
- (c) a tax change event;
- (d) a terrorism event.

An *insurance event* is a pass through event for a *transmission determination* (in addition to those listed above).

An event nominated in a distribution determination as a pass through event is a pass through event for the determination (in addition to those listed above).

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 incentive scheme parameters

For a *service target performance incentive scheme*, those parameters that are *published* by the AER in respect of that scheme pursuant to clause 6A.7.4(c).

performance standard

A standard of performance that:

- (a) is established as a result of it being:
 - (1) accepted by NEMMCO in accordance with rule 4.14(d)(1);
 - (2) taken to be an applicable performance standard in accordance with clause 5.3.4A(i);
 - (3) deemed to apply in accordance with rule 4.14(h); or

- (4) determined pursuant to rule 4.14(m); or
 - (b) is included in the register of *performance standards* established and maintained by NEMMCO under rule 4.14(n),
- as the case may be.

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*.

positive change event

For a *Transmission Network Service Provider*, a *pass through event* which entails the *Transmission Network Service Provider* incurring *materially* higher costs in providing *prescribed transmission services* than it would have incurred but for that event, but does not include a *contingent project* or an associated *trigger event*.

For a *Distribution Network Service Provider*, a *pass through event* that materially increases the costs of providing *direct control services*.

positive network support event

A *network support event* which entails a *Transmission Network Service Provider* making higher *network support payments* in the preceding *regulatory year* than the amount of *network support payments* (if any) that is provided for in the *annual building block revenue requirement* for the provider for that *regulatory year*.

positive pass through amount

For a *Transmission Network Service Provider*, an amount (not exceeding the *eligible pass through amount*) proposed by the provider under clause 6A.7.3(c).

For a *Distribution Network Service Provider*, an amount (not exceeding the *eligible pass through amount*) proposed by the provider under clause 6.6.1(c).

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*.

post-tax revenue model

For a *Transmission Network Service Provider*, the model prepared and *published* by the AER in accordance with clause 6A.5.1.

For a *Distribution Network Service Provider*, the model prepared and *published* by the AER in accordance with clause 6.4.1.

potential transmission project

New transmission network investment identified by the AEMC which, in the opinion of the AEMC, is likely, if constructed, to relieve forecast *constraints* in respect of *national transmission flow paths* between *regional reference nodes*.

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

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)(6).

preliminary statement

Has the meaning given in clause 3.15.14(a).

prescribed common transmission services

Prescribed transmission services that provide equivalent benefits to all *Transmission Customers* who have a *connection point* with the relevant *transmission network* without any differentiation based on their location within the *transmission system*.

prescribed entry services

Entry services that are *prescribed transmission services* by virtue of the operation of clause 11.6.11.

prescribed exit services

Exit services that are *prescribed transmission services* by virtue of the operation of clause 11.6.11 and *exit services* provided to *Distribution Network Service Providers*.

prescribed transmission service

Any of the following services:

- (a) a *shared transmission service* that:
 - (1) does not exceed such *network* performance requirements (whether as to quality or quantity) as that *shared transmission service* is required to meet under any *jurisdictional electricity legislation*;
 - (2) except to the extent that the *network* performance requirements which that *shared transmission service* is required to meet are prescribed

under any *jurisdictional electricity legislation*, does not exceed such *network* performance requirements (whether as to quality or quantity) as are set out in schedule 5.1a or 5.1; or

- (3) is an *above-standard system shared transmission service*;
- (b) services that are required to be provided by a *Transmission Network Service Provider* under the *Rules*, or in accordance with *jurisdictional electricity legislation*, to the extent such services relate to the provision of the services referred to in paragraph (a), including such of those services as are:
 - (1) required by *NEMMCO* to be provided under the *Rules*; and
 - (2) necessary to ensure the integrity of a *transmission network*, including through the maintenance of *power system security* and assisting in the planning of the *power system*; or
- (c) *connection services* that are provided by a *Transmission Network Service Provider* to another *Network Service Provider* to *connect* their *networks* where neither of the *Network Service Providers* is a *Market Network Service Provider*;

but does not include a *negotiated transmission service* or a *market network service*.

prescribed TUOS services or prescribed transmission use of system services;

Prescribed transmission services that:

- (a) provide different benefits to *Transmission Customers* who have a *connection point* with the relevant *transmission network* depending on their location within the *transmission system*; and
- (b) are not *prescribed common transmission services*, *prescribed entry services* or *prescribed exit services*.

