NATIONAL ELECTRICITY CODE
ADMINISTRATOR LIMITED
ACN 073 942 775

Level 5, 41 Currie Street
Adelaide SA 5000
Telephone (08) 8213 6302
Facsimile (08) 8213 6391

18 February 2002

D02/7130
RAC00090VI

Mr M Rawston
General Manager, Regulatory Affairs – Electricity
ACCC
PO Box 1199
Dickson ACT 2602

A90818, A90819, A90820

Dear Mike,

REVIEW OF DIRECTIONS IN THE NATIONAL ELECTRICITY MARKET

I enclose a report by the Code Change Panel covering draft changes to the Code to implement the conclusions and recommendations of the joint NECA/NEMMCO review of directions in the national electricity market.

The final report of NECA's and NEMMCO's review was published in May 2000. In summary, the report recommended that:

- directions should be employed only as a last resort;
- a single and consistent arrangement should apply to the use of the power of direction;
- provisions to improve transparency in the application of directions and to report on their uses ought to be strengthened;
- when NEMMCO exercises its power of direction it should direct the most appropriate physical resource to correct the identified deficiency;
- in the event of a direction, market prices should so far as practicable be set on a 'what-if' basis;
- directed parties should receive fair payment reflecting prevailing market conditions. Payment, however, should not be set automatically to the prevailing spot price:
- third parties affected by directions should also be compensated; and

- payments to directed parties and compensation to third parties should be funded from the sector(s) of the market what would normally meet the costs of the service concerned.

The Panel subsequently issued a consultation paper seeking comments, as well as on the specific changes proposed by that report, on comment on whether further changes should be considered in the light of the most significant direction for reliability issued in the market to date, on 7 and 8 February 2001. The Panel also sought comments on clause 4.8.9(g) of the Code which allows NEMMCO to withhold payment to parties who acted recklessly or intentionally in connection with the circumstances which led to a direction.

The Panel received ten written comments from Enertrade, Enron Australia, Eraring Energy, Hazelwood Power, Integral Energy, Macquarie Generation, NEMMCO, the National Retailers Federation (NRF), the Queensland Treasury and Snowy Hydro Trading. They generally supported the draft Code changes but raised a number of more or less significant issues. In the light of those comments, the Panel's report recommends a refined and amended package of draft Code changes, in particular in order to:

- minimise the number of participants and regions affected by a direction by amending the provisions about how NEMMCO should select which participants are to be affected as a result of a minimum loading requirement on a directed unit;

- provide for directed parties who had been presenting to the market but, for reasons outside their control, were unable to be accepted by the NEMMCO systems, to be paid at the price they were offering;

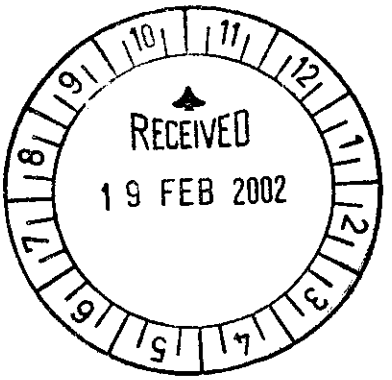
- restrict compensation to spot market impacts by removing the requirement to take a participant's hedges into account when determining compensation.

The report also proposes that the power to withhold payment to parties who acted recklessly or intentionally in connection with the circumstances which led to a direction be brought under the umbrella of proposed arrangements for bidding and rebidding. Finally, the Panel's report proposes a number of amendments to clarify the rights and obligations of NEMMCO and other participants.

Yours,

Stephen Kelly

Stephen Kelly
Managing Director



A 90818

FORM A

COMMONWEALTH OF AUSTRALIA

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**	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 the Code Change Panel report submitted with this Form A (and the accompanying Forms B & E). These amendments relate to the Review of Directions in the National Electricity Market. For the avoidance of doubt, this application relates only to the Review of Directions in the National Electricity Market Code

changes 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	See the Code Change Panel report submitted with this Form A (and the accompanying Forms B & E).
	(c) Names and addresses of other parties or proposed parties to contract, arrangement or understanding	Code Participants, being the National Electricity Market Management Company Limited (ACN 072 010 327) ("NEMMCO") and every person registered with NEMMCO as a Code Participant as at the date of this application and whose names and addresses are listed in Appendix A to this Form A 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 all code participants, being NEMMCO and every person registered with NEMMCO as a Code participant as of the date of this application and whose names and addresses are listed at Appendix A to this Form A. 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 Code Change Panel report, in accordance with clause 8.3 of the Code, submitted with this Form A.
	(b) Facts and contentions relied upon in support of those grounds	These facts and contentions are set out in the Code Change Panel report.

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 above-mentioned 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 and all Code Participants (being NEMMCO and every person registered with NEMMCO as a Code Participant as at the date of this application and whose names and addresses are listed in Appendix A to this Form A 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	The applicant and all Code Participants (being NEMMCO and every person registered with NEMMCO as a Code Participant as at the date of this application and whose names and addresses are listed in Appendix A to this Form A within the meaning of section 88(10) of the Act) 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
	(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: 18 February 2002

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.

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) an 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.

A 90819

FORM B

COMMONWEALTH OF AUSTRALIA

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

AGREEMENTS AFFECTING COMPETITION:

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, a provision of which would have the purpose, or would have or might have the effect, of substantially lessening competition within the meaning of section 45 of that Act; and
- to give effect to a provision of a contract, arrangement or understanding which provision has the purpose, or has or may have the effect, of substantially lessening competition within the meaning of section 45 of that Act.

---

1. (a)	**Name of applicant**	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.
(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 in respect of which the application is made is set out in the Code Change Panel report submitted with this Form B, being amendments to the Code in respect of the Review of Directions in the National Electricity Market. For the avoidance of doubt, this application relates only to the Review of Directions in the National Electricity Market Code changes and not to the Code as a whole.

	(b) Names and addresses of other parties or proposed parties to contract, arrangement or understanding	Code Participants, being the National Electricity Market Management Company Limited (ACN 072 010 327) ("NEMMCO") and every person registered with NEMMCO as a Code Participant as at the date of this application and whose names and addresses are listed in Appendix A to this Form B 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 all Code participants, being NEMMCO and every person registered with NEMMCO as a Code participant as of the date of this application and whose names and addresses are listed at Appendix A to this Form B. 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 the grounds set out in the Code Change Panel report, submitted with this form B and the accompanying Forms A and E.
	(b) Facts and contentions relied upon in support of those grounds	The facts and contentions relied upon are set out in the Code Change Panel report.
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 all similar other contracts, arrangements or understandings, or proposed other contracts arrangements or understandings, for the purposes of sections 88(13), (14) and (15) of the Act. The terms of such other contracts are comprised in the Code as amended by the Code changes.
	(b) If so, the following information is to be furnished:	
	(i) the names of the parties to each other contract, arrangement or	The applicant and all Code Participants (being NEMMCO and every person registered with NEMMCO as a Code Participant as at the date of this application and whose

		understanding	names and addresses are listed in Appendix A to this Form B 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**	The applicant and all Code Participants (being NEMMCO and every person registered with NEMMCO as a Code Participant as at the date of this application and whose names and addresses are listed in Appendix A to this Form B within the meaning of section 88(10) of the Act) 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.
	(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.**	The person nominated in item 1(c) of this form.

Date: 18 February 2002

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.

