NATIONAL ELECTRICITY CODE
ADMINISTRATOR LIMITED
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D99/11005

RAC0005KYK

27 September 1999

Mr M Rawstron
Senior Assistant Commissioner
Electricity Group
Australian Competition and Consumer Commission
PO Box 1199
DICKSON ACT 2602

NATIONAL ELECTRICITY CODE – CAPACITY MECHANISMS REVIEW, VoLL REVIEW AND REMOVAL OF ZERO PRICE FLOOR

I enclose proposed changes to the National Electricity Code that result from:

- the NECA review of capacity mechanisms in the National Electricity Market;
- the Reliability Panel review of the VoLL; and
- the Code requirement that negative spot prices be allowed within twelve months of market commencement.

The changes are contained in two reports but for convenience, and to help understanding, all three groups of changes have been incorporated into a single revised version of the relevant clauses of the Code.

The proposals in the report have been subject to full consultation as part of the review process and, where necessary, in accordance with the Code change arrangements in the Code.

I also request that the Commission vary our application numbers A90704, A90705 and A90704 to remove potential conflicts with these and other upcoming changes to the Code. Potential areas for conflict are in appendix A to this letter.

Appropriate forms and fees are attached.

David Swift
Associate Director

Public benefits of the VoLL, capacity mechanisms and zero price floor removal changes

VoLL and capacity mechanisms code changes

The changes proposed by the Reliability Panel:

- provide a path for increasing VoLL to levels that will allow appropriate cost recovery for fast start plant acting in a peaking rôle;
- provide appropriate price signals to the demand side as to the market value of curtailment at peak times;
- allow for a longer term view of VoLL allowing participants to manage the market risk more effectively and reduce regulatory risk;
- reduce the likelihood of the need for market intervention to maintain reliability standards;
- retain a reliability back-stop to ensure continuity of supply while the market matures and until VoLL is high enough to sustain peaking plant;
- remove the existing force majeure provisions in favour of a more appropriate cumulative risk measure which will allow the market benefits identified above without significantly changing the risk faced by participants;
- allow for more realistic prices during periods of market suspension; and
- clarify the dispatch and pricing clauses of the Code

Taken as a whole these changes will allow more efficient price signals and a better risk balance in the market which will ensure customers reliability expectations can be met at the lowest possible cost. In all cases the changes have either have no anti-competitive impacts or reduce the anti-competitive impacts already in the market.

Removal of the zero price floor

As a condition of authorisation, the ACCC required that NECA remove the restriction on pool prices that did not allow negative prices. The ACCC argued that the restriction had "significant anti-competitive effects that impact on market outcomes".

NECA's changes allow the pool price to go negative and remove all references to excess generation arrangements, except those in chapter 9, from the Code. This allows the market to move freely between positive and negative prices using the same mechanisms thus improving the price signals in the market by allowing customers to see the marginal value of electricity more often.

During NECA's consultation on the removal, all classes of market participants expressed concern on the levels that prices could fall to, particularly during over-constrained periods. It was felt that the introduction of negative prices should be managed in the same way that high prices were managed. Additionally, NEMMCO were concerned that there needed to be a market rule to establish prices in all cases.

NECA has proposed a market floor price be included. The price will be initially set significantly below the lowest current market outcome for dispatch prices ($-18) at $-1,000. This will ensure that it does not interfere with the normal clearing of the market while providing some protection to market participants from extremely high prices.

The Reliability Panel will be required to review the level of the floor price whenever it reviews VoLL to ensure that it is adjusted as the market, and the risk management of participants, matures.

National Electricity Code Administrator
September 1999

NATIONAL ELECTRICITY CODE – CHANGE CONFLICTS

NECA is currently proposing Code changes to implement:

- the authorisation condition that NECA remove the zero price floor from the National Electricity Market within one year of market commencement;
- the outcomes of the NECA's capacity mechanisms review;
- the outcomes of the Reliability Panel's review into VoLL; and
- a Code change from NEMMCO to clarify responsibilities and compensation for black start facility testing.

Some clauses that are to be changed as part of these proposals are also changed in the current applications for authorisation (numbers A90704, A90705 and A90706). In order to avoid problems during the authorisation process of these new changes, the relevant paragraphs should be withdrawn from the current applications and included in the new applications. Withdrawing these changes for a short period will not delay the implementation of the Directlink project, since they are not core to the arrangements and will speed the authorisation of the new proposals. This request should not delay the authorisation process for the remaining clauses of the current application.

Clauses Withdrawn	**To be included in new Application**
3.12.1(d)	No longer required
3.12.3(b)	Combined VoLL, capacity and price floor
3.12.5	No longer required
3.12.11(a), (b) & (c)	Combined VoLL, capacity and price floor
3.14.2(e)	Combined VoLL, capacity and price floor
3.14.5	Combined VoLL, capacity and price floor
3.14.6	Combined VoLL, capacity and price floor
4.8.13	Testing of black start facilities

In addition, please renumber existing paragraph 3.9.2(g) in the current applications to 3.9.1(3A). This paragraph is unchanged but has been identified as mis-located in the existing clauses. Since there is no change in meaning or effect this change is purely administrative.

National Electricity Code Administrator
September 1999

APPLICATIONS IN RESPECT OF NATIONAL ELECTRICITY CODE

FORM A

COMMONWEALTH OF AUSTRALIA A90711

Trade Practices Act 1974 - Sub-section 88(1)

EXCLUSIONARY PROVISIONS:

APPLICATIONS FOR AUTHORISATION

To the Australian Competition and Consumer Commission:

Application is hereby made under sub-section 88(1) of the *Trade Practices Act 1974* for an authorisation under that sub-section:

- to make a contract or arrangement, or arrive at an understanding, where a provision of the proposed contract, arrangement or understanding would be, or might be, an exclusionary provision within the meaning of section 45 of that Act; and
- to give effect to a provision of a contract, arrangement or understanding where the provision is, or may be, an exclusionary provision within the meaning of section 45 of that Act.

1.	(a) Name of applicant *(See Direction 2)*	National Electricity Code Administrator Limited (ACN 073 942 775) (NECA)
	(b) Short description of business carried on by applicant	Administration of the National Electricity Code ("the Code").
	(c) Address in Australia for service of documents on the applicant	Mr Stephen Kelly Managing Director National Electricity Code Administrator Limited Level 5 41 Currie Street ADELAIDE SA 5000 Phone: (08) 8213 6307 Fax: (08) 8213 6300
2.	(a) Description of contract, arrangement or understanding and, where already made, its date	The contract, arrangement or understanding with respect of which this application is made are those entered into by participants in the National Electricity Market, pursuant to the Code as amended in accordance with Appendix A to this Form A (and the

accompanying Forms B & E).

These amendments:

1. relate to a stepped increase in the price cap on regional reference prices, or value of lost load ("VoLL"), from the present level of $5,000.00 to $20,000 by April 2002 and will introduce an associated mechanism to limit the market's exposure to VoLL if cumulative prices exceed a pre determined threshold (*"Voll Code changes"*).

2. replace the existing reserve trader provisions in the Code with a reliability safety net that extends the timeframe for its operation from the current six-month, to a rolling three-year, period. NEMMCO is still responsible for calculating the appropriate level of capacity required in each region but, reflecting the reality that this requires NEMMCO to make judgements about future demand and generating capacity which involve wider issues of legitimate public policy, NEMMCO will in future take this decision in consultation with experts appointed or nominated by the participating jurisdictions. (*"Capacity Mechanisms Code change"*)

3. implement the ACCC's Code authorisation requirement that the Code's zero dispatch price, during an excess generation period, only apply for one year from NEM commencement. (*"Zero floor Code change"*)

For the avoidance of doubt, this application relates only to the *VoLL Code change, Capacity mechanisms Code change* and *Zero floor Code change* and not to the Code as a whole.

(b) Brief description of those provisions of the contract, arrangement or understanding that are, or would or might be, exclusionary provisions

The *VoLL Code change, Capacity mechanisms Code change* and *Zero floor Code change* may limit some market participants ability to participate in the NEM.

(See Direction 4)

	(c) Names and addresses of other parties or proposed parties to contract, arrangement or understanding	National Electricity Market Management Company Limited (ACN 072 010 327) ("NEMMCO"), every person registered with NEMMCO as a Code Participant as at the date of this application (being persons whose names and addresses are listed in Appendix B to this Form A (and the accompanying Forms B & E)and any other persons who subsequently register with NEMMCO under the Code as a Code Participant.
3.	Names and addresses (where known) of parties and other persons on whose behalf application is made	This application is made on behalf of NEMMCO, whose address for service is: Mr Stephen van der Mye Managing Director National Electricity Market Management Company Limited Level 16 461 Bourke Street MELBOURNE VIC 3000 Phone: (03) 9638 8777 Fax: (03) 9638 8778 and jointly on behalf of every person registered with NEMMCO as a Code participant as of the date of this application, being the persons whose names and addresses are listed at Appendix B to this Form A (and the accompanying Forms B & E). In addition this authorisation application is made on behalf of and in relation to all persons who become parties to the proposed contract or arrangement after it is made, or become a party to the proposed understanding at a time after it is arrived at, within the meaning of section 88(10) of the Act.
4.	(a) Grounds for grant of authorisation	Authorisation is sought on grounds set out in the reports prepared by NECA in accordance with clause 6.1.6 of the Code, a copy of which forms Appendix C to this Form A ("the NECA Reports").
	(b) Facts and contentions relied upon in support of those grounds *(See Notice*	These facts and contentions are set out in the NECA Report.

1)

5.	This application for authorisation may be expressed to be made also in relation to other contracts, arrangements or understandings or proposed contracts, arrangements or understanding, that are or will be in similar terms to the abovementioned contract, arrangement or understanding.	
	(a) Is this application to be so expressed?	Yes, this application is made with respect to each other similar contract, arrangement or understanding or proposed contract arrangement or understanding for the purposes of section 88(13), (14) and (15) of the Act.
	(b) If so, the following information is to be furnished:	
	(i) the names of the parties to each other contract, arrangement or understanding	The applicant, NEMMCO and every person registered with NEMMCO as a Code Participant as at the date of this application (being persons whose names and addresses are listed in Appendix B to this Form A (and the accompanying Forms B & E)) within the meaning of section 88(10) of the Act
	(ii) the names of the parties to each other proposed contract, arrangement or understanding which names are known at the date of this application *(See Direction 5 and Notice 2)*	The applicant, NEMMCO and every person registered with NEMMCO as a Code Participant as at the date of this application (being persons whose names and addresses are listed in Appendix B to this Form A (and the accompanying Forms B & E)) and any other persons who subsequently register with NEMMCO under the Code as a Code Participant. The names of those persons who will register with NEMMCO as a Code Participant are not known at this time.
6.	(a) Does this application deal with a matter relating to a joint venture (See section 4J of the *Trade Practices Act 1974*)?	No

Form H

(b)	If so, are any other applications being made simultaneously with this application in relation to that joint venture?	Not applicable
(c)	If so, by whom or on whose behalf are those other application being made?	Not applicable

7.	Name and address of person authorised by the applicant to provide additional information in relation to this application.	Mr Stephen Kelly Managing Director National Electricity Code Administrator Limited Level 5 41 Currie Street ADELAIDE SA 5000 Phone: (08) 8213 6307 Fax: (08) 8213 6300

Date: 27 September 1999

Signed on behalf of NECA

.....Stephen Kelly.....

(Signature) Mr Stephen Kelly

Managing Director
National Electricity Code Administrator Limited

* Note: References in this application to the Act are references to the *Trade Practices Act 1974* and also include the Competition Codes of New South Wales, Victoria and the Australian Capital Territory as defined in the Competition Reform legislation in force in each jurisdiction.

(b)	If so, are any other applications being made simultaneously with this application in relation to that joint venture?	Not applicable
(c)	If so, by whom or on whose behalf are those other application being made?	Not applicable

7.	Name and address of person authorised by the applicant to provide additional information in relation to this application.	Mr Stephen Kelly Managing Director National Electricity Code Administrator Limited Level 5 41 Currie Street ADELAIDE SA 5000 Phone: (08) 8213 6307 Fax: (08) 8213 6300

Date: September 1999

Signed on behalf of NECA

.....

(Signature) Mr David Swift

Associate Director
National Electricity Code Administrator Limited

* Note: References in this application to the Act are references to the *Trade Practices Act 1974* and also include the Competition Codes of New South Wales, Victoria and the Australian Capital Territory as defined in the Competition Reform legislation in force in each jurisdiction.

DIRECTIONS

1. Where there is insufficient space on this form to furnish the required information, the information is to be shown on separate sheets, numbered consecutively and signed by or on behalf of the applicant.

2. Where the application is made by or on behalf of a corporation, the name of the corporation is to be inserted in item 1(a), not the name of the person signing the application and the application is to be signed by a person authorised by the corporation to do so.

3. In item 1(b), describe that part of the applicant's business relating to the subject matter of the contract, arrangement or understanding in respect of which the application is made.

4. Furnish with the application particulars of the contract, arrangement or understanding in respect of which the authorisation is sought. Those particulars shall be furnished:

   (a) in so far as the particulars or any of them have been reduced to writing - by lodging a true copy of the writing; and

   (b) in so far as the particulars or any of them have not be reduced to writing - by lodging a memorandum containing a full and correct statement of the particulars that have not been reduced to writing.

5. Where the application is made also in respect of other contracts, arrangements or understanding which are or will be in similar terms to the contract, arrangement or understanding referred to in item 2, furnish with the application details of the manner in which those contracts, arrangements or understandings vary in their terms from the contract, arrangement or understanding referred to in item 2.

NOTICES

1. In relation to item 4, your attention is drawn to sub-section 90(8) of the *Trade Practices Act 1974* which provides as follows:

   "(8) The Commission shall not:

      (a) made a determination granting:

         (i) an authorisation under subsection 88(1) in respect of a provision of a proposed contract, arrangement or understanding, that is or may be an exclusionary provision; or

         (ii) an authorisation under subsection 88(7) in respect of proposed conduct; or

(iii) au authorisation under subsection 88(8) in respect of proposed conduct to which subsection 47(6) or (7) applies; or

(iv) an authorisation under subsection 88(8A) for proposed conduct to which section 48 applies;

unless it is satisfied in all the circumstances that the proposed provision or the proposed conduct would result, or be likely to result, in such a benefit to the public that the proposed contract or arrangement should be allowed to be made, the proposed understanding should be allowed to be arrived at, or the proposed conduct should be allowed to take place, as the case may be; or

(b) made a determination granting an authorisation under subsection 88(1) in respect of a provision of a contract, arrangement or understanding that is or may be an exclusionary provision unless it is satisfied in all the circumstances that the provision has resulted, or is likely to result, in such a benefit to the public that the contract, arrangement or understanding should be allowed to be given effect to."