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.

pricing methodology

For a *Transmission Network Service Provider*, means the pricing methodology approved by the *AER* for that *Transmission Network Service Provider* and included in a *transmission determination* as referred to in rule 6A.24.

pricing methodology guidelines

Guidelines made by the *AER* under rule 6A.25 that contain the matters set out in clause 6A.25.2.

Pricing Principles for Prescribed Transmission Services

The principles set out in rule 6A.23.

pricing proposal

A pricing proposal under Part I of Chapter 6.

pricing zone

A geographic area within which *Network Users* are charged a specific set of *distribution service* prices.

primary restart service

A *system restart ancillary service* that meets the technical and availability requirements of a *primary restart service* specified by *NEMMCO* under clause 3.11.4A(d).

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).

proposed contingent capital expenditure

The total forecast capital expenditure for the relevant *proposed contingent project*, as included in the *Revenue Proposal* for that project.

proposed contingent project

A proposal by a *Transmission Network Service Provider* as part of a *Revenue Proposal* for a project to be determined by the *AER* as a *contingent project* for the purposes of a *revenue determination* in accordance with clause 6A.8.1(b).

prospective reallocation

A *reallocation transaction* that occurs in a *trading interval* that takes place at a time after the *reallocation request* is made.

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 margin

A dollar amount to be determined by *NEMMCO* in accordance with clause 3.3.8.

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

A document is published by the *AER* if it is:

- (a) published on the *AER*'s website; and
- (b) made available for public inspection at the *AER*'s public offices; and
- (c) in the case of a document inviting submissions from members of the public – published in a newspaper circulating generally throughout Australia.

A document is published by someone else if it is made available to *Registered Participants* electronically.

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*.

rated active power

- (1) In relation to a *generating unit*, the maximum amount of *active power* that the *generating unit* can continuously deliver at the *connection point* when operating at its *nameplate rating*.
- (2) In relation to a *generating system*, the combined maximum amount of *active power* that its in-service *generating units* can deliver at the *connection point*, when its in-service *generating units* are operating at their *nameplate ratings*.

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 varhour-(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.

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 amount

In respect of a *Market Participant*, the positive or negative dollar amount in respect of a *reallocation transaction* being an amount payable to or by the *Market Participant*.

reallocation procedures

The procedures *published* by *NEMMCO* under clause 3.15.11A.

reallocation request

A request to *NEMMCO* for a *reallocation*, pursuant to clause 3.15.11(c).

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*.

Reallocator

A person registered as a Reallocator by *NEMMCO* in accordance with rule 2.5B.

reasonable worst case

A position that, while not being impossible, is to a probability level that the estimate would not be exceeded more than once in 48 months.

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 3.12.2(l) or 3.12.2(m).

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 3.12.2(l) or 3.12.2(m).

region, regional

An area determined by the *AEMC* in accordance with Chapter 2A, 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 the *AEMC* in accordance with Chapter 2A.

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).

Regions Publication

The document *published* by *NEMMCO* under clause 2A.1.3 that provides a list of all *regions*, *regional reference nodes* and the *region* to which each *market connection point* is assigned.

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 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 referred to in clause 11.8.2 of the *Rules* and is subject to *transmission service* regulation and pricing arrangements in Chapter 6A.

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 change event

A change in a *regulatory obligation* or *requirement* that:

- (a) falls within no other category of *pass through event*; and
- (b) occurs during the course of a *regulatory control period*; and
- (c) substantially affects the manner in which the *Transmission Network Service Provider* provides *prescribed transmission services* or the *Distribution Network Service Provider* provides *direct control services* (as the case requires); and
- (d) *materially* increases or *materially* decreases the costs of providing those services.

regulatory control period

- (a) In respect of a *Transmission Network Service Provider*, a period of not less than 5 *regulatory years* in which a *total revenue cap* applies to that provider by virtue of a *revenue determination*.

- (b) In respect of a *Distribution Network Service Provider*, a period of not less than 5 *regulatory years* for which the provider is subject to a control mechanism imposed by a distribution determination.

regulatory obligation or requirement

Has the meaning assigned in the Law.

regulatory proposal

A proposal (by a *Distribution Network Service Provider*) under rule 6.8.

regulatory test

The test developed and published by the *AER* in accordance with clause 5.6.5A, as in force from time to time, and includes amendments made in accordance with clause 5.6.5A.

regulatory year

Each consecutive period of 12 calendar months in a *regulatory control period*, the first such 12 month period commencing at the beginning of the *regulatory control period* and the final 12 month period ending at the end of the *regulatory control period*.