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-sections 90(6) and (7) of the *Trade Practices Act 1974* which provides as follows:

   "(6) The Commission shall note make a determination granting an authorisation under sub-section 88(1), (5) or (8) in respect of a provision (not being a provision that is or may be an exclusionary provision) of a proposed contract, arrangement or undertaking, in respect of a proposed covenant, or in respect of proposed conduct, unless it is satisfied in all the circumstances that the provision of the proposed contract, arrangement or understanding, the proposed covenant, or the proposed conduct, as the case may be, would result, or be likely to result, in a benefit to the public and that that benefit would outweigh the detriment to the public constituted by any lessening of competition that would result, or be likely to result, if:

      (a) the proposed contract or arrangement were made, or the proposed understanding were arrived at, and the provision concerned were given effect to;

      (b) the proposed covenant were given, and were complied with; or

      (c) the proposed conduct were engaged in,

as the case may be.

(7) The Commission shall not make a determination granting an authorisation under sub-section 88(1) or (5) in respect of a provision (not being a provision that is or may be an exclusionary provision) of a contract, arrangement or understanding or, in respect of a covenant, unless it is satisfied in all the circumstances that the provision of the contract, arrangement or understanding, or the covenant, as the case may be, has resulted, or is likely to result, in a benefit to the public and that benefit outweighs or would outweigh the detriment to the public constituted by any lessening of competition that has resulted, or is likely to result, from giving effect to the provision or complying with the covenant."

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.

A 90820

FORM E

COMMONWEALTH OF AUSTRALIA

Trade Practices Act 1974 - Sub-section 88(8)

EXCLUSIVE DEALING:

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 engage in conduct that constitutes or may constitute the practice of exclusive dealing.

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1. (a)	**Name of applicant**	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.
(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 6321 Fax: (08) 8213 6300
2. (a)	**Description of the goods or services in relation to the supply or acquisition of which this application relates**	The goods or services in relation to the supply or acquisition of which this application relates is electricity sold into the National Electricity market, as affected by the amendments set out in the Code Change Panel report submitted with this Form E. For the avoidance of doubt, this application relates only to the Review of Directions in the National Electricity Market Code changes and not to the Code as a whole.
(b)	**Description of the conduct that would or may constitute the practice of exclusive dealing**	The supply of electricity or provision of network services on condition that both the acquisition and resale is in accordance with the Code.

The acquisition of electricity or network services on the condition that the supply is in accordance with the Code.

Refusing to supply or acquire electricity or network services because the supplier/acquirer has failed to comply with the Code.

Aiding, abetting, procuring, counselling or inducing any corporation to engage in any of the above-mentioned conduct.

3. (a) Class or classes or persons to which the conduct relates

The classes of persons are:

(i) the applicant;

(ii) Code Participants, being the National Electricity Market Management Company Limited (ACN 072 010 327) ("**NEMMCO**") and every person registered with NEMMCO as a Code Participant and whose names and addresses are listed in Appendix A to this Form E; and

(iii) any other subsequent parties to the Code, being all parties who register with NEMMCO under the Code as a Code Participant.

This application is made on behalf of each person identified in Appendix A to this Form E. In addition:

(a) the authorisation being applied for by this application is, in accordance with section 88(8AA) of the Act, to be expressed so as to apply to the applicant and every person who is registered with NEMMCO as a Code Participant as at the date of this application (being the persons identified in Appendix A to this Form E), and in relation to each other person who becomes a party to the Code by registering with NEMMCO as a Code Participant; and

(b) this application is expressed to be made also in relation to other proposed contracts, industry codes of practice, arrangements or understandings that will be in similar terms to the Code within the meaning of sections 88(13), 88(14) and 88(15) of the Act, being each of the proposed contracts, industry codes of practice, arrangements or

understandings to be made between a person who registers with NEMMCO under the Code as a Code Participant, the applicant, and each existing participant under the Code at that time.

The names of the parties to each other proposed contract, industry code of practice, arrangement or understanding which are known at the date of this application are the applicant and Code Participants (being NEMMCO and each person who is registered with NEMMCO as a Code Participant as at the date of this application and identified in Appendix A to this Form E). Other than to state that the other parties to each proposed contract, industry code of practice, arrangement or understanding for the purposes of section 88(13), (14) and (15) of the Act will be persons who register with NEMMCO under the Code as a Code Participant and each existing Participant under the Code at that time, the names of those other parties are not known as at the date of this application.

(b) Number of those persons

(i) At present time

NECA	1
NEMMCO	1
Generators	41
Customers	32
Network Service Providers	26
Special Participants	15
Intending Participants	9
Traders	8

(ii) Estimated within the next year

Unknown

(c) Where number of persons stated in item 3(b)(i) is less than 50, their names and addresses

Not applicable

4. **(a) Grounds for grant of authorisation**

Authorisation is sought on the grounds set out in the Code Change Panel report, copies of which are submitted with this Form E (and the accompanying Forms A and B).

(b) Facts and contentions relied upon in support of those

The facts and contentions relied upon in respect of the Code changes are set out in the Code Change Panel

	grounds *(See Notice)*	report.
5.	(a) **Does this application deal with a matter relating to a joint venture (See section 4J of the *Trade Practices Act 1974)*?**	No.
	(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 applications being made?**	Not applicable
6.	**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: 18 February 2002

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.

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

List of Code participants

List of Code participants

Company Aliases	Street Address	City	State	Postcode
ActewAGL Distribution	221-223 London Circuit	CANBERRA	ACT	2601
ActewAGL Retail	GPO Box 366	CANBERRA CITY	ACT	2601
AES Transpower Holding Pty Ltd	Level 5, 416 Collins Street	MELBOURNE	VIC	3000
AGL Electricity Ltd	AGL Centre, 111 Pacific Highway	NORTH SYDNEY	NSW	2060
AGL South Australia Pty Ltd	1 Anzac Highway	KESWICK	SA	5035
Aurora Energy Pty Ltd	GPO Box 191	HOBART	TAS	7000
Australian Energy Services Pty Ltd	38 Gilby Road	MT WAVERLEY	VIC	3149
Australian Inland Energy	Administrative Building, 160-162 Beryl Street	BROKEN HILL	NSW	2880
BIEP Pty Ltd	PO Box 4	PINKENBA	QLD	4008
Callide Power Trading Pty Ltd	Level 9, 133 Mary Street	BRISBANE	QLD	4000
Citipower Pty	Level 15, Citipower House, 628 Bourke Street	MELBOURNE	VIC	3000
Country Energy	PO Box 172	BATHURST	NSW	2795
CS Energy Ltd	Level 21, 66 Eagle Street	BRISBANE	QLD	4000
CSR Limited	Pioneer Mill	BRANDON	QLD	4808
Cummins Engine Company Pty Ltd	2 Carribean Drive	SCORESBY	VIC	3179
Delta Electricity	Level 12, Darling Park, 201 Sussex Street	SYDNEY	NSW	2000
Duke Energy Australia Trading & Marketing Pty Ltd	Level 17, 1 Castlereagh Street	SYDNEY	NSW	2000

Company Aliases	Street Address	City	State	Postcode
Duke Energy Bairnsdale Operations Pty Ltd	PO Box 7863	BRISBANE	QLD	4000
EdgeCap	Level 8, IBM Building, 60 City Road	SOUTH BANK	VIC	3006
Edison Mission Energy Australia Ltd	Level 20, HWT Tower Southgate	SOUTH MELBOURNE	VIC	3205
Energy Developments (Operations) Pty Ltd	Level 2, 199 Toorak Road	SOUTH YARRA	VIC	3141
ElectraNet SA	PO Box 7096	ADELAIDE	SA	5000
Electricity Supply Industry Planning Council	GPO BOX 2010	ADELAIDE	SA	5001
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	GPO Box 1461	BRISBANE	QLD	4001
Energy Australia	Level 22, 570 George Street	SYDNEY	NSW	2000
Energy Brix Australia Corporation Pty Ltd	Hazelwood Drive	MORWELL	VIC	3840
Enron Australia Finance Pty Ltd	Level 21, 9 Castlereagh Street	SYDNEY	NSW	2000
Eraring Energy (formerly Pacific Power)	GPO Box 5257	SYDNEY	NSW	2000
Ergon Energy Corporation Ltd (network)	Level 4, 126 Margaret St 30 Marble Street	Brisbane	QLD	4002
Ergon Energy Pty Ltd (Retail)	Ground floor, 61 Mary Street	BRISBANE	QLD	4001
Ergon Energy (Victoria) Pty Ltd	Level 2, 150 Albert Road	SOUTH MELBOURNE	VIC	3205
ETSA Utilities	GPO Box 77	ADELAIDE	SA	5001
Ferrier Hodgson Electricity Pty Ltd	Level 17, 2 Market Street	SYDNEY	NSW	2000
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
Loy Yang Power Management Ltd	Bartons Lane	TRARALGON SOUTH	VIC	3844