2. If an authorisation is granted in respect of a proposed contract, arrangement or understanding, the names of the parties to which are not known at the date of application, the authorisation shall, by sub-section 88(14) of the *Trade Practices Act 1974*, be deemed to be expressed to be subject to a condition that any party to the contract, arrangement or understanding will, when so required by the Commission, furnish to the Commission the names of all the parties to the contract, arrangement or understanding.

Applications to the Australian Competition and Consumer Commission relating to the Voll Code changes, Capacity mechanisms Code change and Zero floor Code changes

[attach NECA report]

Appendix A

to

Form A Application for Authorisation in respect of Exclusionary Provisions

Form B Application for Authorisation in respect of Agreements Affecting Competition

Form E Application for Authorisation in respect of Exclusive Dealing

lodged in relation to

the Voll Code changes, Capacity mechanisms Code change and Zero floor Code changes

Text of the Voll Code changes, Capacity mechanisms Code change and Zero floor Code changes

Implementation of capacity mechanisms and VoLL reviews, and removing the zero price floor

Proposed Code changes to chapters 3 and 10, combining proposals from the:

- NECA review of capacity mechanisms in the national electricity market;
- Reliability Panel review of VoLL; and
- NECA's proposal for removing the zero price floor.

National Electricity Code Administrator
September 1999

CHAPTER 3

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* cannot be greater than *VoLL* and the *scheduled low price* ~~may be zero~~ cannot be less than the *market floor price*.

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

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

3.8.6 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* being offered by the *Scheduled Generator*; 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* being offered, 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* being offered 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 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 connection point* to which it is assigned;

(h) *loading prices* offered must be equal to or greater than $0/MWh and may not exceed the product of *VoLL* multiplied by the *intra-regional loss factor* at the *Scheduled Generator's transmission network connection point* for the *generating unit*;

(i) *off-loading prices* must be less than $0/MWh, i.e. negative in sign and may not be less than the product of the *market floor price* multiplied by all *intra-regional loss factors* between the *Schedule Generator's network connection point* for the *generating unit* and the *regional reference node*;

(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) ~~an *off-loading price* specified for a *price band* shall only apply during an *excess generation period;*~~ [sub-paragraph 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*.

3.8.7 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* being offered; 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* being offered 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 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;

(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) ~~equal to or greater than $0/MWh; and~~ more than the product of the *market floor price* multiplied by all *intra-regional loss factors* between the *scheduled load's network connection point* and the *regional reference node;* and

(2) less than the product of *VoLL* multiplied by the *intra-regional loss factor* at the *scheduled load's transmission network connection point;*

(i) for a *scheduled load* specified in the *dispatch bid* as being *normally on,* the price specified for a *price band* is to be interpreted in the *central dispatch* process as the price at or above which the *scheduled load* will reduce electricity consumed by up to the MW increment specified in that *price band*;

(j) for a *scheduled load* specified in the *dispatch bid* as being *normally off*, the price specified for a *price band* is to be interpreted in the *central dispatch* process as the price at or below which the *scheduled load* will increase electricity consumed by up to the MW increment specified in that *price band*;

(k) the MW capacity quantity specified in each *price band* in each *trading interval* must be specified in whole MW;

(l) the sum of the MW quantities specified in each *price band* in any *trading interval* must not exceed the maximum capacity of the *scheduled load*; and

(m) the *dispatch bid* may specify the daily *energy* available for *energy constrained scheduled loads*.

3.8.15 ~~EXCESS GENERATION~~Deleted

~~(a) If NEMMCO estimates that at any time 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 on the power system, then, NEMMCO must declare and notify Scheduled Generators of a forecast excess generation period.~~

~~(b) During an *excess generation trading intervalperiod*, unless specified as being *inflexible* in accordance with clause 3.8.19, *scheduled generating units* will be *dispatched* and instructed by *NEMMCO* to reduce output below their *self-dispatch level* in accordance with *off-loading prices* specified in their *dispatch offers* and~~

~~maximise the value of *spot market* trading while meeting, but not exceeding *non-scheduled load*, in accordance with clause 3.8.1.~~

~~(c) *NEMMCO* must notify without delay all *Scheduled Generators* whose *generating units* are scheduled to operate below their *self-dispatch level* during a forecast *excess generation periods.*~~

~~(d) *Scheduled Generators* whose *generating units* are scheduled to operate below their *self-dispatch level* during a forecast *excess generation period* may elect to self *de-commit* in accordance with clause 3.8.18.~~

~~(e) All amounts received by *NEMMCO* from *Scheduled Generators* under clause 3.15.7 must be paid to *Market Customers*, in accordance with the methodology developed under clause 3.8.15(f). *NEMMCO* must make these payments as soon as it is practicable to do so after it receives amounts under clause 3.15.7.~~

~~(f) *NEMMCO* must develop and publish a methodology to be authorised by *NECA* not later than *market commencement* for the calculation of payments to *Market Customers* of amounts received by *NEMMCO* under clause. Once developed and published, the methodology must be added to the *Code* as Schedule 3.5 and form part of the *Code*. Clause 8.3.3 will not apply to the addition of the methodology under this clause.~~

3.8.18 Self de-commitment

(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) *Market Participants* must notify *NEMMCO* as soon as practicable of any *changes* in their *self-decommitment* decisions.

(d) *NEMMCO* must notify all *Market Participants* of any *changes* to *de-commitment* decisions as soon as practicable.

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* ~~every 5 minutes~~ for ~~the~~ each *dispatch interval*. ~~commencing at that time~~ If the *dispatch algorithm* is not successfully run for any *dispatch interval* then the values of the last successful run of the *dispatch algorithm* are to be used for that *dispatch interval*.

(c) *Central dispatch* will set *dispatch prices* for each *dispatch interval* and *spot prices* for each *trading interval* in accordance with clause 3.9.

...

3.9 Spot Price Determination

3.9.1 Principles applicable to spot price determination

(a) The principles applying to the determination of prices for electricity *transactions* 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*;

(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 price in a *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*;

(4) *network losses*, ~~and~~ *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* and *spot prices*;

(5) *ancillary services constraints* are taken into account in the determination of *dispatch* and consequently affect *dispatch prices* and *spot prices*;

(6) when the *spot price* is determined, it is to apply to both sales and purchases of electricity at a particular location and time;

(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

~~(8)~~ **DELETED** ~~where *NEMMCO* has declared the *dispatch interval* an *intervention price dispatch interval* then the *dispatch price* for that~~

~~interval will be determined in accordance with clause 3.9.3.~~

(b) A single *regional reference price* which is the *spot price* at the *regional reference node* will provide 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

~~Except where *NEMMCO* has made a declaration that the *market* is suspended or has invoked an *administered price period* in accordance with clause 3.14, or under conditions of *supply* scarcity in accordance with clause 3.9.3, *spot prices* are to be determined at each *regional reference node* in accordance with the following procedure:~~

~~(a) **DELETED** The *dispatch price* at each *regional reference node* is to be determined by *NEMMCO* for each *dispatch interval* using the *central dispatch* process in accordance with the principles set out in clauses 3.8.1 and 3.9.1.~~

~~(b) **DELETED** The *central dispatch* process will determine *spot prices* based on *dispatch offers* and *dispatch bids* in accordance with this clause 3.9.2.~~

The *central dispatch* process will determine *spot prices* based on *dispatch offers* and *dispatch bids* in accordance with this clause 3.9.2.

(c) Each time the *dispatch algorithm* is run by *NEMMCO*, it will result in the determination of a *dispatch price* for each *regional reference node* ~~which is to apply until the next time the *dispatch algorithm* is run.~~ 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* will be 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(a), or (b), for any *dispatch interval* if:

(1) there is a *supply* deficit in a *region* such that there is insufficient *supply* capability to supply the total *load* in that *region*, *NEMMCO* must set the *dispatch price* at that *region's regional reference node* to equal *VoLL*, subject to adjustments under clause 3.9.5;

(2) NEMMCO has declared a *dispatch interval* to be an *intervention price*

interval under clause 3.9.3, then NEMMCO must set the *dispatch price* will be set in accordance with clause 3.9.3;

(3) the Y2K price applies under clause 3.14A, then *NEMMCO* must set the *dispatch price* in accordance with clause 3.14A; or

(4) an *administered price period* in accordance with clause 3.14 applies, then NEMMCO must cap the *dispatch price* in accordance with clause 3.14.2(e) and limit the *dispatch price* in accordance with clause 3.14.2(e1).

~~(e) If *involuntary load shedding* occurs in a *region* in a *dispatch interval* due to the *generation* in that *region* in that *dispatch interval* being insufficient to supply the total demand for electricity in that *region*, *NEMMCO* will set the *dispatch price* at that *region's regional reference node* to equal *VoLL*, subject to adjustments under clause 3.9.5.~~

~~(f) DELETED The time-weighted average of the *dispatch prices* for a *regional reference node* in a *trading interval* will yield the *spot price* at that *regional reference node* for that *trading interval*.~~

~~(g) DELETED *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*.~~

(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 will be determined in accordance with clause 3.14.5.

~~(h) The *spot price* for each *trading interval* equals:~~

~~(1) the *interim spot price* for the *trading interval* if the *interim spot price* is greater than or equal to $0/MWh; or~~

~~(2) $0/MWh if the *interim spot price* for the *trading interval* is less than $0/MWh.~~

~~(i) DELETED The *interim spot price* (which may be positive or negative) for a *trading interval* equals the algebraic sum of the *dispatch prices* for each of the *dispatch intervals* in the *trading interval* divided by 6.~~

~~(j) DELETED For the avoidance of doubt, a *dispatch offer* for a *generating unit* or a *dispatch bid* for a *scheduled load* in one *region* may, except in the~~

~~circumstances described in clause 3.9.2(g), determine the *dispatch price* in any one or more regions.~~

3.9.4 VoLL

(a) *VoLL* is a price cap which is to be applied to ~~determine *regional reference*~~ *dispatch prices*.

(b) The value of *VoLL* ~~is~~ will be:

(1) on or before 31 August 2001, $5,000 ~~per~~ /MWh;

(2) between 1 September 2001 and 31 March 2002 (inclusive), $10,000/MWh; and

(3) on and from 1 April 2002, $20,000/ MWh, subject to an annual review by the *Reliability Panel* in accordance with clause 3.9.4(c).

(c) By 30 April 2001 and prior to 30 April each year thereafter the *Reliability Panel* must conduct a review in accordance with the *Code consultation procedures* and report to *NECA* on the value of *VoLL* to apply in the year commencing on 1 July 2 years after the year in which the review is conducted.

(c1) The value of VoLL determined by the review is to 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 clause 3.12;

(2) in conjunction with other provisions of the *Code*, not create risks which threaten the overall integrity of the *market*; and

(3) take into account any other matters the *Reliability Panel* considers relevant.

(c2) The *Reliability Panel's* report must set out the conclusions of its review and the recommendation in relation to the level of *VoLL*, including details of all relevant market conditions and circumstances on which the recommendation is based. Any recommended change to the value of *VoLL* in the *Reliability Panel's* report will be deemed to be a recommended change to the *Code* in a report by the *Reliability Panel* under clause 8.8.3(m).

(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.

~~(d) DELETED Any *change* to the value of *VoLL* must take effect six months after the date of the notice of the *change* being published in accordance with clause 8.3.8 or clause 8.3.9 as appropriate.~~

3.9.6 Market Floor Price ~~Pricing Under Excess Generation Periods~~

(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 per MWh.

(c) By 30 April 2001 and prior to 30 April each year thereafter the Reliability Panel must, as part of its review of *VoLL* under clause 3.9.4(c), conduct a review in accordance with the *Code consultation procedures* and report to *NECA* on the recommended value of the *market floor price* to apply from 1 July in the year after the year in which the review is conducted.

(d) The recommended value of the *market floor price* determined by the review 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. Any recommended change to the value of the *market floor price* in the *Reliability Panel's* report will be deemed to be a recommended change to the *Code* in a report by the *Reliability Panel* under clause 8.8.3(m).

~~(a) If the *interim spot price* for a *trading interval* is less than $0/MWh, then the *trading interval* is an *excess generation trading interval*.~~

~~(b) In accordance with clause 3.15, a *generator* whose *dispatched generating unit* is *dispatched* during an *excess generation trading interval* must pay the *excess generation price* for *energy* generated by the unit.~~

~~(c) During an *excess generation trading interval*, the *excess generation price* equals the negative of the *interim spot price* for the *trading interval*.~~

~~(d) During any *dispatch interval* in which any *generating unit* in a *region* is instructed by *NEMMCO* to operate below its *self dispatch level* during an *excess generation period*, the *dispatch price* at the *regional reference node* in that *region* for that *dispatch interval* is to be determined in accordance with clause 3.9.2.~~

~~(e) *NECA* must ensure that before the first anniversary of *market commencement*, the *Code* is amended to provide for spot *prices* to have negative values in *excess generation periods*, rather than the spot *price* being set at zero and *Scheduled Generators* being obliged to pay amounts based on *excess generation prices*. Clause 8.3.3 will not apply to this amendment to the *Code*.~~

3.9.6A Application of the Market Floor Price

(a) *Dispatch prices* at *regional reference nodes* must not be less than the *market floor price*.

(b) If *central dispatch* and determination of *dispatch prices* in accordance with clauses 3.8, 3.9.2 and 3.9.3 would otherwise result in a *dispatch price* less than the *market floor* at any *regional reference node*, then subject to clause 3.9.6A(c), the *dispatch price* at that *regional reference node* must be increased to the *market floor price*.