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 NEMMCO intervention event

A *NEMMCO intervention event* that involves the exercise of the *reliability and emergency reserve trader* in accordance with rule 3.20 as referred to in paragraph (b) of the definition of *NEMMCO intervention event*.

relevant tax

Any tax payable by a *Transmission Network Service Provider* or a *Distribution Network Service Provider* other than:

- (a) income tax and capital gains tax;
- (b) stamp duty, financial institutions duty and bank accounts debits tax;
- (c) penalties, charges, fees and interest on late payments, or deficiencies in payments, relating to any tax; or
- (d) any tax that replaces or is the equivalent of or similar to any of the taxes referred to in paragraphs (a) to (b) (including any State equivalent tax).

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 and emergency reserve trader (RERT)

The actions taken by *NEMMCO* as referred to in clause 3.20.2, in accordance with rule 3.20, to ensure reliability of *supply*.

reliability augmentation

A *transmission network augmentation* that is necessitated principally 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 acquisition

The acquisition of interval *metering data* from a *metering installation*, where the acquisition process transmits the *metering data* from the site of the *metering point* to the *metering database*, and does not, at any time, require the presence of a person at, or near, the interval *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 remote acquisition includes but is not limited to methods that transmit *metering data* via:

- (1) direct dial-up;
- (2) satellite;
- (3) the internet;
- (4) a general packet radio service;

- (5) power line carrier; or
- (6) any other equivalent technology.

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.

required pass through amount

In respect of a *negative change event* for a *Transmission Network Service Provider*, the costs in the provision of *prescribed transmission services* that the *Transmission Network Service Provider* has saved and is likely to save until the end of the *regulatory control period* as a result of that *negative change event* (as opposed to the revenue impact of that event).

In respect of a *negative change event* for a *Distribution Network Service Provider*, the costs in the provision of *direct control services* that the *Distribution Network Service Provider* has saved and is likely to save up to the end of the *regulatory control period* as a result of the *negative change event* (as opposed to the revenue impact of that event).

RERT guidelines

The guidelines developed and *published* by the *Reliability Panel* under clause 3.20.8.

RERT principles

The principles referred to in clause 3.20.2(b).

reserve

Scheduled reserve or *unscheduled reserve*.

reserve contract

A *scheduled reserve contract* or an *unscheduled reserve contract*.

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 determination

A determination referred to in clause 6A.2.2(1) and rule 6A.4 as substituted (if at all) pursuant to clause 6A.7.1 or rule 6A.15 or as amended pursuant to clause 6A.8.2.

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.

Revenue Proposal

For a *Transmission Network Service Provider*, a proposal submitted or resubmitted by the *Transmission Network Service Provider* to the *AER* pursuant to clause 6A.10.1(a), clause 6A.11.2 or clause 6A.12.3(a) (as the context requires).

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.

roll forward model

According to context:

- (a) the model developed and published by the *AER* for the roll forward of the regulatory asset base for *transmission systems* in accordance with clause 6A.6.1;
- (b) the model developed and published by the *AER* for the roll forward of the regulatory asset base for *distribution systems* in accordance with clause 6.5.1.

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*, or the *ACCC*, 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) A *generating unit* so classified in accordance with Chapter 2.
- (b) For the purposes of Chapter 3 and rule 4.9, two or more *generating units* referred to in paragraph (a) that have been aggregated in accordance with clause 3.8.3.

scheduled generating system

A *generating system* comprising *scheduled generating units*.

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) 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*.
- (b) For the purposes of Chapter 3 and rule 4.9, two or more *scheduled loads* referred to in paragraph (a) that have been aggregated in accordance with clause 3.8.3.

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) A *network service* which is classified as a *scheduled network service* in accordance with Chapter 2.
- (b) For the purposes of Chapter 3 and rule 4.9, two or more *scheduled network services* referred to in paragraph (a) that have been aggregated in accordance with clause 3.8.3.

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 *semi-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.

scheduled reserve

The amount of surplus or unused capacity:

- (a) of *scheduled generating units*;
- (b) of *scheduled network services*; or
- (c) arising out of the ability to reduce *scheduled loads*.

scheduled reserve contract

A contract entered into by *NEMMCO* for the provision of *scheduled reserve* in accordance with rule 3.20.

scheduling error

Scheduling error means any of the events described in clause 3.8.24(a).

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*.

secondary restart service

A *system restart ancillary service* that meets the technical and availability requirements of a *secondary restart service* specified by *NEMMCO* under clause 3.11.4A(d).