Company Aliases	Street Address	City	State	Postcode
Macquarie Bank Ltd	GPO Box 4294	SYDNEY	NSW	1164
Macquarie Generation	34 Griffiths road	LAMBTON	NSW	2299
Meridian Energy Australia Pty Ltd	Level 12, 37 Bligh Street	SYDNEY	NSW	2000
Millmerran Energy Trader Pty Ltd	Level 18, Comalco Place 12 Creek Street	BRISBANE	QLD	4000
Morgan Stanley Dean Witter Australia Finance Ltd	1585 Broadway, 4th Floor,	NEW YORK	10036 -8293	USA
NRG Flinders Operating Services Pty Ltd	168 Greenhill Road	PARKSIDE	SA	5063
Origin Energy Electricity Ltd	GPO Box 910	SYDNEY	NSW	1041
Pelican Point Power Limited	Level 2, 122 Frome Street	ADELAIDE	SA	5000
Powercor Australia Ltd	Level 8, 40 Market Street	MELBOURNE	VIC	3000
Pulse Energy Pty Ltd	Shell House, 1 Spring Street	MELBOURNE	VIC	3000
Queensland Electricity Transmission Corporation Ltd (Powerlink Queensland)	33 Harold Street	VIRGINIA	QLD	4104
Queensland Power Trading Corporation trading as Enertrade)	15th Floor, 61 Mary Street	BRISBANE	QLD	4000
Redbank Project Pty Ltd	112 Longpoint Road-West	WALKWORTH via Singleton	NSW	2330
RMB Australia Ltd	Level 5, 37-49 Pitt Street	SYDNEY	NSW	2000
SG Australia	Level 21, 400 George St	SYDNEY	NSW	2000
Sithe Australia Power Services Pty Ltd	Level 12, The Chifley Tower, 2 Chifley Square	SYDNEY	NSW	2000
Snowy Hydro Trading Pty Ltd	Level 25, Norwich House, 6-10 O'Connell Street	SYDNEY	NSW	2000

Company Aliases	Street Address	City	State	Postcode
Snowylink 1 Pty Ltd	GPO Box 7707, Riverside Centre	BRISBANE	QLD	4001
Snowy Mountains Hydro-Electric Authority	Monaro Highway	COOMA	NSW	2630
Southern Hydro Partnership	Level 13, 500 Collins Street	MELBOURNE	VIC	3000
SPI PowerNet Pty Ltd	Level 17, 452 Flinders St	MELBOURNE	VIC	3000
Stanwell Corporation Ltd	GPO Box 773	BRISBANE	QLD	4001
State Electricity Commission of Victoria	Level 5, 452 Flinders Street	MELBOURNE	VIC	3000
Synergen Power Pty Ltd	Level 37, Rialto Tower North, 525 Collins St	MELBOURNE	VIC	3000
Tarong Energy Corporation Ltd	Level 10, AMP Place, 10 Eagle Street	BRISBANE	QLD	4000
NSW Electricity Transmission Authority (TransGrid)	Cnr Park and Elizabeth Streets	SYDNEY	NSW	2000
Transmission Lessor Corporation	ETSA, 1 Anzac Highway	KESWICK	SA	5035
TXU Electricity Ltd	168 Greenhill Road	PARKSIDE	SA	5063
TXU (South Australia) Pty Ltd	Level 18, 452 Flinders Street	MELBOURNE	VIC	3000
United Energy Limited	Level 13, 101 Collins Street	MELBOURNE	VIC	3000
Utilities Management Pty Ltd	Level 6, 1 Anzac Highway	KESWICK	SA	5035
Valley Power Pty Ltd	Level 20, HWT Tower 40 City Road	SOUTH MELBOURNE	VIC	3205
VENCorp	PO Box 1721	COLLINGWOOD	VIC	3066
Yallourn Energy Pty Ltd	Level 31, 360 Collins St	MELBOURNE	VIC	3000
Yamasa Seafood Australia Pty Ltd	20 Gilbertson Road	LAVERTON NORTH	VIC	3026

Known intending participants

Auspine Green Energy Pty Ltd	PO Box 79	MOUNT GAMBIER	SA	5290
CEPA (Kogan Creek) Holding	GPO BOX 2256	BRISBANE	QLD	4001
Energy Brix Australia Corporation Pty Ltd	Applicant only at this stage – no address details			
Ergon Energy Pty Ltd	Applicant only at this stage – no address details			
Herschel Electricity Partners Pty Ltd	Applicant only at this stage – no address details			
Hydro-Electric Corporation	GPO Box 335	Hobart	TAS	7001
Jackgreen (International) Pty Ltd	Applicant only at this stage – no address details			
Murraylink Transmission Co Pty Ltd	GPO Box 7077, Riverside Centre	BRISBANE	QLD	4001
National Grid International Ltd.	Level 52, Rialto South Tower, 525 Collins Street	MELBOURNE	VIC	3000
Pacific Hydro Limited	Applicant only at this stage – no address details			
Sleiman Trading Pty Ltd	PO Box 334	POTTS POINT	NSW	2001
Snowy Hydro Limited	Applicant only at this stage – no address details			
Southerlink Transmission Company Pty Ltd	GPO Box 7707 Riverside Centre	BRISBANE	QLD	4001
Stanwell Corporation Limited – Generator	Applicant only at this stage – no address details			
Wambo Power Ventures Pty Ltd	Level 1, Princeton Court Three, 13 Princeton Street	KENMORE	QLD	4069

CODE CHANGE PANEL

Review of directions in the national electricity market

Report

February 2002

National Electricity Code Administrator Limited
ACN 073 942 775

Code Change Panel
Review of directions in the national electricity market

Introduction

NECA and NEMMCO published a report on their review of power system directions in the national electricity market in May 2000. The main recommendations of the review were that:

- directions should be employed only as a last resort;
- a single and consistent arrangement should apply to the use of the power of direction;
- provisions to improve transparency in the application of directions and to report on their uses ought to be strengthened;
- when NEMMCO exercises its power of direction it should direct the most appropriate physical resource to correct the identified deficiency;
- in the event of a direction, market prices should so far as practicable be set on a 'what-if' basis;
- directed parties should receive fair payment reflecting prevailing market conditions. Payment, however, should not be set automatically to the prevailing spot price;
- third parties affected by directions should also be compensated; and
- payments to directed parties and compensation to third parties should be funded from the sector(s) of the market that would normally meet the costs of the service concerned.

The Code Change Panel invited comments on draft changes to the Code, developed in consultation with the Code change focus group, intended to give effect to the conclusions and recommendations of that review in April 2001. In addition, the Panel sought comment on whether further changes should be considered in the light of the most significant direction for reliability issued in the market to date, on 7 and 8 February 2001. The Panel also sought comments on clause 4.8.9(g) of the Code which allows NEMMCO to withhold payment to parties who acted recklessly or intentionally in connection with the circumstances which led to a direction.