(c) Where there are multiple *regional reference nodes connected* by an *interconnector* or *interconnectors* and the *dispatch price* at one or more of the *regional reference nodes* determined in accordance with clauses 3.8, 3.9.2 and 3.9.3 would otherwise be less than the *market floor price*, then *dispatch prices* at those *regional reference nodes* are to be determined as follows:

(1) the lowest *dispatch price* at a *regional reference node* must be increased to the *market floor price*;

(2) the *dispatch price* at all other *regional reference nodes* in respect of which there are no *network constraints* between those other *regional references nodes* and the *regional reference node* identified in clause 3.9.5A(c)(1) is to be equal to or greater than the *market floor price* and is to be determined as:

market floor price × SF

where SF is a scaling factor, less than or equal to one, determined by the multiple of all *inter-regional loss factors* applicable for that

dispatch interval for each *interconnector* between the *regional reference node* and the *regional reference node* identified in 3.9.5(c)(1).

3.12 Market Intervention by NEMMCO

3.12.1 ~~Reserve trading by NEMMCO~~ Reliability Safety Net

(a) *NEMMCO* may enter into *reserve contracts* in accordance with this clause 3.12 and the relevant guidelines and procedures developed by the *Reliability Panel*, as described in clause 8.8.1, prior to 1 July 2003~~for any period up to 30 June 2000~~. *NEMMCO* must not enter into such contracts~~for the period~~ thereafter.

(b) The *Reliability Panel* will, at the same time as it conducts a study of the value of *VoLL* in accordance with clause 3.9.4(1), consider whether the reliability safety net provided for by the power granted to *NEMMCO* under this clause 3.12.1 to enter into *reserve contracts* can be removed from the Code prior to 1 July 2003. Any recommendation from the *Reliability Panel* that such power can be removed from the *Code* will be deemed to be a recommended charge to the *Code* in a report by the *Reliability Panel* under clause 8.8.3(m).

(c) **DELETED**

(d) In consultation with persons nominated by the relevant jurisdictions NEMMCO may determine to enter into reserve contracts for the provision of reserve to ensure that the reliability of supply in a region meets the reliability standard established by the Reliability Panel.

(e) In entering into reserve contracts under 3.12.1c NEMMCO must agree with the relevant nominated persons cost sharing arrangements between the regions for the purposes of determining charges under clause 3.15.9.

(f) If, at any time *NEMMCO* deems it necessary to commence contract negotiations for the provision of *reserves*, or *market network services* to make *reserves* available where required, *NEMMCO* must *publish* a notice of its intention to do so.

(g) When contracting for the provision of *reserves*, *NEMMCO* must not enter contracts in relation to *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.

(h) When contracting for the provision of *reserves*, or *market network services* to make *reserves* available where required, *NEMMCO* must give first priority to facilities which, if called upon, would result in the least distortion of the *spot price*.

(i) If *NEMMCO* requests a *Market Participant* to enter into a *reserve contract* in

relation to a *scheduled generating unit*, *scheduled network service* or a *scheduled load*, then the *Market Participant* must negotiate with *NEMMCO* in good faith as to the terms and conditions of that contract.

~~(b) *NECA* must undertake a review of *NEMMCO's* role in *reserve* trading. This review must be conducted in accordance with the *Code consultation procedures* and must be completed by 30 March 2000. *NECA* must provide a copy of the report resulting from the review to the *ACCC*.~~

~~(c) The review to be carried out pursuant to clause 3.12.1(b) must consider:~~

~~(1) whether there is a need for *NEMMCO* to have a role in *reserve* trading after 30 June 2000;~~

~~(2) whether there is any distortion to the operation of the *spot market* caused by *NEMMCO*'s powers under clauses 3.12;~~

~~(3) whether there is a need for any person to have a role in *reserve* trading and whether there are any alternatives to the powers granted to *NEMMCO* under clause 3.12;~~

~~(4) the adequacy and appropriateness of *NEMMCO*'s powers under clause 3.12;~~

~~(5) whether any additions or amendments to clause 3.12 would make that clause better meet and facilitate the *Code objectives*; and~~

~~(6) such other matters as *NECA* considers appropriate.~~

~~(d) Where *NEMMCO* has *published* a declaration of a *low reserve* or *lack of reserve* condition in accordance with clause 4.8.4, *NEMMCO* may, but only at the latest practicable time after the *spot market* has been given a reasonable opportunity to respond as described in this clause 3.12.1 intervene in the market through contracting for the provision of *reserves* and submit *dispatch bids* or *generation dispatch offers* in relation to such contracted *reserves*, together with *network dispatch offers* to allow *reserves* to be made available where required.~~

~~The diagram below shows the information flows and activities related to the trading in reserves.~~

[DIAGRAM DELETED]

3.12.3 NEMMCO's response to violations, low reserve or lack of reserve

(a) If, in *NEMMCO's* reasonable opinion, there is sufficient time between the publication of the *low reserve* or *lack of reserve* condition and the latest time for action determined under clause 3.12.2, it must follow the process set out in

clause 3.12.4 to seek a *market* response to resolve the matter.

(b) If, in *NEMMCO's* reasonable opinion, there is insufficient time between the publication of the *low reserve* or *lack of reserve* condition and the latest time for action determined under clause 3.12.2 to follow, or to continue to follow, the process set out in clause 3.12.4, *NEMMCO* may seek to intervene in the *market* ~~by entering into *reserve contracts* and~~ by the submission of *dispatch bids*, ~~or~~ *generation dispatch offers* ~~in relation to such contracted *reserves*, together with~~ or *network dispatch offers* ~~to allow *reserves* to be made available where required.~~ in relation to *reserves* which *NEMMCO* has available under *reserve contracts*.

3.12.5 ~~Contracting for reserves~~ [This clause has been deleted – refer to clause 3.12.1]

~~(a) If, at any time *NEMMCO* deems it necessary to commence contract negotiations with *Market Participants* for the provision of *reserves*, or *market network services* to make *reserves* available where required, *NEMMCO* must *publish* a notice of its intention to do so.~~

~~(b) When contracting for the provision of *reserves*, *NEMMCO* must not enter contracts with in relation to *generating units*, *scheduled network services* or *scheduled loads* that have submitted for which *dispatch offers* or *dispatch bids* have been submitted or are considered by *NEMMCO* to be likely to submit be submitted *dispatch offers* or *dispatch bids* or be otherwise available for *dispatch* in the *trading intervals* to which the contract relates.~~

~~(c) When contracting for the provision of *reserves*, or *market network services* to make *reserves* available where required, *NEMMCO* must give first priority to *plant* which, if *dispatched*, would result in the least distortion of the *spot price*.~~

~~(d) Subject to clause 3.12.5(c) and with a view to giving effect, to the extent practicable, to the further objective of minimising the costs incurred under *reserve contracts* to achieve the required level and type of *reserves*, *NEMMCO* has broad discretion to negotiate arrangements for the provision of *reserves*, or *market network services* to make *reserves* available where required, under this clause 3.12 to suit prevailing circumstances.~~

~~(e) If *NEMMCO* requests a *Market Participant* to enter into a *reserve contract* in relation to a *scheduled generating unit*, *scheduled network service* or a *scheduled load*, then the *Market Participant* must negotiate with *NEMMCO* in good faith as to the terms and conditions of that contract.~~

~~(f) Where *NEMMCO* is entitled to enter into a *reserve contract*, it may do so for all or part of a *scheduled generating unit's*, *scheduled network service's* or *scheduled load's* capacity as recorded in the *registered bid and offer data* for that *scheduled generating unit*, *scheduled network service* or *scheduled load*.~~

3.12.8 NEMMCO's risk management and accounts relating to ~~reserve trading activities~~ reliability safety net

(a) *NEMMCO* may enter into insurance arrangements with an insurance provider with a view to minimising potential financial losses in respect of *NEMMCO's reserve* trading activities described in this clause 3.12.

(b) *NEMMCO* must ensure that, as described in clause 1.11, it maintains in its books separate accounts relating ~~to its *reserve* trading activities described in this clause 3.12~~ the reliability safety net provided for by the powers granted to *NEMMCO* under clause 3.12.1 to enter into *reserve contracts*.

3.12.11 Compensation to Market Participants in respect of intervention price trading intervals

(a) Where an *intervention price trading interval* has occurred and in *NEMMCO's* reasonable opinion a *direction* or the ~~*dispatch*~~ *operation* of ~~*plant*~~ *resources* provided under a *reserve contract* during that *intervention price trading interval* has caused a net auditable change in the financial position of:

(1) a *Scheduled Generator* in respect of one of its *scheduled generating units* (other than a *generating unit* which the subject of a direction or which was provided under a *reserve contract*), then the *Scheduled Generator* is entitled to receive from *NEMMCO*, or must pay to *NEMMCO*, an amount calculated by the independent expert appointed under clause 3.12.11(b) or the panel described in clause 3.12.11(j) as an adjustment determined in accordance with this clause 3.12.11 to put the relevant *Scheduled Generator* in the position that the *Scheduled Generator* would have been in regarding the *scheduled generating unit* had the *direction* not been issued or the *plant* under the *reserve contract* not been *dispatched*, as appropriate; or

(2) a *Market Customer* in respect of one or more of its *scheduled loads* (other than a *scheduled load* which was provided under a *reserve contract*), then the *Market Customer* is entitled to receive from *NEMMCO* for each *intervention price trading interval* 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* for the *scheduled load* in the relevant *intervention price trading interval;*

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 the independent expert appointed under clause 3.12.11(b) (or the panel described in clause 3.12.11(j)) determines would have been consumed by the *scheduled load* if the *direction* had not been issued or the *plant* under the *reserve contract* not been *dispatched*, as appropriate,

provided that if DC is negative for the relevant *intervention price trading interval*, then the adjustment that the *Market Customer* is entitled to receive in respect of that *scheduled load* for that *intervention price trading interval* is zero.

(3) a *Scheduled Network Service Provider* in respect of one of its *scheduled network services* (other than a *scheduled network service* which was the subject of a direction or was provided under a *reserve contract*), then the *Scheduled Network Service Provider* is entitled to receive from *NEMMCO*, or must pay to *NEMMCO*, an amount calculated by the independent expert appointed under clause 3.12.11(b) or the panel described in clause 3.12.11(j) as an adjustment determined in accordance with this clause 3.12.11 to put the relevant *Scheduled Network Service Provider* in the position that the *Scheduled Network Service Provider* would have been in regarding the *scheduled network service* had the *direction* not been issued or the *plant* under the *reserve contract* not been *dispatched*, as appropriate~~.~~; and

(4) a *Scheduled Generator* in respect of one of its *scheduled generating units* which was the subject of a direction or a *Scheduled Network Service Provider* in respect of one of its *scheduled network services* which was the subject of a direction, then the *Scheduled Generator* or *Scheduled Network Service Provider*, as the case may be, is entitled to receive from *NEMMCO* an amount, calculated by the independent expert appointed under clause 3.12.11(b) or the panel

described in clause 3.12.11(j), equal to the highest of:

(i) the market value of the energy generated by the *Scheduled Generator* or capacity provided by the *Scheduled Network Service Provider* in complying with the direction as measured by the *spot price* at the time the energy was generated or capacity provided;

(ii) the market value of the *reserves* provided by the *Scheduled Generator* or *Scheduled Network Service Provider* taking into account the market value of the energy generated by the *Scheduled Generator* or *capacity* provided by the *Scheduled Network Service Provider* calculated in accordance with clause 3.12.11(a)(4) and the price paid by *NEMMCO* or which *NEMMCO* agreed to pay for similar *reserves* in any *reserve contracts* entered into by *NEMMCO* in the *region* which the *reserves* which were the subject of the direction were provided; or

(iii) the costs incurred by the *Scheduled Generator* or *Scheduled Network Service Provider* including, without limitation:

(A) fuel costs in connection with the *scheduled generating unit* or *scheduled network service*;

(B) incremental maintenance costs in connection with the *scheduled generating unit* or *scheduled network service*;

(C) incremental manning costs in connection with the *scheduled generating unit* or *schedule network service*;

(D) 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 service* to be available;

(E) 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* to be available; and

(F) other costs incurred in connection with the *scheduled generating unit*, or *scheduled network service* where such costs are incurred to enable the *scheduled generating unit* to be available; and

(G) any compensation which the *Scheduled Generator* or *Scheduled Network Service Provider* receives or could have obtained by taking reasonable steps in connection with the *scheduled generating unit* being available; and

(b) If *NEMMCO* gives a *direction* or *dispatches plant* provided under a *reserve contract*, then *NEMMCO* must appoint an independent expert to determine the adjustments (if any) payable by, or receivable by, *Scheduled Generators* under clause 3.12.11(a)(1) or *Market Customers* under clause 3.12.11(a)(2) or *Scheduled Network Service Providers* under clause 3.12.11(a)(3) or the amount payable to *Scheduled Generators* or *Scheduled Network Service Providers* under clause 3.12.11(a)(4) in respect of the relevant *intervention price trading interval*.

(c) When appointing the independent expert under clause 3.12.11(b), *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:

(i) the adjustments payable by, or receivable by, *Scheduled Generators* or *Market ~~Customers~~ Participants* under clauses 3.12.11(a)(1) to (3) in respect of the *intervention price trading interval*; or

(ii) the amount payable to *Scheduled Generators* or *Scheduled Network Service Providers* under clause 3.12.11(a)(4) in respect of the *intervention price trading interval*.

(2) The independent expert must make the statement prepared under clause 3.12.11(c)(1) available to all *Market Participants* and *Scheduled Generators* and call for submissions from all *Market Participants* and *Scheduled Generators* within 10 *business days* after the appointment of the independent expert.

(3) The independent expert must consult with each *Market Customer*, *Scheduled Network Service Provider* or *Scheduled Generator* who may be eligible to pay or receive an adjustment under clauses 3.12.11(a)(1) to (3) or to be paid an amount under clause 3.12.11(a)(4) in respect of the *intervention price trading interval*.

(4) The independent expert must make a draft of his or her report available to all *Market Participants* and *Scheduled Generators* within 20 *business days* of his or her appointment.

(5) The report is to contain the following details:

(i) the methodology used by the independent expert;

(ii) the amounts;

(A) of the adjustment payable or receivable by each *Scheduled Generator*, *Scheduled Network Service Provider* and *Market Customer* under clauses 3.12.11(a)(1) to (3) in respect of the *intervention price trading interval*; ~~and~~ or

(B) payable to *Scheduled Generators* or *Scheduled Network Service Providers* under clause 3.12.11(a)(4) in respect of the *intervention price trading interval*;

(iii) background information showing how the ~~adjustments~~ amounts referred to in clauses 3.12.11(c)(5)(ii) were calculated.