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.

semi-scheduled generating system

A *generating system* comprising *semi-scheduled generating units*.

semi-scheduled generating unit

- (a) A *generating unit* classified in accordance with clause 2.2.7.
- (b) For the purposes of Chapter 3 and rule 4.9, two or more *generating units* referred to in paragraph (a) that have been aggregated in accordance with clause 3.8.3.

Semi-Scheduled Generator

A *Generator* in respect of which any *generating unit* is classified as a *semi-scheduled generating unit* in accordance with Chapter 2.

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*.

Service Applicant

According to context:

- (a) a person who is an existing or intending *Registered Participant* or a person who is eligible to become a *Registered Participant*; or
- (b) a person who asks a *Distribution Network Service Provider* for access to a *distribution service*.

service standard event

A legislative or administrative act or decision that:

- (a) has the effect of:
 - (i) substantially varying, during the course of a *regulatory control period*, the manner in which a *Transmission Network Service Provider* is required to provide a *prescribed transmission service*, or a *Distribution Network Service Provider* is required to provide a *direct control service*; or
 - (ii) imposing, removing or varying, during the course of a *regulatory control period*, minimum service standards applicable to *prescribed transmission services* or *direct control services*; or
 - (iii) altering, during the course of a *regulatory control period*, the nature or scope of the *prescribed transmission services* or *direct control services*, provided by the service provider; and
- (b) *materially* increases or *materially* decreases the costs to the service provider of providing *prescribed transmission services* or *direct control services*.

service target performance incentive scheme

A For a *Transmission Network Service Provider* – a scheme developed and *published* by the AER in accordance with clause 6A.7.4.

For a *Distribution Network Service Provider* – a scheme developed and *published* by the AER in accordance with clause 6.6.2.

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).

shared distribution service

A service provided to a *Distribution Network User* for use of a *distribution network* for the conveyance of electricity (including a service that ensures the integrity of the related *distribution system*).

shared transmission service

A service provided to a *Transmission Network User* for use of a *transmission network* for the conveyance of electricity (including a service that ensures the integrity of the related *transmission system*).

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 *scheduled 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*.

SRAS

A *system restart ancillary service*.

stand-alone amount

For a *category of prescribed transmission services*, the costs of a *transmission system* asset that would have been incurred had that *transmission system* asset been developed, exclusively to provide that *category of prescribed transmission services*.

standard control service

A *direct control service* that is subject to a control mechanism based on a *Distribution Network Service Provider's total revenue requirement*.

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*, *Semi-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*.

statement of regulatory intent

A statement issued by the *AER* under clause 6.5.4(c).

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*.

submission guidelines

The guidelines made by the *AER* in accordance with rule 6A.10 for the purposes of guiding a *Transmission Network Service Provider* in the submission of a *Revenue Proposal* under Part E of Chapter 6A.

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.

suspended region

A region in which the *spot market* is suspended in accordance with clause 3.14.5(a).

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 condensers

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 ancillary service

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

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

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

system restart plan

The plan described in clause 4.8.12(a).

system restart standard

The standard as determined by the *Reliability Panel* in accordance with clause 8.8.3(a)(1a), for the acquisition of *system restart ancillary services*.

system standard

A standard for the performance of the *power system* as set out in schedule 5.1a.

system-wide benefits

Benefits that extend beyond a *Transmission Network User*, or group of *Transmission Network Users*, at a single *transmission connection point* to other *Transmission Network Users*.

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*.

tariff class

A class of customers for one or more *direct control services* who are subject to a particular tariff or particular tariffs.

tax

Any tax, levy, impost, deduction, charge, rate, rebate, duty, fee or withholding which is levied or imposed by an *Authority*.

tax change event

A tax change event occurs if:

- (a) any of the following occurs during the course of a *regulatory control period* for a *Transmission Network Service Provider* or a *Distribution Network Service Provider*:
 - (i) a change in a *relevant tax*, in the application or official interpretation of a *relevant tax*, in the rate of a *relevant tax*, or in the way a *relevant tax* is calculated;
 - (ii) the removal of a *relevant tax*;
 - (iii) the imposition of a *relevant tax*; and

- (b) in consequence, the costs to the service provider of providing *prescribed transmission services* or *direct control services* are materially increased or decreased.