The Panel received ten written comments, from Enertrade, Enron Australia, Eraring Energy, Hazelwood Power, Integral Energy, Macquarie Generation, NEMMCO, the National Retailers Federation (NRF), the Queensland Treasury and Snowy Hydro Trading. Copies of those written comments are attached. They generally supported the draft Code changes but raised a number of more or less significant issues in relation to:

- the use of the power of directions, including the interaction between that power and priority for load shedding, and the provision allowing withholding of payment to parties who recklessly or intentionally contribute to the need for a direction;

- pricing, compensation and settlement for directions, including the limited ability of retailers to claim compensation, the level of payment to directed parties and how it compares with the average historical price, and the mechanism for payment to parties directed for localised deficiencies;

- experience gained from the major directions for reliability on 7-8 February 2001, including treatment of hedge contracts, settlement timing and misalignment between spot prices and the calculation of compensation; and

- a number of procedural and administrative aspects affecting the provision and management of information, and other obligations and responsibilities.

In the light of those comments, the Panel recommends a refined and amended package of draft Code changes, in particular in order to:

- minimise the number of participants and regions affected by a direction by amending the provisions about how NEMMCO should select which participants are to be affected as a result of a minimum loading requirement on a directed unit;

- provide for directed parties who had been presenting to the market but, for reasons outside their control, were unable to be accepted by the NEMMCO systems, to be paid at the price they were offering;

- introduce a two-stage settlement process to ensure that the majority of funds will be available to affected participants within the normal settlement cycle; and

- restrict compensation to spot market impacts by removing the requirement to take a participant's hedges into account when determining compensation.

The Panel also proposes that the power to withhold payment to parties who acted recklessly or intentionally in connection with the circumstances which led to a direction be brought under the umbrella of proposed arrangements for bidding and rebidding. Finally, the Panel proposes a number of amendments to clarify the rights and obligations of NEMMCO and other participants.

Use of the power of direction

Load shedding as a last resort. The Queensland Treasury argued that the Code should state expressly that load shedding, apart from loads under an interruptible supply contract, should

be a last resort. The power to shed load in the Code and the National Electricity Law is separate but interlinked with the power to issue directions. The procedures in the Code effectively ensure that under normal circumstances load shedding is indeed in practice the last resort. The Code does not, however, explicitly require that load shedding must be a last resort. The conditions for issuing directions, however, are generally concerned with ensuring adequate levels of varying types of reserve and are designed to reduce the risk of load shedding. Any change to section 76 of the National Electricity Law which currently provides that if NEMMCO is satisfied that it is necessary to do so for reasons of public safety or the security of the electricity system, it may, in accordance with the Code, authorise a range of actions which includes load shedding, is a matter for the jurisdictions.

Exercising the power of direction The NRF suggested that a number of operational provisions be strengthened or clarified. These included:

- deletion of the term to 'the extent reasonably practicable' as a qualifier to the level of information NEMMCO is required to include under 4.8.5(a). The Panel accepts this is unnecessary; and

- deletion of the requirement for NEMMCO to use its reasonable endeavours to follow full process ahead of any use of its powers of direction. The Panel understands that it is not unusual for circumstances which require a direction, particularly for breach of secure operating conditions, to arise at very short notice where NEMMCO may not have time to follow the full process. The Panel therefore believes it is appropriate to retain the reasonable endeavours basis.

The NRF also suggested changes to clarify and simplify provisions for managing information obtained to estimate the timing of a direction, whom to direct and estimating and publishing notices. A number of these are reflected in the revised Code changes.

Reckless and intentional acts. The Panel invited comments on the future of existing clause 4.8.9(g) which allows NEMMCO to withhold payment for directions for security if it reasonably determines that an intentional or reckless act or omission on the part of a generator or market network service provider created or significantly contributed to the circumstances which resulted in it exercising its powers. The provision was inserted in the Code as an ACCC condition of authorisation in its October 1998 determination.

Comments from Eraring Energy, the NRF and the Queensland Treasury supported retention of the clause at least in principle. NEMMCO, however, considers that the clause in its current form is not workable, particularly for the wider range of circumstances which would be covered if its scope were extended to all directions. The NRF argued that if NEMMCO had prima facie reason to believe a generator or market network service provider created or significantly contributed to the circumstances giving rise to the direction it should be required to refer the matter to an independent expert. NEMMCO's decision on the basis of the expert's report should be reviewable.

Code changes proposed by NECA in relation to bidding and rebidding are currently being considered by the ACCC and will require that a participant should act in good faith and not materially prejudice the efficient, competitive or reliable operation of the market. This offers an alternative approach. If these provisions were expanded to include matters for which a direction may be given, a separate arrangement for deciding whether to withhold payment to a directed party would not be necessary. The Panel recommends, therefore, deleting clause

4.8.9(g) and adding a new clause 3.8.22B(c). The Tribunal will determine if a participant has recklessly or intentionally without reasonable cause created the situation which has materially contributed to the need for a direction. Clause 3.15.10C(c) has been added to adjust any interim payments following a Tribunal decision. This arrangement will recognise genuine conditions which, for example, lead to late withdrawal of capacity. Pre-existing or long standing arrangements which see direction of a participant would be unlikely to be considered as having contributed to the situation.

Pricing and settlement for directions

Payment to directed parties The review of directions proposed that payment to directed parties be at a fair payment price that reflected a market under scarcity conditions. A guarantee to cover demonstrable costs would underpin these payments. The review foreshadowed further consultation in the Code consultation stage on the precise level of the price. The draft Code changes proposed that historical market clearing prices should be used where they are available and, where they are not, benchmark contract prices. The 90th percentile historical price was proposed as a fair means to express scarcity but not necessarily shortage.

Snowy, in particular, opposed the proposed 90th percentile historical price arguing the prevailing market prices should be a crucial component of the level of payment. In later discussion Snowy clarified that its concern was related to the specific circumstances where a participant had been presenting capacity to the market that was nevertheless directed because NEMMCO had not been able to utilise it through the normal scheduling process. Hazelwood supported Snowy's conclusion but added that compensation for directed participants should also recognise the critical issue of risk, in particular the risk of plant damage that is not immediately apparent or readily quantifiable. Hazelwood argued that a better price would be the prevailing intervention market price. The NRF, on the other hand, noted that even the 90th percentile level may be too high and recommended a price closer to the average. The Queensland Treasury considered it would be more appropriate to pay the long run marginal cost but acknowledged this would be hard to determine. It therefore accepted payment determined from a market percentile price, but recommended further analysis before a price is codified.

In most instances, directions will occur where a participant has not presented capacity or a service to NEMMCO's central despatch process. The proposed changes strengthen the requirements for NEMMCO to provide notice of a possible direction and hence of the commercial incentive to participate in the market. They also guarantee to pay the higher of costs incurred and the codified fair payment price. This is more certain than open market participation where there is no guarantee of even covering costs, particularly as market prices at times of potential direction are inherently variable. The Panel is satisfied that its original proposals represent a sensible compromise in most circumstances. Payment at a pre-determined, historically based price is intended to balance certainty and transaction costs, and provide an incentive to respond to the direction and also to participate in the market. In relatively rare situations, however, a participant may have presented capacity to the central despatch process but NEMMCO will have been unable to accept it through the normal market processes and direct the capacity to operate. In those circumstances, the Panel agrees with the thrust of Snowy's point that the price being offered by the participant is then relevant. The Panel has created clause 3.15.7(d) to provide for payment at the bid price at the time the direction was given. It has also amended the drafting of paragraphs (C) and (D) of clause 3.15.7A(c)(ii) to clarify their intended operation.