(6) The report must not contain details of particular contracts.

(7) If requested to do so by a *Market Customer*, *Scheduled Network Service Provider* or *Scheduled Generator* after the draft report has been made available, then the independent expert must meet with *representatives* of the *Market Customer*, *Scheduled Network Service Provider* or *Scheduled Generator* to discuss any queries it has in relation to the draft report.

(8) After meeting with the *representatives* of all those *Market Customers*, *Scheduled Network Service Providers* and *Scheduled Generators* who wish to do so, the independent expert must prepare a final report setting out:

(i) the adjustments (if any) payable by, or receivable by, *Market ~~Customers~~ Participants* ~~and Scheduled Generators~~ under clauses 3.12.11(a)(1) to (3) in respect of the *intervention price trading interval*; or

(ii) amounts payable to *Scheduled Generators* or *Scheduled Network Service Providers* in respect of the *intervention price trading interval*.

(9) The independent expert must make his or her final report available to all *Market Participants* and *Scheduled Generators* within 40 *business days* of his or her appointment.

(10) If a *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* gives a notice under clause 3.12.11(i) in relation to the independent expert's final report, then the independent expert

must make available to the panel established under that clause in response to the notice all relevant information provided by the *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* under this clause 3.12.11 in connection with the *intervention price trading interval*.

(11) The independent expert must keep the information provided to the independent expert under this clause 3.12.11 confidential.

(d) In calculating the amount described in clause 3.12.11(a)(1), for a *Scheduled Generator* in respect of a *scheduled generating unit*, the following must be taken into account:

(1) any *hedge contract* to which the *Scheduled Generator* is a party; and

(2) the costs incurred in respect of that *scheduled generating unit* as a result of the *direction*, or the *dispatch* of *plant* provided under the contract for the provisions of *reserves*, as appropriate, including without limitation:

(i) fuel costs in connection with the *scheduled generating unit;* and

(ii) incremental maintenance costs in connection with the *scheduled generating unit*; and

(iii) incremental manning costs in connection with the *scheduled generating unit;* and

(iv) acceleration costs of maintenance work in connection with the *scheduled generating unit*, where such acceleration costs are incurred to enable the *scheduled generating unit* to be available; and

(v) delay costs for maintenance work in connection with the *scheduled generating unit*, where such delay costs are incurred to enable the *scheduled generating unit* to be available; and

(vi) other costs incurred by the *Scheduled Generator* in connection with the *scheduled generating unit*, where such costs are incurred to enable the *scheduled generating unit* to be available; and

(vii) any compensation which the *Scheduled Generator* receives or could have obtained by taking reasonable steps in connection with the *scheduled generating unit* being available; and

(3) any difference between the amount of electricity *sent out* by the *scheduled generating unit* during the relevant *intervention price*

trading interval determined from the *metering data* and the amount of electricity which would have been *sent out* by the *scheduled generating unit* if the *direction* had not been issued or had the *plant* provided under the *reserve contract* not been *dispatched,* as appropriate; and

(4) any amounts which the *Scheduled Generator* is entitled to receive under clause 3.15.6 in respect of the *scheduled generating unit* in that *intervention price trading interval.*

(e) Each *Scheduled Generator*, *Scheduled Network Service Provider* and *Market Customer* must provide to an independent expert appointed under clause 3.12.11(b) in respect of an *intervention price trading interval* all information relating to the relevant *directions* or *plant* provided under *reserve contract* and the matters referred to in clause 3.12.11(d) within 10 *business days* of *NEMMCO* notifying the *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* of the appointment of the independent expert.

(f) If a *Market Participant* has not provided the information required under this clause within the time period referred to in clause 3.12.11(e), then the independent expert is entitled to make such assumptions concerning that information as he or she thinks appropriate.

(g) Subject to clause 3.12.11(i), the final report of an independent expert appointed under clause 3.12.11(b) binds all *Scheduled Generators* and *Market Participants*, and each *Scheduled Generator* and *Market Participant* must comply with such a report.

(h) The fees and expenses of an independent expert appointed under clause 3.12.11(b) will be met by *NEMMCO*.

(i) If:

(1) *NEMMCO* gives a *direction* or *dispatches plant* provided under a *reserve contract*; and

(2) the final report of the independent expert appointed under clause 3.12.11(b) in respect of the relevant *intervention price trading interval* indicates that:

(A) any or no adjustment is payable to or by a particular *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* under clauses 3.12.11(a)(1) to (3); ~~and~~ or

(B) the amount payable to a *Scheduled Generator* or *Scheduled Network Service Provider* under clause 3.12.11(a)(4).

(3) the *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* believes that the amount of the adjustment is

incorrect,

then the *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* may request *NEMMCO* to establish a panel to redetermine the amount of the adjustment payable by or to that *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer*.

(j) If *NEMMCO* is requested to establish a panel to redetermine the amount of any adjustment, *NEMMCO* must establish a three member panel from the group of persons referred to in clause 8.2.2(d) to redetermine:

(1) the ~~amount~~ adjustment payable by or to *Scheduled Generators*, *Scheduled Network Service Providers* or *Market Customers* under clauses 3.12.11(a)(1) to (3); or~~.~~

(2) the amount payable to a *Scheduled Generator* or *Scheduled Network Service Provider* under clause 3.12.11(a)(4).

(k) The panel so established must conduct itself on the same basis as the *DRP* under clause 8.2.6.

(l) The determination of a panel established under clause 3.12.11(j) binds all *Scheduled Generators*, *Scheduled Network Service Providers* and *Market Customers*, and each *Scheduled Generator*, *Scheduled Network Service Provider* and *Market Customer* must comply with a determination of the panel.

3.13.4 Spot market

(a) Each week in accordance with the *timetable NEMMCO* must *publish* details of the outcome of the *medium term PASA*.

(b) The details to be published by *NEMMCO* under clause 3.13.4(a) must include the information specified in clause 3.7.2(f).

(c) Each *day*, in accordance with the *timetable*, *NEMMCO* must *publish* details of the outcome of the *short term PASA* for each *trading interval* covered.

(d) The details of the *short term PASA published* each *day* by *NEMMCO* under clause 3.13.4(c) must include the information specified in clause 3.7.3(h).

(e) Each *day*, in accordance with the *timetable*, *NEMMCO* must *publish* a half hourly *pre-dispatch schedule* for the period described in clause 3.8.20(a).

(f) Details of the *pre-dispatch schedule* to be *published* must include the following for each *trading interval* in the period covered:

(1) forecasts of the most probable peak *power system load* plus required *reserve* for each *region* and for the total *power system*;

(2) forecasts of the most probable *energy* consumption for each *region*

and for the total *power system*;

(3) forecast *inter-regional loss factors*;

(4) aggregate *generating plant* availability for each *region*;

(5) projected *supply* surpluses and deficits for each *region,* including shortages of *reserve*; and

(6) identification and quantification of:

(i) when and where the projected conditions are found to be inadequate;

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

(iii) where a projected *supply* deficit in one *region* can be supplemented by a surplus in a neighbouring *region* (dependent on forecast *interconnector* capacities) and the expected *interconnector flow*;

(iv) forecast *interconnector* transfer capabilities; and

(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 *excess generation prices*~~ at each *regional reference node* for each *trading interval* 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 under 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.

(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*, *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* will 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* and *dispatch bids* received and actual availabilities of *generating units*, *scheduled network services* and *scheduled loads* for the previous *trading day*, including:

(1) the number and times at which any rebids were made;

(2) identification of the *Market Participant* submitting the *dispatch bid* or *dispatch offer*;

(3) the *dispatch bid* or *dispatch offer prices*;

(4) quantities for each *trading interval*;

(5) the *ramp rate* of each *generating unit*, ~~and~~ *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.

(q) Each *day*, in accordance with the *timetable*, *NEMMCO* must *publish* details of

the *dispatched generation*, *dispatched network service* or *dispatched load* for each *scheduled generating unit*, *scheduled network service* and *scheduled load*, respectively, in each *trading interval* for the previous *trading day*.

(r) Each day, in accordance with the *timetable*, *NEMMCO* must *publish* details of any operational irregularities arising on the previous *trading day* including, for example, any circumstances in which there was prima facie evidence of a failure to follow *dispatch instructions*.

3.14 ~~Force Majeure~~ Administrative Price and Market Suspension

3.14.1 Cumulative Price Threshold and Administered price limits~~cap~~

(a) In conjunction with each *participating jurisdiction*, and after consulting *Market Participants* in accordance with the *Code consultation procedures*, *NECA* must develop, authorise and *publish* and may vary from time to time a schedule to specify an *administered price cap* for each *region* to be used as described in this clause 3.14~~.2 and 3.14.5~~.

(b) The *administered price floor* for each *region* to be used as described in clause 3.14.2 will be the negative of the value of the prevailing *administered price cap* from time to time.

(c) The *cumulative price threshold* is $300,000.

3.14.2 ~~Force majeure events~~ Application of Administrative Prices

~~(a)~~ **DELETED** ~~In conjunction with each *participating jurisdiction*, and after consulting *Market Participants* in accordance with the *Code consultation procedures*, *NECA* must develop, authorise and publish and may vary from time to time a schedule to:~~

~~(1) define *force majeure events*; and~~

~~(2) prescribe the impacts of a *force majeure event*, or a combination of *force majeure events* in each *region*, which would constitute a *material force majeure event*,~~

~~and the schedule must be added to the *Code* as Schedule 3.4 and form part of the *Code*. Clause 8.3.3 will not apply to the addition of Schedule 3.4 under this clause.~~

(b) NEMMCO must immediately notify all Market Participants of the commencement and closing of an administered price period under clause 3.14. ~~*NEMMCO* must notify all *Market Participants* without delay of the occurrence of any *material force majeure event*. Such notification must be given by means of a notice published on the *market information bulletin board* or such other means as *NEMMCO* considers will ensure that *Market Participants* are notified~~

~~of the event without delay.~~

(c) A trading interval is to be an *administered price period* if:

(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*,

(2) the *trading interval* occurs in a *trading day* in which a prior *trading interval* is an *administered price period* under this clause 3.14.1, or

(3) if the previous *trading interval* was an *administered price trading interval* and in *NEMMCO's* opinion one or more *trading intervals* in the next *business day* will be an *administered price period*, *NEMMCO* deems with the consent of *NECA* the *trading interval* to be an *administered price period*.

If, within an administered price period, the *dispatch price* calculated as if this clause 3.14.1(d) did not apply,

(1) exceeds the administered price cap then NEMMCO must set the *dispatch price* to the *administered price cap*, or

(2) is less than the administered price floor NEMMCO must set the dispatch price to the administered price floor.

~~(c) If the conditions prescribed under clause 3.14.2(a)(2) prevail 24 hours after *NEMMCO* has notified *Market Participants* of a *material force majeure event*, then *NEMMCO* must invoke the *administered price cap* to apply to the *regional reference node* in each affected *region* and declare an *administered price period*.~~

(d) During an *administered price period* the procedures for *PASA*, *dispatch* and *spot price* determination are to continue in accordance with the provisions of the *Code*~~, subject to the application of the *administered price cap*~~.

(e) If during an *administered price period* the *dispatch price*~~determined in accordance with clauses 3.8 and 3.9 is above the *administered price cap* during an *administered price period* then~~:

(1) **[deleted - refer 3.14.1(c)]** ~~*dispatch prices* are to be capped at the *administered price cap* at all relevant *regional reference nodes*;~~

(2) ~~where an~~ is set to the *administered price cap* ~~is applied~~ at any *regional reference node*, ~~during a *trading interval*~~ under clause 3.14.2, the *dispatch prices* at other *regional reference nodes* which are *connected* to the affected *regional reference node* via an *interconnector* or *interconnectors* are to be capped to an amount determined by the application of the appropriate *inter-regional loss factors* to the *administered price cap* in the affected *region*; ~~and~~

(3) if *administered price caps* are invoked in a ~~*trading*~~ *dispatch interval* in two or more *regions* which are *connected* by an *interconnector* or *interconnectors* then *NEMMCO* may reduce the *administered price cap* in one or more of those *regions* by an amount or amounts to be determined by *NEMMCO* based on:

(i) electricity flows; and

(ii) *inter-regional loss factors*,

between the *regions* to ensure that the sum of the amounts payable to *NEMMCO* by *Market Participants* ~~*Customers*~~ is not less than the sum of the amounts payable by *NEMMCO* to *Market Participants* ~~*Generators* and *Market Network Service Providers*~~ in respect of *spot market transactions* in those *regions* in that *trading interval*.

(4) is set to the *administered price floor* at any *regional reference node*, under clause 3.14.2, the *dispatch prices* at other *regional reference nodes* which are *connected* to the affected *regional reference node* via an *interconnector* or *interconnectors* are to be floored to an amount determined by the application of the appropriate *inter-regional loss factors* to the *administered price floor* in the affected *region*; and

(5) if *administered price floors* are invoked in a *dispatch interval* in two or more *regions* which are *connected* by an *interconnector* or *interconnectors* then *NEMMCO* may adjust the *administered price floor* in one or more of those *regions* by an amount or amounts to be determined by *NEMMCO* based on:

(i) electricity flows; and

(ii) *inter-regional loss factors*,

between the *regions* to ensure that the sum of the amounts payable by *NEMMCO* to *Market Participants* is not more than the sum of the amounts payable to *NEMMCO* by *Participants* in respect of *spot market transactions* in those *regions* in that *trading interval*.

(f) **DELETED** ~~Following a declaration by *NEMMCO* of an *administered price period* in accordance with clause 3.14.2(c), the *administered price period* is to continue until *NEMMCO* declares the *administered price period* to be at an end and notifies all *Market Participants* accordingly.~~

(g) *NECA* must undertake a review of clause 3.14 in accordance with the *Code consultation procedures*. The review must be completed by the earlier of:

(1) 80 *days* after the third time ~~occurrence~~ in any two year period ~~of a *material force majeure event*~~ when either the *Cumulative Price Upper Threshold* is reached; or

(2) 5 years after *market commencement*.

(h) *NECA* must provide a copy of the report of the review to the *ACCC*.

(i) The review to be carried out pursuant to clause 3.14.2(e) must consider:

(1) the adequacy and appropriateness of clause 3.14;

(2) whether any additions or amendments to clause 3.14 would make the clause better meet and facilitate the *Code objectives*; and

(3) such other matters as *NECA* considers appropriate.