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*.

terms and conditions of access

According to context:

- (a) the terms and conditions described in clause 6A.1.2 (access to transmission services);
- (b) the terms and conditions described in clause 6.1.3 (access to *distribution services*).

terrorism event

An act (including, but not limited to, the use of force or violence or the threat of force or violence) of any person or group of persons (whether acting alone or on behalf of in connection with any organisation or government), which from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear) and which *materially* increases the costs to a *Transmission Network Service Provider* of providing *prescribed transmission services* or the costs to a *Distribution Network Service Provider* of providing *direct control services*.

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.

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.

total revenue cap

For a *Transmission Network Service Provider* for a *regulatory control period*, the sum of the *maximum allowed revenues* for that provider for each *regulatory year* of that *regulatory control period* as calculated in accordance with clause 6A.5.3 and set out in a *revenue determination*.

total revenue requirement

For a *Distribution Network Service Provider*, an amount representing revenue calculated for the whole of a *regulatory control period* in accordance with Part C of Chapter 6.

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 consultation procedures

The procedures set out in Part H of Chapter 6A that must be followed by:

- (a) the *AER* in making, developing or amending guidelines, models or schemes or in reviewing methodologies; or
- (b) the *AEMC* in developing or amending guidelines.

Transmission Customer

A *Customer*, *Non-Registered Customer* or *Distribution Network Service Provider* having a *connection point* with a *transmission network*.

transmission determination

Has the meaning given in the *National Electricity Law*, and includes a determination by the *AER* as described in rule 6A.2.

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 network user access

The *power transfer capability* of the *transmission network* in respect of:

- (a) *generating units* or group of *generating units*;
- (b) *network elements*; or
- (c) *plant*,

at a *connection point* which has been negotiated in accordance with rule 5.4A.

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

The Guidelines made under rule 6A.21.

transmission service

The services provided by means of, or in connection with, a *transmission system*.

transmission services access dispute

A dispute between a *Transmission Network Service Provider* and a *Service Applicant* as to *terms and conditions of access* for the provision of *prescribed transmission services* or for the provision of *negotiated transmission services* as referred to in clause 6A.1.2, that is for determination by a *commercial arbitrator* under Part K of Chapter 6A.

transmission standard control service

Has the meaning given in rule 6.25(a).

transmission standard control service revenue

Has the meaning given in rule 6.26(b)(1).

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*.

trigger event

In relation to a *proposed contingent project* or a *contingent project*, a specific condition or event described in clause 6A.8.1(c), the occurrence of which, during the relevant *regulatory control period*, may result in the amendment of a *revenue determination* under clause 6A.8.2.

two-terminal link

One or more *network elements* that together enable the transfer of *energy* between two, and only two, *connection points*.

type 5 accumulation boundary

The volume of *energy* for a *connection point* above which the *metering data* that is extracted or emanates from a type 5 *metering installation* must be extracted or emanate as *interval energy data* for the purpose of producing *settlements ready data*.

[**Note:** Below the type 5 accumulation boundary, the metering data may be extracted or emanate from the metering installation as accumulated energy data for the purpose of producing settlements ready data, in which case the metering installation must be registered with NEMMCO as a type 6 metering installation. Otherwise the metering data may be extracted or emanate as interval energy data for the purpose of producing settlements ready data in which case the metering installation must be registered with NEMMCO as a type 5 metering installation.]

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*.

under-recovery amount

Any amount by which the sum of the *AARR* in previous *financial years* exceeds the revenue earned from the provision of *prescribed transmission services* in those previous years, grossed up by the application of an annual interest rate approved by the *AER* for this purpose.

unmetered connection point

A *connection point* at which a *meter* is not necessary under schedule 7.2.

unscheduled reserve

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*).

unscheduled reserve contract

A contract entered into by *NEMMCO* for the provision of *unscheduled reserve* in accordance with rule 3.20.

unserved energy

The amount of *energy* that is demanded, but cannot be supplied, in a *region* and which is defined in accordance with the *power system security and reliability standards* and is expressed as:

- (a) GWh; or
- (b) a percentage of the total *energy* demanded in that *region* over a specific period of time such as a year.

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.~~

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.

WACC

Weighted average cost of capital.

weighted average cost of capital

For a *Transmission Network Service Provider* for a *regulatory control period*, the return on capital for that *Transmission Network Service Provider* for that *regulatory control period* as calculated in accordance with clauses 6A.6.2(b) to (e), and in any other case an amount determined in a manner consistent with schedule 6.1.

For a *Distribution Network Service Provider* for a *regulatory control period*, the return on capital for that *Distribution Network Service Provider* for that *regulatory control period* calculated in accordance with clause 6.5.2.