Local vs regional directions. The draft amendments make provision for the regional reference price set under clause 3.9.3 to be the 'what-if' price where intervention is for a region wide condition. They also provide for payment to directed parties in the first instance at a price based on historical market price for any service or commodity normally scheduled and settled through central despatch. Where a market price is not available, a benchmark price is to be determined by an independent expert. Additional costs can be claimed if the relevant prime payment is less than cost, or neither a market nor benchmark price is available. In cases where a direction is required for a local condition, it will often be the case that historical market prices will not be appropriate. NECA is required annually to assess whether the conditions under which NEMMCO exercised its power of directions indicates a need for enhancement of the market design. Repeated directions for a similar reason would be a prime pointer in this regard. Enertrade in particular highlighted this concern. The Panel has therefore amended clause 3.15.7A to clarify the flow through to the cost recovery clause.

The Queensland Treasury expressed concern about voluntary load shedding by way of direction automatically resulting in VOLL. The provisions for intervention pricing in clause 3.9.3 are only triggered if a direction has been issued or plant under a reserve contract has been despatched. Under clause 4.8.9 a direction can only be given to scheduled units. Load shedding by specific instruction or by other automatic means will, therefore, not constitute a direction. Under the provisions of clause 3.9.2 load shedding for any reason, including automatic scheduling following a contingency event will result in VOLL if the market's central despatch process would have found there was an energy market shortfall.

Two-stage settlement. A number of participants, including the NRF and Integral, noted potential problems due to the length of time for settlements to be finalised. Delays in payment of compensation mean affected parties required to honour hedge contracts at the 'what-if' price may not have received the necessary revenue from NEMMCO by the time contract settlement is required. Integral also noted the possibility of parties withdrawing from the market in the time it will take to assess the more complex cases.

The Panel agrees that these are valid concerns. It has, therefore, developed a two-stage settlement process. The first will be part of the normal cycle, with an adjustment after the full process has been completed, and would be based on payment to directed parties at the fair payment price where it is known. This will cover the majority of cases where direction has been for regional energy or market ancillary services and other circumstances where a benchmark price has previously been determined under clause 3.12.11. It will also pay affected parties including scheduled loads and correct distortions to settlement residues. Additional costs and directed party payments where a price has not previously been established will need the involvement of an independent expert and will be paid in the second part. Other adjustments arising after the first payment will also be made then. Market customers have previously sought to have adjustments of this nature treated as current debts at the time the adjustment is determined rather than an ex post adjustment to an old account. Clause 3.15.10C has been added to provide for this change.

Settlement timing. The NRF recommended that the time to finalise compensation should be shortened from 100 days (or 150 days if an independent expert is required) to 50 days (or 70). They consider this is important to clarify the payments and avoid a negative impact on settlements. These times are the maximum allowable times. Clause 3.12.10 requires NEMMCO to complete the process as soon as practicable. Consultation time comprises a significant proportion of the allowance and publication of the settlement timetable will mean that unnecessary delays are visible. The Panel does not consider that any of the steps or

consultation times can be removed or reduced without adverse effects on transparency. The impact on settlement will be mitigated by the effect of the proposed two-stage settlement.

Customer compensation and cost allocation. The proposed amendments provide for compensation only in respect of scheduled units. The NRF argued that this is inequitable and unfairly discriminates against retailers. They are not able to claim for any other losses incurred in following a direction and must also fund any net shortfall NEMMCO incurs. They claim they can in practice fund this only from contestable customers. The review has refined the allocation of charges to fund any shortfall in NEMMCO's accounts to require funding from the sector that would normally pay for the directed services. As noted earlier, the power to shed load derives from the National Electricity Law and other provisions of the Code. The Panel considers that it is not appropriate for compensation associated with market effects of directions on scheduled units to be the vehicle to deal with liability claims from retail consumers. The Panel also understands that the issue of the power to shed load and associated liability has been considered by the market and system operations insurance advisory committee.

Issues arising from the 7 - 8 February 2001 direction for reliability

The Panel invited comment on the draft amendments in the light of the direction for reliability on 7-8 February 2001. A number of stakeholders noted concern at the size and complexity of the compensation process.

Selection of affected parties The Code currently provides for NEMMCO to direct in accordance with the Code and associated procedures but, by default, relies on the normal despatch process to determine a resultant schedule, including for affected participants. This means that the most cost-effective schedule based on bids is used. If there is a minimum load requirement on the directed plant, the highest alternative priced plant will be backed off to make way.

This creates affected participants who are entitled to compensation. The 'what-if' pricing arrangements minimise the distortion to market prices. If the affected participants are in another region, interconnector flows will also be disturbed and hence payment to holders of settlement residues will be affected, in most instances adversely. This occurred on 7-8 February. A number of comments addressed aspects of this issue including Enron, Hazelwood, Eraring Energy, the Queensland Treasury, NEMMCO and Snowy. In general, the manner and number of affected participants will be determined by bids and offers and physical circumstances. This will affect the size of compensation payments and associated transaction costs.

An alternative approach which would also preserve market prices and minimise detrimental effects on other participants would be to balance any minimum loading on other units of the directed participant and, if necessary, on other units within the same region. Where any minimum load could be fully accommodated within the region where the direction has been given, the 'what-if' price would be the same as the outturn price and there would be no effect on interconnectors. This would have been possible on 7-8 February.

In practice, however, it is not always possible precisely to match the minimum load and some distortion may occur to the loading levels of other units and interconnectors. In this case compensation should be payable. The Code already contains provision for compensation for affected scheduled participants. In the case of parties entitled to settlement residues, a

payment equal to the displaced interconnector flow multiplied by the 'what-if' price difference would restore their commercial position. A regime to contain the physical distortions may, however, result in a further distortion to the despatch order. The Panel considers that, on balance, it is more important to minimise the complexity and extent of commercial distortion. Accordingly the Panel has, after discussion with NEMMCO about the operational implications, incorporated amendments to clause 3.8.1 to:

- amend the principles NEMMCO must take into account to implement a direction given under clause 4.8.9 to require that, as far as practicable, it should minimise firstly the number of affected participants and secondly the number of regions with affected participants; and

- include holders of settlement residue auction proceeds as affected participants.

Alignment of compensation calculation and spot price. The calculation of compensation is designed to leave affected participants indifferent to the direction to another party. The current Code provisions separately require 'what-if' prices and the compensation calculation to be on the basis that the direction did not take place. On 7 February the arrangements for 'what-if' pricing failed to operate for 2 hours but compensation was calculated as if it operated successfully. This distorted the final outcome. The Panel has included clause 3.12.11(d)(4) to ensure pool price and compensation payments are aligned at all times. Timing of compensation cash flows following the direction in February was also raised as a matter of concern, in particular by Integral Energy. In the extreme this can result in participants reaching internal credit risk limits prompting them to rebid to avoid becoming an affected party, further distorting despatch. The amendment to introduce a two-stage settlement discussed earlier will also help in these circumstances.

Accounting for hedging and other contracts in compensation. Clause 3.12.11 currently requires that compensation to affected parties must take into account hedging contracts. A number of participants supported the removal of hedges from the matters to be considered when calculating compensation. The Panel accepts that the complications which emerged in practice on 7-8 February are such that hedges should be removed from the list of matters to be taken into account in determining compensation. Separate provisions have been made for settlement residue auction entitlements distributed under the auspices of the Code.

Selection of independent expert Under the proposed provisions, NEMMCO must appoint an independent expert to determine the compensation payable to relevant parties under certain circumstances. The NRF argued that any single party should have the power to veto NEMMCO's nominee as independent expert. Under the proposed drafting a single participant can veto the appointment if there is up to four parties involved. If there are more than four parties, at least 25 per cent of the parties are required to veto the nomination. The Panel accepts that this is a reasonable balance.

If NEMMCO's nominee is vetoed, NECA will be asked to nominate an independent expert. The NRF suggested that in this situation there should be a further right of appeal against NECA's decision. The NRF, however, did not suggest who should hear that second appeal. The draft provision provides an incentive for NEMMCO and relevant parties to agree on the nomination in the first instance. It also provides for a simple and quick resolution in the case of a failure to agree. The Panel accepts that the incentive to agree and arrangements for

resolving disagreements are both appropriate and balanced. Adding a provision for a second appeal would inevitably introduce delay and therefore additional cost.