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 *Code* 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 *Code*.

(b) *NEMMCO* must not suspend the *spot market* solely because:

(1) *spot prices* have reached *VoLL*;

(1A) *spot prices* have reached the *market floor price;*

(2) *NEMMCO* has issued a *direction*; or

(3) *NEMMCO* has otherwise intervened in the market under clause 3.12.

(c) *NEMMCO* must conduct reviews of each occasion when it suspended the *spot market* in order to assess the adequacy of the provision and response of *facilities* or services, and the appropriateness of actions taken to restore or maintain *power system security*.

(d) The report of the review carried out in accordance with clause 3.14.3(c) must be made available to *Code Participants* and the public.

(e) A *Code Participant* must co-operate in any such review conducted by *NEMMCO* (including making available relevant records and information).

(f) A *Code 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 *Code Participant* such information or reports relating to the performance of that *Code Participant*'s equipment during a suspension of the *spot market* as that *Code Participant* reasonably requests and in relation to which *NEMMCO* is required to conduct a review under this clause 3.14.3.

3.14.5 Pricing during market suspension

(a) If *NEMMCO* declares that the *market* is suspended then, as far as *NEMMCO* considers it practically and reasonably possible, the procedures for *PASA*, *dispatch* and *spot price* determination are to be followed in accordance with the provisions of the *Code*, subject to the application of this clause 3.14.5 ~~the *administered price cap*~~.

(b) The *spot price* during a *trading interval* for which *NEMMCO* has declared the *market* to be suspended is to be determined by *NEMMCO* in accordance with this clause 3.14.5~~, but shall be no greater than the *administered price cap* at each *regional reference node* specified in the schedule to be developed and approved by *NECA* in accordance with clause 3.14.1~~.

(c) In a *region* or *regions* where, in *NEMMCO's* reasonable opinion, it remains possible to do so, *dispatch* and the determination of *spot prices* are to continue in accordance with clauses 3.8 and 3.9.

(d) If, in *NEMMCO's* reasonable opinion, it is not possible in a *region* to continue to *dispatch* and determine *spot prices* in accordance with clauses 3.8 and 3.9, but that *region* is *connected* by an *unconstrained* regulated *interconnector* or *interconnectors* to another *region* where *dispatch* is continuing in accordance with clause 3.8, then the *regional reference price* in the first *region* is to be determined by application of an appropriate *inter-regional loss factor* to the *regional reference price* in the adjacent *region,* such *inter-regional loss factor* being determined by *NEMMCO* in accordance with the principles in schedule 3.2 and the actual flows on the *interconnector*.

~~(e) DELETED Where *spot prices* determined under clauses 3.14.5(b), (c) or (d) exceed the *administered price cap* at any *regional reference node*, then that *regional reference price* is to be deemed to be the *administered price cap*.~~

~~(f) DELETED If the circumstances set out in clause 3.14.5(e) occur, *spot prices* at all other *regional reference nodes* connected by *regulated interconnectors* to the *regional reference node* at which the *administered price cap* applies are to~~

~~be determined by *NEMMCO* by the application of *inter-regional loss factors* to the *administered price cap* and such *inter-regional loss factors* are to be determined by *NEMMCO* based on the principles set out in schedule 3.2 and the actual flows on each of the *interconnectors*.~~

(g) Where *NEMMCO* is of the reasonable opinion that it is not practical to set *spot prices* in a *region* in accordance with clauses 3.14.5(c) - (d)~~(f)~~, then *NEMMCO* must set the *regional reference price* at:~~ the lower of:~~

(1) *NEMMCO's* forecast *regional reference price* determined in accordance with the most recently published *pre-dispatch schedule* if it is still current~~;~~ and otherwise at;

(2) the price set out in relation to the relevant *trading interval* in the schedule developed and updated by *NEMMCO* for that purpose in accordance with the methodology developed under the *Code consultation procedures* to reflect NEMMCO's reasonable estimate of typical market prices during the period to which the schedule relates.~~ the *administered price cap* for the *region*.~~

(g1) *NEMMCO* must publish the schedule developed under clause 3.14.5(e)(2) at least 14 days prior to the first day to which the schedule relates. *NEMMCO* must develop the first of these schedules by 31 March 2001. If, prior to this date, *NEMMCO* has not yet developed a schedule under this clause 3.14.5, the schedule is to comprise the average *spot price* which prevailed in similar *trading intervals* in corresponding in the preceding 3 months.

(h) If *NEMMCO* is using schedules to set regional prices ~~*administered price caps* are invoked~~ in a *trading interval* in two or more *regions* which are *connected* by an *interconnector* or *interconnectors* then *NEMMCO* may reduce the ~~*administered price cap*~~ level at which the *regional reference price* is set in one or more of those *regions* by an amount or amounts to be determined by *NEMMCO* based on:

(1) electricity flows; and

(2) *inter-regional loss factors*,

between the *regions* to ensure that the sum of the amounts payable to *NEMMCO* by *Market Participants* ~~*Customers*~~ is not less than the sum of the amounts payable by *NEMMCO* to *Market Participants* ~~*Generators* and *Market Network Service Providers*~~ in respect of *spot market transactions* in those *regions* in that *trading interval*.

3.14.6 Compensation due to the application of an administered 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* or an administered *price floor* during either an *administered price period* or *market suspension*, the resultant revenue receivable in respect of *dispatched network services* in any *trading interval* is less than the minimum requirement specified by its *network dispatch offer* for that *trading interval*.

(a2) A *Market Participant* which submitted a *dispatch bid* may claim compensation from *NEMMCO* in respect of a *scheduled load* if, due to the application of an *administered price floor* during either an *administered price period* or *market suspension*, the *resultant spot price* in any *trading interval* is greater than the price specified in the *dispatch bid* for that *trading interval*.

(b) Notification of an intent to make a claim under clause 3.14.6(a) or clause 3.14.6(a1) or clause 3.14.6(a2) must be submitted to both *NEMMCO* and *NECA* within 2 *business days* of notification by *NEMMCO* that an *administered price period* or period of *market suspension* has ended.

(c) *NECA* must determine whether it is appropriate in all the circumstances for compensation to be payable by *NEMMCO* and, if so, *NECA* must determine an appropriate amount of compensation.

(d) Before making a determination, *NECA* must request the *Adviser* to establish a three member panel from the group of persons referred to in clause 8.2.2(d) to make recommendations on the matters to be determined by *NECA*.

(e) The panel must conduct itself on the same basis as a *DRP* under clause 8.2.6. 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 *Code Participants*;

(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* or an administered *price floor* and the minimum revenue requirement specified in its *network dispatch offer*; and

(5) In the case of a *Market Participant* which submitted a *dispatch bid*, the difference between the *spot price* applicable to the application of the *administered price floor* and the price specified by the *Market Participant* in its *dispatch bid*.

~~(f) *NECA's* determinations under clause 3.14.6 must be consistent with the recommendations by the panel.~~

3.15.7 ~~Payments by Scheduled Generators in respect of Excess Generation Periods~~ [Sub-clause deleted]

~~For each *excess generation trading interval* all *Scheduled Generators* must pay to *NEMMCO*, in respect of each of its *scheduled generating unit*, except any *scheduled generating units* which is *constrained on* due to an *intra-regional network constraint*, an amount equal to:~~

~~AGE × EGP × TLF~~

~~where~~

~~AGE is the *adjusted gross energy* amount, *sent out* by the *Scheduled Generator* at the *connection point* in the *trading interval*, as determined in accordance with clause 3.15.4 or 3.15.5 as appropriate;~~

~~EGP is the *excess generation price* at the relevant *regional reference node* determined for that *trading interval* in accordance with clause 3.9.6; *and*~~

~~TLF for a *transmission network connection point*, is the *intra-regional loss factor* applicable to that *connection point* or, for any other *connection point*, the *intra-regional loss factor* applicable to the *transmission network connection point* to which it is assigned in accordance with clause 3.6.3(a).~~

3.15.8 Adjustments for directions

(a) If:

(1) a *direction* is given; and

(2) the final report of the independent expert prepared under clause 3.12.11 or any re-determination by a panel established under that clause in relation to the *intervention price trading interval* indicates that one or more *Scheduled Generator* or *Market Participant* is entitled to receive, or must pay, an adjustment under clause 3.12.11 as a result of the *direction* or *dispatch* of such *plant* (as the case may be); and

(3) the total amount of the adjustments payable to all *Market Participants* under clause 3.12.11 in relation to the *intervention price trading*

interval is less than or more than the total amount of the adjustments receivable by all *Market Participants* and *Scheduled Generators* under clause 3.12.11 in relation to the *direction*,

then *NEMMCO* must calculate a figure for each *Market Customer* applying the following formula:

$$\frac{E \times AP}{\Sigma E}$$

where:

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*, 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*; and

AP is the total of the adjustments payable by all *Market Participants* and *Scheduled Generator* under clause 3.12.11 in respect of the *intervention price trading interval* and the *direction* minus the total of the ~~adjustments receivable by~~ payable to all *Market Participants* and *Scheduled Generator* under clause 3.12.11 in respect of the *intervention price trading interval* and the *direction*.

ΣE is the sum of all amounts determined as "E" in accordance with this clause 3.15.8 for each *Market Customer*.

(b) If the figure calculated for a *Market Customer* under clause 3.15.8(a) is positive, then the *Market Customer* is liable to pay *NEMMCO* an amount equal to that figure.

(c) Subject to clause 3.15.22, if the figure calculated for a *Market Customer* under clause 3.15.8(a) is negative then *NEMMCO* is liable to pay the *Market Customer* an amount equal to that figure.

(d) For the purposes of clause 3.15.15 an amount payable under clause 3.15.8(b) or (c) and an adjustment payable to a *Market Participant* or *Scheduled Generator* under clause 3.12.11 in respect of an *intervention price trading interval* which relates to a *direction* is to be taken to be payable in respect of the *billing period* during which the final report of the independent expert prepared under clause 3.12.11 in relation to the *intervention price trading interval* is made available to *Market Participants*.

(f) For the purposes of clause 3.15.19 a re-determination by a panel established under clause 3.12.11 is to be taken to be an agreement between *NEMMCO* and each of the *Market Participants* and *Scheduled Generators*.

3.15.9 Reserve settlements

(a) *NEMMCO's* costs incurred in contracting for the provision of *reserves* are to be met by fees imposed on *Market Customers* in accordance with this clause 3.15.9.

(b) Included in the statements to be provided under clauses 3.15.14 and 3.15.15, *NEMMCO* must give each *Market Participant* a statement setting out:

(1) the aggregate of the amounts payable by *NEMMCO* under *reserve contracts* and any amounts determined as payable by *NEMMCO* by the independent expert under clause 3.12.11 or any re-determination by the panel established under that clause as a result of *plant* under a *reserve contract* being *dispatched* in respect of the relevant *billing period*; and

(2) the aggregate of the amounts receivable by *NEMMCO* under these *market rules* in respect of *plant* under *reserve contracts* during the relevant *billing period*.

(c) Separate statements must be provided under clause 3.15.9(b):

(1) for *reserve contracts* entered into by *NEMMCO* specifically in respect of the *Market Participant's region* in accordance with clause 3.15.9(d); and

(2) for *reserve contracts* other than those entered into for and allocated to a specific *region* or *regions*.

(d) Where either:

(1) without the intervention in the *market* of *NEMMCO* a *region* would otherwise, in *NEMMCO's* reasonable opinion, fail to meet the minimum *power system security and reliability standards*; or

(2) a *region* requires a level of *power system reliability* or *reserves*, which in *NEMMCO's* reasonable opinion, exceeds the level required to meet the minimum *power system security and reliability standards*,

then *NEMMCO* must recover its net liabilities, or distribute its net profits, under the terms of *reserve contracts* entered into to meet these requirements, from or to the *Market Customers* in that *region* in accordance with 3.15.9(e).

(e) In respect of *reserve contracts* entered into by *NEMMCO*, ~~for a specific *region* or *regions*~~ *NEMMCO* must calculate in relation to each *Market Customer* ~~in that~~ for each *region* in respect of each *billing period* a sum determined by applying the following formula:

$$MCP = \frac{E \times RCC}{\quad}$$

Where:

MCP is the amount payable by a *Market Customer* for a *region* in respect of a *billing period*.

E is the sum of all that *Market Customer's adjusted gross energy amounts* in a *region* (the "**relevant region**") in each *trading interval* which commences between 0800 hours and 1930 hours on a *business day* in the *billing period* excluding any loads in that *region* in respect of which the *Market Customer* submitted a *dispatch bid* for any such *trading interval*.

RRC is the total amount payable by *NEMMCO* under *reserve contracts* which relate to the relevant *region* in the *billing period* as agreed under clause 3.12.1(d); and

ΣE is the sum of all amounts determined as "E" in accordance with this clause 3.15.9(e) in respect of that *region*.

[formula replaced]

~~where:~~

~~R_r is the amount receivable in that *billing period* by *NEMMCO* from the *spot market* due to the *dispatch* of MW capacity made available and offered into *dispatch* by *NEMMCO* under contracts for the provision of *reserves* for that *region*;~~

~~P_r is the amount payable by *NEMMCO* under the terms of those contracts for the provision of *reserves* for that *region* and that *billing period* plus any amounts payable by *NEMMCO* in accordance with clause 3.12.11 due to the operation of *plant* under those *reserve contracts*;~~

~~E_r 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* in that *region* for which the *Market Customer* is *financially responsible*.~~

~~ΣE_r is the sum of all amounts determined as "E_r" in accordance with this clause 3.15.9 for all *Market Customers* in that *region*.~~

(f) ~~If is negative, then the~~ A *Market Customer* is liable to pay *NEMMCO* an amount equal to the sum calculated under clause 3.15.9(e) in respect of that *Market Customer* ~~that sum~~.