Conclusions

The Panel recommends that the Code changes proposed by NECA and NEMMCO be adopted subject to amendment, in particular to:

- minimise the number of participants and regions affected by a direction by amending the provisions about how NEMMCO should select participants to be affected as a result of a minimum loading requirement on a directed unit;
- include holders of entitlement to settlement residues as affected parties able to claim compensation;
- introduce a two-stage settlement to ensure that significant funds will be available to affected participants within the normal settlement cycle of the spot market and external financial markets;
- bring the provisions under which payment to directed participants can be withheld if a party has recklessly or intentionally, without reasonable cause, materially contributed to the need for a direction under the umbrella of proposed arrangements for bidding and rebidding;
- remove hedging contracts from the matters that must be examined in assessing compensation for affected parties;
- introduce separate treatment of directed parties who had not presented capacity or service that was directed from those that had; and
- amend a number of other provisions to clarify drafting and strengthen the rights and obligations of NEMMCO and other participants.

Irene Lee
Member

Stephen Kelly
Chairman

Alan Moran
Member

Directions Code Change Package
Volume 1
Chapter 3 Code changes
31/01/02

National Electricity Code Administrator

3. Market Rules

3.8 Central Dispatch and Spot Market Operation

3.8.1 Central Dispatch

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

(b) The *central dispatch* process should aim to maximise the value of *spot market* trading i.e. to maximise the value of *dispatched load* based on *dispatch bids* less the combined cost of *dispatched generation* based on *generation dispatch offers, dispatched network services* based on *network dispatch offers,* and *dispatched market ancillary services* based on *market ancillary service offers* subject to:

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

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

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

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

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

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

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

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

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

(10) ensuring pro-rata loading of tied *registered bid and offer data.*

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

(A) the number of *affected participants* is minimised; and

(B) the effect on *inter-connector* flows is minimised.

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

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

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

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

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

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

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

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

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

and following compliance with the *Code consultation procedures,* submit its recommendations in a report to *NECA* no later than 2 years after *market commencement.*

3.8.14 Dispatch under conditions of supply scarcity

NEMMCO must ensure that, during times of *supply* scarcity, the actions set out below occur in the following sequence:

(a) subject to any adjustments which may be necessary to implement action under clause 3.8.14(c), all valid *dispatch bids* and *dispatch offers* submitted by *Market Participants* are *dispatched*, including those priced at *VoLL*;

(b) subject to any adjustments which may be necessary to implement action under clause 3.8.14(c), after all valid *dispatch bids* and *dispatch offers* submitted by *Market Participants* have been exhausted, *dispatch bids* or *dispatch offers*

submitted by *NEMMCO* in respect of *plant* or *scheduled network services* under contracts for the provision of *reserves* are *dispatched;* and

(c) any further corrective actions required are implemented in accordance with clauses ~~3.12.9, 4.8.5~~4.8.5B and ~~4.8.8~~4.8.9.

3.8.22 Rebidding

(a) Prices for each *price band* that are submitted in *dispatch bids*, *dispatch offers* and *market ancillary service offers* are firm and no changes to the price for any *price band* are to be accepted under any circumstances.

(b) Subject to clauses 3.8.22(c), 3.8.22A and 3.8.22B, a [1]~~A~~ *Market Participant* may vary its available capacity, daily energy constraints, dispatch inflexibilities and *ramp rates* of *generating units, scheduled network services* and *scheduled loads* and the *response breakpoints, enablement limits* and *response limits* of *market ancillary services*~~, subject to the requirements set out in this clause 3.8.22~~.[2]

(c) A *Market Participant* must provide:

(1) all rebids to *NEMMCO* electronically unless otherwise approved by *NEMMCO*;

(2) to *NEMMCO*, at the same time as the *rebid* is made:

(i) a brief, verifiable and specific reason for the *rebid*; and

(ii) the time at which the event(s) or other occurrence(s) adduced by the *Market Participant* as the reason for the *rebid* occurred;

(3) to *NECA*, upon written request, in accordance with guidelines *published* by *NECA* from time to time under this clause 3.8.22 in accordance with the *Code consultation procedures*, such additional information to substantiate and verify the reason for a *rebid* as *NECA* may require from time to time. *NECA* must provide information provided to it in accordance with this clause 3.8.22(c)(3) to any *Market Participant* that requests such information, except to the extent that the information can be reasonably claimed to be *confidential information*. The guidelines developed by *NECA* under this clause 3.8.22(c)(3) must include:

[1] Change proposed as part of NECA's Rebidding Code Change Package, currently subject to an application for Authorisation.

[2] Change proposed as part of NECA's Rebidding Code Change Package, currently subject to an application for Authorisation.

(i) the amount of detail to be included in the information provided to *NEMMCO* under clause 3.8.22(c)(2); and

(ii) procedures for handling claims by *Market Participants* in accordance with clause 3.8.22(c)(3) or 3.8.19(b)(2) that information provided to *NECA* by such *Market Participants* under those clauses is *confidential information.*

NECA must *publish* the guidelines developed under this clause 3.8.22 ~~within 3 months after this clause 3.8.22(c)(3) commences operation~~ and may amend such guidelines from time to time.[3]

(d) *NEMMCO* must:

(1) subject to the *Market Participant* complying with clauses 3.8.22(c)(1) and 3.8.22(c)(2)(i) and (ii), accept the *rebid*; and

(2) *publish,* in accordance with clause 3.13.4(p), the time the *rebid* was made and the reason provided by the *Market Participant* under clause 3.8.22(c)(2)(i).

3.8.22A Variation of offer, bid or rebid[4]

(a) *Market Participants* must make *dispatch offers, network dispatch offers, dispatch bids* and *rebids* in good faith.

(b) In any proceedings for a breach of clause 3.8.22A(a), a *Market Participant* is deemed to have contravened clause 3.8.22A(a) unless the *Market Participant* satisfies the *Tribunal* that the *dispatch offer, network dispatch offer, dispatch bid* or *rebid* was made in good faith.

3.8.22B Conduct prejudicial to the market[5]

(a) A *Market Participant* must not submit a *dispatch bid, network dispatch offer, dispatch offer* or *rebid,* if such conduct has the purpose, or has or is likely to have the effect, of materially prejudicing the efficient, competitive or reliable operation of the *market* in accordance with the *market objectives* and the purpose of the *market* in accordance with the *market objectives* and the purpose of the market rules as set out in clause 3.1.2, unless the *Market Participant* has

[3] Change proposed as part of NECA's Rebidding Code Change Package, currently subject to an application for Authorisation.

[4] Change proposed as part of NECA's Rebidding Code Change Package, currently subject to an application for Authorisation.

[5] Change proposed as part of NECA's Rebidding Code Change Package, currently subject to an application for Authorisation.

reasonable cause for the *dispatch bid, network dispatch offer, dispatch offer* or rebid.

(b) NECA must determine, *publish* and maintain, in accordance with *Code consultation procedures*, guidelines to explain how *NECA* shall exercise its powers to enforce clause 3.8.22B(a). Any guidelines issued by *NECA* under this clause 3.8.22B(b) are indicative only, not legally binding upon *NECA* and do not affect the legal scope of clause 3.8.22B(a).

(c) Any steps taken by *NECA* prior to this clause 3.8.22B taking effect, in respect of the guidelines to be prepared by *NECA* under clauses 3.8.22B(b) as in operation at the commencement of this clause 3.8.22B, which are consistent with the *Code consultation procedures* are deemed to be valid if otherwise invalid due to the relevant provisions of the *Code* having not come into force at the time of the action being taken.

(d) A *Market Participant* must not by any act or omission, whether intentionally or recklessly, cause or significantly contribute to the circumstances causing a *direction* to be issued, without reasonable cause.

3.9.2 Determination of spot prices

(a) **[Deleted]**

(b) **[Deleted]**

(c) Each time the *dispatch algorithm* is run by *NEMMCO*, it must determine a *dispatch price* for each *regional reference node* for a *dispatch interval* in accordance with clause 3.8.21(b), provided that if *NEMMCO* fails to run the *dispatch algorithm* to determine *dispatch prices* for any *dispatch interval* then the *dispatch price* for that *dispatch interval* 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(c) or (d), for any *dispatch interval* if:

(1) the *dispatch price* for that *dispatch interval* has not already been set by the *central dispatch* process and *NEMMCO* reasonably determines that the *central dispatch* process may determine that:

(i) all *load* in a *region* could not otherwise be supplied and *NEMMCO* issues *instructions* that are current for that *dispatch interval* to *Network Service Providers* or *Market Participants* to shed *load*, or

(ii) no more *interruptible load* that had been shed as a result of a *contingency event* can be restored in a *dispatch interval* immediately following the restoration of the frequency of the *power system* to within the normal band of the *frequency operating standards*,

then, subject to 3.9.2(f), *NEMMCO* must set the *dispatch price* at that *region's regional reference node* to equal *VoLL*;

(2) *NEMMCO* has declared a *dispatch interval* to be an *intervention price dispatch interval* under clause 3.9.3(a), then, subject to clauses 3.9.3(a2) and 3.9.3(a3), *NEMMCO* must set the *dispatch price* in accordance with clause 3.9.3(a1);

(3) **[Deleted]**

(4) an *administered price period* in accordance with clause 3.14 applies, then *NEMMCO* must limit the *dispatch price* in accordance with clause 3.14.2(c)(1).

(f) If *interruptible load* is shed as a result of a *contingency event* and *NEMMCO* has not set the *dispatch price* to equal *VoLL* pursuant to clause 3.9.2(e)(1)(i), *NEMMCO* must not set the *dispatch price* to *VoLL* pursuant to clause 3.9.2(e)(1)(ii) prior to the commencement of the third *dispatch interval* following the restoration of the *power system* to a *secure operating state* and the restoration of the *frequency* of the *power system* to the normal band of the *frequency operating standards*.

(g) **[Moved to 3.9.1(a)(3aA)]**

(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.

(i) **[Deleted]**

(j) **[Deleted]**

(k) If a test is being conducted on a *generating unit* or *scheduled load* in accordance with clause 3.11.7 and for the purpose of conducting that test, the *generating unit* or *scheduled load* is excluded from *central dispatch*, then that *generating unit* or *scheduled load* cannot be used to set the *dispatch price* for *energy* in the relevant *dispatch interval*.

3.9.2A Determination of ancillary services prices

(a) Each time the *dispatch algorithm* is run by *NEMMCO*, it must determine an *ancillary service price* for each *market ancillary service* for each *regional*

reference node which is to apply until the next time the *dispatch algorithm* is run, provided that if *NEMMCO* fails to run the *dispatch algorithm* to determine *ancillary service prices* for any *dispatch interval* then the *ancillary service price* for that *dispatch interval* will be the last *ancillary service price* determined by the *dispatch algorithm* prior to the relevant *dispatch interval*.

(b) The *ancillary service price* at a *regional reference node* represents the marginal value of the *market ancillary service* at that location and time, this being determined as the price of meeting an incremental change in *ancillary service* requirements at that location and time in accordance with clause 3.8.1(b).

(c) If an *ancillary service price* determined using the *dispatch algorithm* under paragraph (a):

(1) is less than zero, then the *ancillary service price* will be reset to zero; and

(2) is greater than VOLL, then the *ancillary service price* is reset to VOLL.

(d) If a test is being conducted on a *generating unit* or *scheduled load* in accordance with clause 3.11.7 and for the purpose of conducting that test, the *generating unit* or *scheduled load* is excluded from *central dispatch*, then that *generating unit* or *scheduled load* cannot be used to set *market ancillary service prices*.

3.9.3 Pricing in the event of intervention by NEMMCO

(a) In respect of a *dispatch interval* in which *NEMMCO dispatches plant* provided under a *reserve contract*, or *NEMMCO* has issued a *direction*, *NEMMCO* must declare the next *dispatch interval* to be an *intervention price dispatch interval*. ~~to a *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Participant* in accordance with clause 4.8.5, *NEMMCO* must declare that *dispatch interval* to be an *intervention price dispatch interval* and the *dispatch price* for that *dispatch interval* shall be set by *NEMMCO*, in accordance with the methodology or assumptions described in clause 3.9.3(b), at the value which *NEMMCO*, in its reasonable opinion, considers would have applied as the *dispatch price* for that *dispatch interval* had the *plant* provided under the *reserve contract* not been *dispatched* or had the *direction* not been issued.~~

(a1) Subject to clauses 3.9.3(a2) and 3.9.3(a3), *NEMMCO* must in accordance with the methodology or assumptions *published* pursuant to clause 3.9.3(b) set the *dispatch price* and *ancillary service prices* for an *intervention price dispatch interval* at the value which *NEMMCO*, in its reasonable opinion, considers would have applied as the *dispatch price* and *ancillary service prices* for that *dispatch interval* in the relevant *region* had the *plant* provided under the *reserve contract* not been *dispatched* or had the *direction* not been issued.

(a2) ~~Notwithstanding clause 3.9.3(a1),~~ *NEMMCO* may continue to set *dispatch prices* pursuant to clause 3.9.2 and *ancillary service prices* pursuant to clause 3.9.2A until the later of:

(1) the second *dispatch interval* after the first *dispatch interval* in which the *direction* has effect or *NEMMCO dispatches plant* provided under a *reserve contract*; ~~and~~ or

(2) if applicable, the second *dispatch interval* after the restoration of the power system to a secure operating state after the *direction* was issued,

provided that *NEMMCO* must use its reasonable endeavours to set *dispatch prices* and *ancillary service prices* pursuant to clause 3.9.3~~(a1)~~ as soon as reasonably practicable following a *direction* or *dispatch* of *plant* provided under a *reserve contract*.

(a3) ~~Notwithstanding clauses 3.9.3(a1) and 3.9.3(a2),~~ *NEMMCO* must continue to set *dispatch prices* pursuant to clause 3.9.2 and *ancillary service prices* pursuant to clause 3.9.2A if a *direction* given to a *Code Participant* in respect of *plant* at the *regional reference node* would not in *NEMMCO's* reasonable opinion have avoided the need for the *direction* issued.

(b) *NEMMCO* must develop in accordance with the *Code consultation procedures* and *publish* details of the methodology it will use, and any assumptions it may be required to make, to determine *dispatch prices* and *ancillary service prices* for the purposes of~~the prices described in clause 3.9.3(a) to apply in *intervention price dispatch intervals*. The methodology must be consistent with the principles for *spot price* determination set out in clause 3.9.1 and such methodology must enable *NEMMCO* to determine and *publish* such *dispatch prices* in accordance with clause 3.13.4(l)~~clause 3.9.3(a1). The methodology must wherever reasonably practicable:.

(1) be consistent with the principles for *spot price* determination set out in clause 3.9.1;

(2) enable *NEMMCO* to determine and *publish* such prices in accordance with clause 3.13.4; and

(3) be consistent with the principles for *ancillary service price* determination set out in clause 3.9.2A and 3.9.2.