~~(g) DELETED If the sum calculated under clause 3.15.9(e) in respect of a *Market Customer* is positive, then *NEMMCO* is liable to pay the *Market Customer* an amount equal to that sum.~~

~~(h)~~ **DELETED** ~~In respect of *reserve contracts* entered into by *NEMMCO* other than those for a specific *region* or *regions* in accordance with clause 3.15.9(d) *NEMMCO* must calculate in relation to each *Market Customer* in all *regions* in respect of each *billing period* a sum determined by applying the following formula:~~

[formula replaced]

~~where:~~

~~R is the amount receivable in that *billing period* by *NEMMCO* from the *spot market* due to the *dispatch* of MW capacity made available and offered into *dispatch* under all *reserve contracts* other than those allocated to a specific *region* or *regions* in accordance with clause 3.15.9(d);~~

~~P is the amount payable by *NEMMCO* for that *billing period* under the terms of all *reserve contracts* not allocated to a specific *region* or *regions* plus any amounts payable by *NEMMCO* in accordance with clause 3.12.11 due to the operation of *plant* under those contracts;~~

~~E is the sum of all of the *Market Customer's adjusted gross energy* amounts, determined in accordance with clauses 3.15.4 and 3.15.4, in respect of each *trading interval* in the *billing period* and each *connection point* in all *regions* for which the *Market Customer* is *financially responsible*.~~

~~ΣE is the sum of all amounts determined as "E" in accordance with this clause 3.15.9 for all *Market Customers* in all *regions*.~~

~~(i)~~ **DELETED** ~~If the sum calculated under clause 3.15.9(h) in respect of a *Market Customer* is negative, then the *Market Customer* is liable to pay *NEMMCO* an amount equal to that sum.~~

~~(j)~~ **DELETED** ~~If the sum calculated under clause 3.15.9(h) in respect of a *Market Customer* is positive, then *NEMMCO* is liable to pay the *Market Customer* an amount equal to that sum.~~

(k) Operational and administrative costs incurred by *NEMMCO* in arranging for the provision of *reserves*, other than its liabilities under the terms of the *reserve contracts* into which it has entered, are to be recovered by *NEMMCO* from all *Market Participants* as part of the *fees* imposed in accordance with clause 2.11.

~~(l)~~ **DELETED** ~~For the purposes of clause 3.15.15 an amount payable under clause 3.15.9(i) or (j) and an adjustment payable to a *Market Participant* or *Scheduled Generator* under clause 3.12.11 in respect of an *intervention price trading interval* which relates to the *dispatch* of *plant* under a *reserve contract*.~~

(m) For the purposes of clause 3.15.19, a re-determination by a panel established

under clause 3.12.11 is to be taken to be an agreement between *NEMMCO* and each of the *Market Participants* and *Scheduled Generators*.

Schedule 3.5 - Deleted ~~Excess Generation~~

~~For each *region* and for each *trading interval* in an *excess generation period*, each *Market Customer* must receive from *NEMMCO* an amount equal to:~~

~~$E \times REGA$~~
~~$-\Sigma RE$~~

~~where:~~

~~E is the sum of the *Market Customer's adjusted gross energy* amounts for each *connection point* for which the *Market Customer* is *financially responsible* in that *region* in respect of the relevant *excess generation trading interval*;~~

~~REGA is the sum of amounts received by *NEMMCO* in respect of the relevant *excess generation trading interval* under clause 3.15.7(a) for that *region*; and~~

~~ΣRE is the sum of amounts determined as "E" in accordance with this clause 3.15.7(c) in respect of that *region* for each *Market Customer* which is *financially responsible* for one or more *connection points* in that *region*.~~

CHAPTER 10

administered floor price

A price floor to apply to a *region 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 clauses 3.14.2 and 3.14.5.

Cumulative Price Threshold

The threshold for imposition of an administered price cap as defined in clause 3.14.1.

dispatch interval

A period defined in clause 3.8.18(a1) in which ~~between re-evaluation of~~ the *dispatch algorithm* is run in accordance with 3.8.18(b).

~~**excess generation period**~~

~~A period made up of one or more *dispatch intervals* 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*.~~

~~**excess generation price**~~

~~A price determined in accordance with clause 3. 9.6.~~

~~**excess generation trading interval**~~

~~Any *trading interval* where the interim spot price is less than $0/MWh as provided for in clause 3.9.6(a).~~

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

Has the meaning given to that term by clause 3.12.10.

market floor price

A price floor on *regional reference prices* as described in clause 3.9.6.

Appendix B

to

Form A Application for Authorisation in respect of Exclusionary Provisions

Form B Application for Authorisation in respect of Agreements Affecting Competition

Form E Application for Authorisation in respect of Exclusive Dealing

lodged in relation to

the Voll Code changes, Capacity mechanisms Code change and Zero floor Code changes

List of Code Participants

LIST OF CODE PARTICIPANTS REGISTERED WITH NEMMCO AS AT 22 JULY 1999

Company Aliases	Street Address	Street City	Street State	Street Zip
ACTEW Corporation Ltd	ACTEW House	CANBERRA	ACT	2601
ACTEW Energy Ltd	Level 2 ACTEW House 221-223 London Circuit	CANBERRA	ACT	2601
Advance Energy	Cnr Littlebourne Street and Hampden Park Road	KELSO	NSW	2795
AES Transpower Holding Pty Ltd	Level 5 416 Collins Street	MELBOURNE	VIC	3000
AGL Electricity Ltd	Level 2 333 Collins Street	MELBOURNE	VIC	3000
ALISE Energy Australia Pty Ltd	Level 6 De La Sala House 30 Clarence Street	SYDNEY	NSW	2000
AQC (Kogan Creek) Pty Ltd	Level 11 Westpac Building 260 Queen Street	BRISBANE	QLD	4001
Australian Inland Energy	Administrative Building 160-162 Beryl Street	BROKEN HILL	NSW	2880
Boral Energy Electricity Ltd	Level 39 50 Bridge Street	SYDNEY	NSW	2000
Boral Energy Ltd	Level 39 AMP Centre 50 Bridge Street	SYDNEY	NSW	2000
Callide Power Trading Pty Ltd	Central Plaza 2 21st Floor 66 Eagle Street	BRISBANE	QLD	4000

Company Aliases	Street Address	Street City	Street State	Street Zip
Central Electricity Retail Corporation Ltd	Ground Floor 61 Mary Street	BRISBANE	QLD	4000
Citipower Pty	Level 15 Citipower House 628 Bourke Street	MELBOURNE	VIC	3000
CS Energy Ltd	Level 21 66 Eagle Street	BRISBANE	QLD	4000
CSR Limited	Pioneer Mill	BRANDON	QLD	4808
Delta Electricity	Level 12 Darling Park 201 Sussex Street	SYDNEY	NSW	2000
Eastern Energy Ltd	Level 18 452 Flinders Street	MELBOURNE	VIC	3000
Edison Mission Energy Australia Ltd	Level 20 HWT Tower Southgate	SOUTH MELBOURNE	VIC	3205
EDL Plant Services Pty Ltd	Level 2 199 Toorak Road	SOUTH YARRA	VIC	3141
EMMLINK Pty Ltd	Level 24 AMP Place 10 Eagle Street	BRISBANE	QLD	4000
Energex Ltd	150 Charlotte Street	BRISBANE	QLD	4000
Energex Retail Pty Ltd	Level 6 Anzac Square Building Commercial Towers	BRISBANE	QLD	4006
Energy 21 Pty Ltd	Level 6 45 William Street	MELBOURNE	VIC	3000
Energy Australia	Level 22 570 George Street	SYDNEY	NSW	2000
Energy Brix Australia Corporation Pty Ltd	Hazelwood Drive	MORWELL	VIC	3840

Company Aliases	Street Address	Street City	Street State	Street Zip
Enron Australia Energy Pty Ltd	Level 21 9-11 Castlereagh Street	SYDNEY	NSW	2000
Ergon Energy Corporation Ltd	30 Marble Street	DALBY	QLD	4405
ETSA Corporation	Level 21 9-11 Castlereagh Street	SYDNEY	NSW	2000
ETSA Power Corporation	Level 21 9-11 Castlereagh Street	SYDNEY	NSW	2000
ETSA Power Corporation (Victoria) Pty Ltd	Level 21 9-11 Castlereagh Street	SYDNEY	NSW	2000
ETSA Power Pty Ltd	1 Anzac Highway	KESWICK	SA	5035
ETSA Transmission Corporation	1 Anzac Highway	KESWICK	SA	5035
ETSA Utilities Pty Ltd	Level 6 1 Anzac Highway	KESWICK	SA	5035
Ferrier Hodgson Electricity Pty Ltd	Level 17 2 Market Street	SYDNEY	NSW	2000
Flinders Power Pty Ltd	168 Greenhill Road	PARKSIDE	SA	5063
GPU PowerNet Pty Ltd	25 Flinders Lane Milton House	MELBOURNE	VIC	3000
Great Southern Energy	Level 1 30 Morriset Street	QUEANBEYAN	NSW	2620
Hazelwood Power	Brodribb Road	MORWELL	VIC	3840
HQI Australia Limited Partnership	Level 24 AMP Place 10 Eagle Street	BRISBANE	QLD	4000
Integral Energy Australia	51 Huntingwood Drive	HUNTINGWOOD	NSW	2148

Company Aliases	Street Address	Street City	Street State	Street Zip
Kinetik Energy Pty Ltd	Level 19 East Tower 40 City Road	SOUTHBANK	VIC	3006
Loy Yang Power Management Ltd	Bartons Lane	TRARALGON SOUTH	VIC	3844
Macquarie Generation	34 Griffiths road	LAMBTON	NSW	2299
Millmerran Energy Trading Pty Ltd	Level 24 10 Eagle Street	BRISBANE	QLD	4000
NorthPower	9 Short Street	PORT MACQUARIE	NSW	2444
NSW Electricity Transmission Authority	Cnr Park and Elizabeth Streets	SYDNEY	NSW	2000
Optima Energy Pty Ltd	168 Greenhill Road	PARKSIDE	SA	5063
Pacific Power	Level 24 201 Elizabeth Street	SYDNEY	NSW	2000
Powercor Australia Ltd	Level 8 40 Market Street	MELBOURNE	VIC	3000
QTSC (Victoria) Pty Ltd (Ergon Energy)	Ground Floor 61 Mary Street	BRISBANE	QLD	4000
Queensland Electricity Transmission Corporation Ltd	33 Harold Street	VIRGINIA	QLD	4104
Queensland Transitional Power Trading Corporation	15th Floor 61 Mary Street	BRISBANE	QLD	4000
RMB Australia Ltd	Level 5 37-49 Pitt Street	SYDNEY	NSW	2000

Company Aliases	Street Address	Street City	Street State	Street Zip
Rocky Point Green Energy Pty Ltd	Mill Road	WOONGOOLBA	QLD	4207
SA Generation Corporation	168 Greenhill Road	PARKSIDE	SA	5063
Sithe Australia Power Services Pty Ltd	Level 12 The Chifley Tower 2 Chifley Square	SYDNEY	NSW	2000
Snowy Hydro Trading Pty Ltd	Level 17 Bligh House 4 Bligh Street	SYDNEY	NSW	2000
Snowy Mountains Hydro-Electric Authority	Monaro Highway	COOMA	NSW	2630
Southern Hydro Ltd	Level 13 500 Collins Street	MELBOURNE	VIC	3000
Stanwell Corporation Ltd	Level 13 199 Charlotte Street	BRISBANE	QLD	4000
State Electricity Commission of Victoria	Level 5 452 Flinders Street	MELBOURNE	VIC	3000
Synergen Pty Ltd	168 Greenhill Road	PARKSIDE	SA	5063
Tarong Energy Corporation Ltd	Level 10 AMP Place 10 Eagle Street	BRISBANE	QLD	4000
TransEnergie Australia Pty Ltd	Level 24 AMP Place 10 Eagle Street	BRISBANE	QLD	4000
United Energy Ltd	Level 13 101 Collins Street	MELBOURNE	VIC	3000
Victorian Power Exchange Pty Ltd	433 Smith Street	NORTH FITZROY	VIC	3065
Wambo Power Ventures Pty Ltd	Level 1 Princeton Court Three 13 Princeton Street	KENMORE	QLD	4069

Company Aliases	Street Address	Street City	Street State	Street Zip
Yallourn Energy Pty Ltd	Eastern Road	MOE	VIC	3825
Yamasa Seafood Australia Pty Ltd	20 Gilbertson Road	LAVERTON NORTH	VIC	3026

Appendix C

to

Form A Application for Authorisation in respect of Exclusionary Provisions

Form B Application for Authorisation in respect of Agreements Affecting Competition

Form E Application for Authorisation in respect of Exclusive Dealing

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The NECA Reports

Reliability Panel
Implementation of capacity mechanisms and VoLL reviews

Introduction

The Reliability Panel conducted a review of the level of VoLL as required under clause 3.9.4. The Panel presented its final report to NECA on 21 June. That report was published on NECA's website (www.neca.com.au) on 23 June. The Panel had previously published an issues paper and invited submissions, and held a public forum, as a part of our review. The issues paper and the written comments received in response are also available on NECA's website.

Following publication of the report, NECA requested the Panel to develop appropriate Code changes to implement our recommendations and formally to consult on those changes in accordance with the Code change procedures in chapter 8 of the Code. At the request of NECA, the Panel also undertook consultation on the changes necessary to implement the conclusions of NECA's capacity mechanisms review. The final report of that review, also following extensive public consultation, was published on 6 July.

The Panel published draft Code changes on 12 August and invited written comments by 11 September. We convened a seminar attended by interested parties on 24 August to discuss the draft changes.

Review of capacity mechanisms in the national market

NECA initiated the capacity mechanisms review to address concerns that the current market design may not be able to attract sufficient investment in the supply and demand side resources necessary to achieve the reliability standards set by the Reliability Panel. The review was also intended as a proactive assessment of the reserve trader arrangements and to establish a framework for the Reliability Panel's initial review of the level of VoLL.

The final report represented the culmination of consultation and discussion first on an issues paper, in February, and then in May on a draft report. Its principal conclusion was that the energy-only market design should be retained. The report recognised the need for an appropriate level of VoLL in order to achieve consistent voluntary market clearing but also that the current immaturity of the market means that some form of reliability safety net will continue to be required at least for a further, limited, period beyond the current 30 June 2000 sunset for the existing reserve trader arrangements.

The report made clear that VoLL should be set at a level consistent with the objective of achieving consistent voluntary market clearing through a combination of supply and demand-

side responses. It invited the Panel, in our review of VoLL, to take account of this overriding objective but also of the need for appropriate risk management and other mechanisms to be allowed time fully to develop if the market is to be able to cope with any resulting significant increase in VoLL.

The report concluded that existing reserve trader provisions in the Code should be replaced with a reliability safety net that extends the timeframe for its operation from the current six-month, to a rolling three-year, period. The fundamental reliability standard, currently expressed as a maximum level of unserved energy, should continue to be set by the Reliability Panel. NEMMCO should remain responsible for calculating the appropriate level of capacity required in each region to meet that standard. Reflecting the reality, however, that this requires NEMMCO to make judgements about future demand and generating capacity which involve wider issues of legitimate public policy, NEMMCO should in future take this decision in consultation with experts appointed or nominated by the participating jurisdictions. The report also proposed that:

- the revised safety net should be designed to ensure that its rôle can diminish as the market matures. It should be removed entirely at the earliest opportunity in response to firm evidence of consistent voluntary market clearing, the development of a proactive demand-side response and development of more sophisticated contract and risk management mechanisms. The report proposed that the Panel should be required, as part of our future annual reviews of VoLL, to consider and report on whether adequate such evidence yet exists. If the Panel concludes that it does, the safety net should immediately and automatically be removed. As a further safeguard to ensure that the safety net does not simply become institutionalised, the express approval of the ACCC should be required for the safety net to extend beyond 1 July 2003. These sunset arrangements, in particular, reflect concerns expressed very strongly to us during consultation on the draft report that there should be a defined end-date for the safety net arrangements, and that the end date should be as early as possible; and

- the potential for individual participants to reduce the need for the safety net, for example through the submission of demand-side bids, should be recognised and encouraged by the allocation of responsibility for funding those arrangements. The net costs of the safety net should therefore be allocated on an energy basis in benefiting regions in peak times during the periods when the safety net is in place. Exemptions should be available for demand-side bids.

No comments were received during consultation on the draft Code changes published by the Panel to implement the report's conclusions.

Review of VoLL

The primary recommendation of the Panel's review of the level of VoLL, building on the framework established in NECA's capacity mechanisms review, was to increase VoLL in two steps to $20,000/MWh in conjunction with a risk management provision to cap the market price if the cumulative effect of high prices exceeds a threshold level. This is designed to facilitate balancing of supply and demand on a voluntary basis in all but extreme circumstances through market responses without creating unmanageable risks to participants. Our recommendation was designed to provide incentives for the specialised generation and demand side investments that operate only at times when demand is approaching the level of

available supply and thus threaten on-going supply. Our report also recommended the introduction of a rolling three-year schedule of VoLL extended by one year in each annual review. This approach had been strongly endorsed in responses to the earlier issues paper.

The Panel received five written comments on the draft Code changes to implement those recommendations: from Yallourn Energy, Texas Utility Australia (TXA), GPU, Great Southern Energy (GSE), ETSA Power, GPU and PowerNet. Those comments are available on NECA's website.

Yallourn Energy supported the first increase in VoLL to $10,000/MWh in September 2001 but recommended an assessment of the efficacy of the price signal before the second increase to $20,000/MWh is implemented in April 2002.

TXA supported the increase and indeed questioned whether it will prove adequate. It noted a potential conflict between the stated reliability standard and the calculation of VoLL. TXA also opposed inclusion of a review of an existing schedule on the basis that certainty of the level of VoLL is critical and once set the value should not be amended. TXA also suggested the Code be amended to clarify that the administered price finishes at the end of a trading day rather than business day. Separately TXA also proposed the urgent review of the length of the despatch interval, advocating a 30-minute interval to align settlement and despatch periods. The Panel notes that this issue is being taken forward separately.

GPU supported the increase and cited the need for strong signals for the development of demand side response as an alternative to network augmentation.

GSE and ETSA Power sought the inclusion of matters to be taken into account in establishing each new level of VoLL and a review of established levels as discussed in the report.

The Panel has not adopted the Yallourn Energy proposal to undertake an assessment of the efficacy of the $10,000/MWh level before moving to the $20,000MWh level. We believe it would not be feasible to conduct a review at that time as the results of our proposed increases in VoLL are intended to be long-term changes in the investment and operational practices in the generation, demand side and network sectors of the market. The proposed level of $20,000/MWh has been established after consideration of the wide range of factors that may effect balancing of supply and demand on a voluntary basis. It is likely that the incentive created by notifying the level in advance will be dampened by inserting a new review of the final level in the current three year schedule.

TXA, GSE and ETSA Power proposed a meeting to discuss the need for inclusion of a provision establishing the matters to be taken into account in establishing the three-year schedule and the possibility of reviewing an element of a previous schedule. A meeting was held with representatives of those organisations and members of the Reliability Panel. The meeting discussed drafting of amended coding to incorporate the objectives of reviews of VoLL and the conditions on which a review of an existing schedule can be undertaken. TXA reiterated their basic objection to inclusion of a provision that allows a review of a previously published schedule but endorsed the drafting, as attached, as adequate to implement the provision if it is to be included. The provision allows for a review of the second year only on the basis that it is now highly probable that conditions and circumstances anticipated to apply at the time the level was set for that year will not now emerge.

We have accepted a suggestion to clarify the time at which an administered price period may nclude under clause 3.14 as the end of a trading day rather a business day.

Recommendations

The Reliability Panel recommends the adoption of its proposed Code changes to implement the conclusions of NECA's review of capacity mechanisms and the Panel's recommendations on the level of VoLL.

John Eastham
Chairman

September 1999

Removal of the zero price floor

Introduction

The ACCC's final determination on the National Electricity Code required (§C8.6) that the Code must be amended to remove the zero spot price floor during an excess generation period within one year from market commencement. This report covers the Code changes necessary to fulfil that condition.

The zero price floor

The Code requires all slow start generators to provide at least one negative, offloading bid, reflecting the amount that they are prepared to pay to remain on line at minimum load. Despite the obligation to input one such bid, and the right to offer any further load at negative prices if a generator or market network service provider wishes to do so, the Code currently prohibits the pool price seen by customers going below zero. Rather at such times an excess generation period is to be declared, the pool price for customers set to zero and generators to be charged for supply at the negative clearing price. Negative pool prices and an excess generation period have only occurred once since market start. They may, however, become more frequent where, for example:

- a sudden reduction in customer load (perhaps caused by a network failure) leads to negative dispatch prices for a short period as generators struggle to reduce output quickly enough to balance demand; or

- loads are very low (such as overnight) and a larger volume of slow start generation wishes to remain on line to supply the expected future load than is required to meet current demand.

Proposed changes

The proposed changes:

- remove the zero price floor and the accompanying excess generation provisions that were necessary to allow controlled off-loading of generators;

- implement a new negative price floor, initially set at $1,000/MWh. A floor at some level is essential in order to set a bound on the despatch algorithm and provide some

cap on the risk to participants. The level of the market price floor will be reviewed by the Reliability Panel concurrent with its next review of the market price cap of VoLL; and

- provide for negative administered prices, based on arrangements that precisely mirror the ceilings represented by the administered price cap at the top end of the market.

Although not obliged to do so, we consulted on these proposed changes in accordance with the Code change procedures in chapter 8 of the Code. Comments were received from Loy Yang Power, NEMMCO and Yallourn Energy.

Copies of those comments are attached. Those comments, and the Code change focus group in discussion with us, accepted the change to allow negative prices but were concerned about the level of the market price floor, and in particular the risks which market participants would potentially be exposed to by such large negative prices and the potentially perverse incentives and undesirable behaviours that might result from such prices.

Under current arrangements, pool prices cannot become negative and hedging arrangements settle using these prices. Despatch prices, which apply to generators, can, however, be negative. Negative prices would therefore generally appear to generators as an unhedged financial exposure. This provides an incentive on generators to minimise any occurrence of excess generation to the benefit of system security. With the removal of the zero price floor, the incentives will vary depending upon the contract position of various generators at a point in time:

- in periods where generators were under contracted compared to their output, negative prices would represent a financial exposure to them; but

- in circumstances where generators were over contracted, negative prices would represent a financial risk to retailers.

Both retailers and generators have raised concerns about the risks they potentially face as a result of the removal of the zero price floor. NEMMCO have raised concerns that, depending upon circumstances prevailing, large negative prices could provide incentives for generators to immediately and precipitately drop load and in doing so, to jeopardise system security. Arguably in other circumstances generators may have a financial incentive to prolong periods of excess generation.

In considering the comments received, we have been mindful that to allow the market to voluntarily clear as often as possible should minimise market distortions in the medium to longer term. It should be noted that the Code change seeks to impose a negative price cap in recognition of clear market concerns. It is clear however that such a cap should be designed to have a minimal impact on market outcomes. We are also of the view that NEMMCO's concerns can be met by the obligation on generators to gain their approval before de-committing plant under clauses 4.9.4 and 4.9.7. If participants recognise the risk

of negative pool prices and ensure that their contract cover closely follows the demand being hedged, large negative prices will impose minimal risks to all participants. Contract cover at appropriate levels will also remove any potentially perverse incentives on generators in the spot market.

The Code changes proposed include provision for the price floor to initially be set at $1,000/MWh and then be subject to review by the Reliability Panel. This arrangement will expose participants to a some limited additional risk immediately, allow parties time to adjust their contracting arrangements and provide a point of review before proceeding any further.

Recommendation

NECA recommends the adoption of its proposed Code changes to remove the zero price floor.

National Electricity Code Administrator
September 1999

Yallourn Energy Submission to NECA regarding the zero floor price removal code changes

Following a lengthy discussion of the proposed code changes in a meeting of the Code Change Focus group, the following submission was prepared to advance code development on this area.

A set of code changes to remove the zero floor price from the code are required as part of the ACCC code authorisation beyond 12/12/99. NECA prepared a set of code changes to achieve this requirement but also introduced a floor price at negative VoLL or negative administered price cap. These changes were discussed in the Code Change Focus group meeting on 20/9/99 where several members felt strongly that limits were needed but the proposed levels were considered inappropriate.

1. Background

It is widely recognised that some type of price limit needs to be implemented to cater for cases where overconstrained dispatch occurs, and/or where there may not be a spot price calculated using the bids/offers as part of the economic dispatch.

For example in a case of a rapid reduction in demand, generators on the system at the time may not be able to respond quickly enough due to ramp rate limits. This has occurred in the market as recently as 2/8/99 (NEMMCO report attached "Market Event Report – Overconstrained dispatch in both SA and Vic regions 2 August 1999)).

Particular concerns are as follows:

- Participants maybe exposed to unnecessary and unacceptable levels of market risk
- An inappropriate physical response (i.e. appropriate commercial response) may adversely impact system security (NEMMCO report "Value of excess generation" Dec 98)

There are numerous views regarding the setting of the level of such a floor price. The objective of this document is to develop a process of determining the level of a floor price.

2. Objectives

- Seek a market-based solution where possible
- Limit pricing signals when no additional response by participants is possible
- The selected price level –

- must not interfere with efficient functioning of the dispatch process and the spot market.
- must provide a safety mechanism to ensure participants are not subjected to unnecessary and/or unmanageable risk of negative spot prices.

- The process must not be biased towards a class of market participants.

3. Constraints

- Don't generate extreme price signals to which the market is unable to respond. That is, once the SPD process sets a price, there is market response a participant can take to change it. This leads to a high degree of uncertainty and risk, and in addition, has the potential to jeopardise system security.

- The selected mechanism must not interfere with normal operation of the market. It is suggested that a normal distribution is assumed which would produce a 99.86% confidence that the –3 sigma level is exceeded.

4. Sample determination of a floor limit

Analysis of the 5 minute dispatch prices

Since commencement of the market, half-hourly average dispatch price has been negative on two occasions, both times in Queensland with the resulting excess generation price equal to around -$3 to -$4. The (five-minute) dispatch price on one of these occasions was a minimum of $21.

Assuming that this was outcome was within the one sigma confidence interval, then the floor price using a 3 sigma confidence interval would be 3*(-21$/MWh) = -63$/MWh.

Offer analysis

Historical records show very little use of negative price bands below about -$200. While several participants have bid price bands in the range of -$3000 to -$5000, these have almost never had MW allocated to the bands (for example, the unit was out of service, on a fixed load or no MW allocated to the price band). The following table outlines the results from a limited selection of trading intervals since market start. A more rigorous analysis of behaviour since market start is possible, although the resources required is not justified at this stage.

Region	Comment
NSW	Minimum effective offer prices have been in the range -$8 (September) to -$200 (December/January light load period)
Queensland	Minimum effective offer price consistently-$100
Snowy	Minimum offer price consistently $0
South Australia	Minimum offer price varies between -$10 and -$50
Victoria	Minimum offer price consistently -$34

Jsing this historical information, the lower limit is –200$/MWh.

Economic drivers – (light on the hill)
The most appropriate solution in the longer term is to reassess the generic constraint penalties and base these on sound economic principles.

For example interconnector limits maybe constrained more gradually to enable proper market solutions without relying on to overconstrained dispatch.

5. Recommendation

Based on the above methodology and analysis it is recommended that a floor price limit be established within the range of –63$/MWh to –200$/MWh.

6. Appendix 1

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National Electricity Market
Management Company Limited
ACN. 072 010 327

Market Event Report

Over-constrained Dispatch in both SA and VIC Regions

2 August 1999

Prepared by: Market Operations

Version No: 1.0

Yallourn Energy submission to NECA - Spot Market floor price level determination
Version 1.0

Summary

Around 14:00 hours on 2nd August 1999 there was a trip of a generating unit in the SA1 region, which resulted in SPD calculating a deficit generation of **42.1652 MW** for the SA1 region and an SA1 dispatch price of **$VoLL** for the dispatch run ended 14:05 (di130). However the VIC1 region dispatch price was **-$633.14076** while the adjoining SNOWY1 and NSW1 dispatch prices were **$44.36341** and **$44.99000** respectively.

This price separation indicates that scheduled exports from the VIC1 region into both SA1 and SNOWY1 regions were constrained. Subsequent investigation of this SPD dispatch outcome revealed the following:

1. all SA1 generating plant dispatch was increased to their bid availability or ramp up limits.

2. all VIC1 generating plant dispatch was backed-off to their ramp down limits.

3. the V-SA interconnector dynamic limit of 466.939MW (generic constraint "I:NIL_SI") was violated by 16.8865MW for a scheduled V-SA interconnector flow of 483.85MW.

4. the joint V-SA/V-SN interconnector dynamic limit of 475.716MW (generic constraint "I:NIL_VS") was binding.

5. the SPD non-physical loss (NPL) calculation was invoked (owing to a negative VIC1 price in the first LP pass), but the NPL interconnector limits themselves were not binding in the second LP pass and therefore had no effect on the final dispatch/pricing outcome.

Detailed Analysis

The scheduled V-SA and V-SN interconnector flows were calculated by SPD such that neither the
V-SA/V-SN joint constraint ("I:NIL_VS" in point 4 above) **nor** the higher priority SA1 and VIC1 unit ramp rate limits (described in points 1 and 2 above) were violated. However this set of interconnector flows resulted in the scheduled V-SA interconnector flow still exceeding (violating) the effective V-SA interconnector limit ("I:NIL_SI" in point 3 above) in order to supply some of the generation deficit in the SA1 region.

The SPD calculation had effectively determined that the VIC1 region needed to import on the V-SN interconnector a **minimum** of **332.33**MW in addition to backing off exports into SA1 on the V-SA interconnector to **483.83**MW. After allowing for a forecast 30MW reduction in VIC1 demand for that interval the total VIC1 region generation needed to back off around **350**MW over 5 minutes to meet a net export of **165MW**, which matched the total ramp-down capability of **all** VIC1 region units (except for three bid-inflexible units).

Analysis of Joint V-SA/V-SN Constraint

For di130 the "I:NIL_VS" joint constraint (invoked during a planned outage of the Heywood Terminal Station Bus Tie) was of the form :

V-SA + 0.0244 (V-SN) =< 475.716 MW (dynamic RHS)

Every **1MW** increase in the V-SA flow reduced the V-SN flow by (1/0.0244 =) **41MW.**

Therefore the V-SN flow was sensitive to changes in the joint constraint's RHS value.

Note that in the next dispatch run 14:10 hour (di 131) the RHS on the "I:NIL_VS" joint constraint was:

V-SA + 0.0244 (V-SN) =< 569 MW

The RHS itself increased by 100MW, primarily due to an increase in one of dynamic RHS terms relating to the amount of reactive reserve available from the South-East Substation Static Var Compensator (SVC). That is, the measured SCADA quantity SESS_SVC_RES increased from 120 to 193 - when multiplied by the scaling factor of 1.416 this gives a RHS increase of around 100MW.

Calculation of VIC1 Region Dispatch Price

The VIC1 region dispatch price of -$633.14076/MW was calculated in SPD from the change in the value of market trading for a marginal change in the VIC1 region's forecast demand.

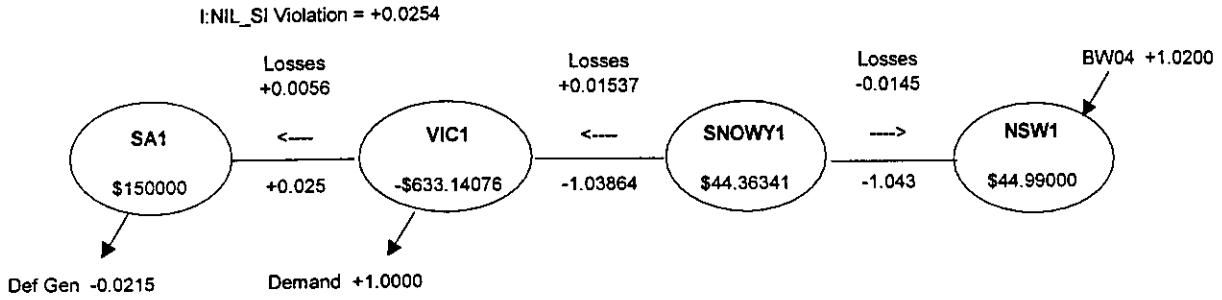
For a 1MW increase in VIC1 demand, the following costs are incurred/savings made:

- BW04 unit dispatch increases by 1.02MW @$44.99/MW = +$ 45.8898
- V-SA limit violation increases by 0.0254MW @$100,000/MW violation = +$2540.0000
- SA1 gen deficit reduces by 0.0215MW @$150,000/MW violation = -$3225.0000

TOTAL= - $ 639.1102*

* Within the reporting accuracy of the above violation variables.

The following diagram illustrates the market costs/savings for this 1MW increment in VIC1 demand:



Conclusions

- Due to the combined effect of ramp-up limited plant in SA1 region (following generation loss in SA1), ramp-down limited plant in VIC1 region and the binding joint V-SA/V-SN interconnector constraint with a restrictive RHS, the VIC1 region was export-constrained and forced a minimum import on the V-SN interconnector.

- The VIC1 dispatch price is based on an economic trade-off between increasing the V-SA interconnector limit violation (thereby reducing the generation deficit in the SA1 region, less the increase in interconnector losses) or increasing the generation deficit in the SA1 region (thereby reducing the V-SA interconnector limit violation, less the reduction in interconnector losses).

- The dynamic RHS of the joint V-SA/V-SN interconnector constraint ("I:NIL_VS") was correctly calculated based on prevailing system conditions.

- The joint V-SA/V-SN interconnector constraint acted correctly – for every 1MW increase in V-SA flow a corresponding 41MW reduction in V-SN flow was required.

- In order to relax the over-constrained V-SA interconnector flow and therefore adjust the SA1 VoLL price, the over-constrained V-SN interconnector flow also needed to be relaxed by increasing the joint V-SA/V-SN interconnector constraint's RHS. This resulted in the VIC1 region's price also being adjusted. The V-SA interconnector constraints "I:NIL_SI" (dynamic RHS) and "I>VS-500" (static RHS) also needed to be relaxed to avoid those limits being over-constrained.

NEMMCO

National Electricity Market
Management Company Limited

National Electricity Code Change Proposal

Value of Excess Generation

Introduction

NEMMCO is responsible under the National Electricity Code for promoting the ongoing development of, and changes to, the National Electricity Market with the objective of continually improving its efficiency.

Prior to commencement of the National Electricity Market, NEMMCO undertook a formal consultation in accordance with the Code consultation procedures to review the priorities as required under Clause 3.8.1(c) for relaxing constraints which can produce negative prices. The price violation penalty factors on constraints effectively established a lower limit on negative dispatch prices for commencement of the market.

The consultation identified that:

- even though there is a floor on the spot price of $0/MWh, there is no codified limit on the dispatch price and, as a result, there is no codified limit on the excess generation price payable by generators;
- it is impossible to implement the market with an unlimited floor on the dispatch price;
- very large excess generation prices may encourage generators to remove capacity from the market at short notice resulting in system security directions or intervention by NEMMCO;
- constraints are relaxed through use of 'constraint violation penalty factors' which allow the dispatch process to resolve over-constrained dispatch scenarios - under some circumstances, these factors can be used to set the dispatch price and effectively impose a floor in the dispatch price.
- there was widespread support for a floor on the dispatch price from market participants, although it was acknowledged that interim measures would be necessary for commencement of the National Electricity Market.

NEMMCO decided to use constraint violation penalty factors as a means of establishing an interim price floor and a final report to this effect was published on 30 October 1998. These factors are used by the dispatch process to resolve conflicting constraints which may arise when there is an excess of supply over demand.

As a result of this consultation, and in line with the views of participants expressed in comments received, NEMMCO is proposing a Code change to establish an explicit dispatch price floor (and thus a limit on the excess generation price)

analogous to VoLL. In parallel with this proposal, NEMMCO will be consulting with participants on revised constraint violation penalty factors to complement this Code change.

ACCC Considerations on Price Limits and Price Floors

In its final determination on the Application for Authorisation of the National Electricity Code dated 10 December 1997, the ACCC commented extensively on the price cap (known as the value of lost load or VoLL) and the price floor provisions in the Code. These considerations are also relevant to the application of a floor on the dispatch price.

The Commission noted that without a price cap, customers may be exposed to price shocks and potential bankruptcy. A similar argument exists for the excess generation price, except that as the supply side of NEM is more responsive, generators are able to react to price signals. However, without a codified limit on the price, the numbers have the potential to be very large and cause the price signals to be perverse.

The determination also noted that if the frequency of 'price spikes' are relatively infrequent and short lived, the distortionary effect of a price limit will be minor. A value of the limit on excess generation price outside that experienced by the NEM1 and QIM markets is also likely to reduce the potential of the proposed dispatch price floor to distort the market. NEMMCO has proposed a dispatch price floor of $1000/MWh as an initial value as this is believed to provide adequate signals to the market without distorting the expected market behaviour.

An additional condition of authorisation of the Code was the removal of the spot price floor within twelve months of market commencement. This condition also effectively removes the excess generation price provisions. Until that time, only generators will be affected by the imposition of the dispatch price floor. Nevertheless, the Code change proposed by NEMMCO would be complementary to the changes required by this condition. It would be desirable to progress this Code change prior to removing the spot price floor to allow consultation on the implications of the change for both sides of the market.

The ACCC imposed conditions on the price cap clauses to allow for annual reviews of the cap with six months notice of a change to the value of VoLL. NEMMCO has proposed similar requirements on the dispatch price floor to maintain consistency with the ACCC's conditions of authorising the Code.

Draft Code Changes

In this Code change proposal, NEMMCO has used the existing Code provisions for VoLL as a model for a new "Value of Excess Generation" (VoEG). The proposed provisions include:

- establishment of an explicit price floor of -$1000/MWh (new clause 3.9.4A);
- provisions for the application of the price floor (new clause 3.9.5A);
- excluding VoEG as a reason for suspending the market (clause 3.14.3);
- changes to the bidding rules to include a minimum bid price (clause 3.8.6).

3.8.6 Generating unit offers for dispatch

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

(i) *off-loading prices* must be less than $0/MWh, i.e. negative in sign and may not be less than the product of *VoEG* multiplied by the *intra-regional loss factor* at the *Scheduled Generator's transmission network connection point* for the *generating unit*;

3.9.4A Value of Excess Generation (VoEG)

(a) *VoEG* is a price floor which is to be applied to determine *regional reference prices*.

(b) The value of *VoEG* is -$1,000 per MWh.

(c) *NEMMCO* will conduct a study to review the value of *VoEG* established in clause 3.9.4A(b) in consultation with *Market Participants* prior to the anniversary of *market commencement* in each year. Any recommended *change* to the value of *VoEG* as an outcome of any of these studies will be dealt with as a recommended *change* to the *Code* as contemplated in clause 8.8.3(m).

(d) Any *change* to the value of *VoEG* must take effect six months after the date of the notice of the *change* being published in accordance with clause 8.3.8 or clause 8.3.9 as appropriate.

3.9.5A Application of VoEG

(a) *Dispatch prices* at *regional reference nodes* must not be less than *VoEG*.

(b) If *central dispatch* and determination of *dispatch prices* in accordance with clauses 3.8, 3.9.2 and 3.9.3 would otherwise result in a *dispatch price* less than *VoEG* at any *regional reference node*, then subject to clause 3.9.5A(c), the *dispatch price* at that *regional reference node* must be increased to *VoEG*.

(c) Where there are multiple *regional reference nodes connected* by an *interconnector* or *interconnectors* and the *dispatch price* at one or more of the *regional reference nodes* determined in accordance with clauses 3.8, 3.9.2 and 3.9.3 would otherwise be less than *VoEG*, then *dispatch prices* at those *regional reference nodes* are to be determined as follows:

(1) the lowest *dispatch price* at a *regional reference node* must be increased to *VoEG*;

(2) the *dispatch price* at all other *regional reference nodes* in respect of which there are no *network constraints* between those other *regional reference nodes* and the *regional*

reference node identified in clause 3.9.5A(c)(1) is to be equal to or greater than *VoEG* and is to be determined as:

VoEG x SF

where SF is a scaling factor, less than or equal to one, determined by the multiple of all *inter-regional loss factors* applicable for that *dispatch interval* for each *interconnector* between the *regional reference node* and the *regional reference node* identified in 3.9.5(c)(1).

Rationale

These clauses are based on the existing clauses for VoLL. These include bidding validation rules for generators and arrangements for scaling VoEG for periods when multiple regions are at VoEG. The value of -$1,000 has been suggested following NEMMCO's consultation with participants.

3.14.3 Conditions for suspension of the spot market

(b) *NEMMCO* must not suspend the *spot market* solely because:

(1) *spot prices* have reached *VoLL*

(2) *spot prices* have reached *VoEG*;

(32) *NEMMCO* has issued a *direction*; or

(43) *NEMMCO* has otherwise intervened in the market under clause 3.12.

Rationale

NEMMCO considers it appropriate that rules for market suspension include a reference to VoEG as well as VoLL

Recommendation

It is recommended that this proposal for Code change be processed by NECA through the Code Change Process for implementation.

NEMMCO

Code Change Comments Zero Price Floor Removal

We believe a more appropriate value should be below values typically bid into the market to avoid interfering with normal market processes but high enough to avoid sending an extreme signal. Our analysis of bid stacks indicates that participants rarely bid MW bands at less than -$50, and we suggest a floor of somewhere between -$500 and -$1000 is a reasonable value to use. Clause 3.9.6A Application of the market floor price – we have no comment to offer, except to note that the results of the current Code change proposal dealing with inter-regional scaling of price caps may affect this final wording of this clause.

Insert administered price floor

Clause 3.14 Force Majeure and Market Suspension – a number of additions have been made to this clause to include an administered price floor. Because the administered price cap is an integral part of pricing during market suspension, we see it as desirable that an equivalent administered price floor exists for market suspension.

Implementation

As you are aware, NEMMCO has been requested by participants to place an embargo on changes to market IT systems commencing on 15 October 1999 and ending late February 2000. The removal of the spot price floor will have significant IT implications for both NEMMCO and participants. While the embargo does not preclude changes to IT systems altogether, NEMMCO believes that it would not be appropriate to implement the zero price floor removal so close to the Y2k risk period.

As the Code changes are unlikely to be finalised before late September, it will be too late for NEMMCO to place the modified software on the pre-production environment long enough to comply with the agreed change management procedures and still implement the changes prior to the Y2k embargo period.

Consequently, we request a derogation to hold off implementing the removal of the zero price floor until March following the end of the embargo period.

We welcome the opportunity to comment on the proposed Code changes. Should you have any queries regarding the above please do not hesitate to contact Brian Nelson on 02 9240 9116.

Kind regards

Murray Chapman
Head of Market Operations