(c) Any steps taken by *NEMMCO* prior to the amendments to clause 3.9.3 taking effect in respect of the methodology to be developed by *NEMMCO* under clause 3.9.3(b) in operation at the commencement of the amendments to clause 3.9.3, which are consistent with the *Code consultation procedures*, are deemed to be valid if otherwise invalid due to the relevant amendments to the *Code* not having come into force at the time of the action being taken.

3.9.4 VoLL

(a) *VoLL* is a price cap which is to be applied to *dispatch prices*.

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

(1) on or before 31 March 2002, $5,000/MWh; and

(2) on and from 1 April 2002, $10,000/MWh, subject to an annual review by the *Reliability Panel* in accordance with clause 3.9.4(c).

(c) By 30 April 2003, 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. In conducting a review in accordance with this clause 3.9.4(c) the *Reliability Panel* must have regard, in addition to any other *Code* obligations, to the potential impact of any proposed increase in *VoLL* on;

(1) *spot prices;*

(2) investment in the national electricity *market;* and

(3) the *reliability* of the *power system.*

(c1) The value of *VoLL* 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 *power system security and reliability standards* to be satisfied without use of *NEMMCO*'s powers to intervene under ~~clause 3.12~~clause 4.8.6(a) and 4.8.9(a);

(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* along with supporting information including:

(1) details of all relevant *market* conditions and circumstances on which the recommendation is based; and

(2) an assessment of whether the level of *VoLL* together with the operation of the *cumulative price threshold* has achieved the objectives set out in clauses 3.9.4(c1)(1) and (2).

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 probably that the relevant market conditions and circumstances on which the recommendation for that year were based as stated in the report from the Panel under clause 3.9.4(c) will not eventuate; and

(2) the *Reliability Panel* has given due consideration to the impact of the change to the value of *VoLL* on *Market Participants* and in the event of a decrease in the level of *VoLL*, any alternative arrangements considered necessary to ensure that the reliability standard set out in the *power system security* and *reliability standards* is maintained.

3.12.1 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. *NEMMCO* must not enter into such contracts 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 change to the *Code* in a report by the *Reliability Panel* under clause 8.8.3(m).

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

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

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

(f) When contracting for the provision of *reserves*, *NEMMCO* must not enter contracts in relation to capacity of *generating units*, *scheduled network services* or *scheduled loads* for which *dispatch offers* or *dispatch bids* have been submitted or are considered by *NEMMCO* to be likely to be submitted or be

otherwise available for *dispatch* in the *trading intervals* to which the contract relates.

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

(h) If *NEMMCO* requests a *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.

3.12.2 [Deleted - refer to clause 4.8.5A]Determination of the latest time for direction and intervention

(a) If *NEMMCO* has indicated a projected *low reserve* or *lack of reserve* condition in either the *medium term PASA* or the *short term PASA* or otherwise through a declaration under clause 4.8.4, *NEMMCO* must estimate the latest time at which it would need to intervene to issue a *direction* under clause 4.8.5 to maintain or re-establish the *power system* in a *reliable operating state*.

(b) In order to make the estimation described in clause 3.12.2(a), *NEMMCO* may *publish* a notice that it requires additional information from *Market Participants* for the purpose of making the estimation. Such information may include, but is not limited to:

(1) *plant* status;

(2) any expected or planned *plant outages* and the MW capacity affected by the *outage*, proposed start date and time and expected end date and time associated with the *outage* and an indication of the possibility of deferring the *outage*.

(c) A *Market Participant* must not unreasonably withhold information sought by *NEMMCO* and must use its reasonable endeavours to provide *NEMMCO* with the information required in a timely manner.

(d) *NEMMCO* must *publish* its estimate of the latest time at which it would need to intervene to issue a *direction* under clause 4.8.5.

(e) *NEMMCO* must regularly review its estimate of the latest time at which it would need to intervene to issue a *direction* under clause 4.8.5 as part of the *PASA* process and *publish* any revisions to the estimate.

3.12.3 [Deleted]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 the submission of *dispatch bids*, generation *dispatch offers* or

~~*network dispatch* offers in relation to *reserves* which *NEMMCO* has available under *reserve contracts*.~~

3.12.4 [Deleted]Market response to violations, low reserve and lack of reserve conditions

~~(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, the process to be followed by *NEMMCO* is as follows:~~

~~(1) *NEMMCO* must document and *publish* to *Market Participants* and *Scheduled Generators* information concerning the *low reserve* or *lack of reserve* condition including:~~

~~(i) the nature and extent of the *low reserve* or *lack of reserve* condition; and~~

~~(ii) the time period over which the *low reserve* or *lack of reserve* condition applies.~~

~~(2) If the *pre-dispatch schedule* has been prepared for the relevant period:~~

~~(i) Any *changes* made by *NEMMCO* to the *pre-dispatch schedule* to ensure that it is a physically realisable schedule are to be advised by *NEMMCO* to *Market Participants* and *Scheduled Generators* in terms of *change* relating to the aggregate *plant* position.~~

~~(ii) *NEMMCO* must notify *Market Participants* and *Scheduled Generators* whose *scheduled generating units, scheduled network services* or *scheduled loads* are likely to be directed if the *low reserve* or *lack of reserve* condition is not resolved through *market* response or otherwise by *NEMMCO*.~~

~~(b) In response to the *publication* of the *low reserve* or *lack of reserve* condition, *Market Participants* may revise or rebid their physical capabilities.~~

~~(c) *NEMMCO* must notify all *Market Participants* without delay of any significant *changes* in the *low reserve* or *lack of reserve* condition due to *changed* positions of *Market Participants* or for other reasons.~~

3.12.5 [Deleted - refer to clause 3.12.1]

3.12.6 [Deleted]Submission of dispatch bids or dispatch offers by NEMMCO

~~(a) *Dispatch bids* or *dispatch offers* in respect of *plant* capacity which is the subject of a *reserve contract* may only be submitted by *NEMMCO* and *NEMMCO* shall be entitled to any resulting *spot market* revenue.~~

~~(b) *NEMMCO* may submit, update or vary *dispatch bids* or *dispatch offers* in relation to a *scheduled generating unit, scheduled network service* or a *scheduled load*, or a part of a *scheduled generating unit, scheduled network service* or a *scheduled load*, which is the subject of a *reserve contract* provided that:~~

~~(1) the available MW capacity in the *dispatch bid* or *dispatch offer* is identified as being under a contract for the provision of *reserve*, or *market network services* to make *reserves* available where required; and~~

~~(2) no *price bands* are specified for that capacity.~~

(c) A *dispatch bid* submitted by *NEMMCO* may specify a *self-dispatch level*.

(d) If a *dispatch bid* or *dispatch offer* submitted by *NEMMCO* in respect of a *reserve contract* which relates to a part only of a *Market Participant's scheduled generating unit* output, *scheduled network service power transfer capability* or *scheduled load* consumption, then the remainder of the *scheduled generating unit's* output, *scheduled network service's power transfer capability* or *scheduled load's* consumption is, as far as is reasonably practicable, to be treated as still being a *scheduled generating unit*, *scheduled network service* or *scheduled load* of that *Market Participant* for the purposes of the *Code*.

(e) *NEMMCO* must aim to submit *dispatch offers* and *dispatch bids* for any *plant* provided under *reserve contract* and to commit such *plant* in such a way that any distortions to *spot prices* are minimised.

3.12.7 [Deleted]Central dispatch where NEMMCO has submitted dispatch offers or dispatch bids

(a) Subject to clause 3.12.7(b), *NEMMCO* must not *dispatch plant* subject to a *reserve contract* unless all valid *dispatch bids* or *dispatch offers* submitted by *Market Participants* and *Scheduled Generators*, including those priced at *VoLL*, have been *dispatched* and there would otherwise be insufficient *supply* to meet the *load* in any *region*.

(b) If, notwithstanding the *dispatch* of all valid *dispatch bids* or *dispatch offers* submitted by *Market Participants* and *Scheduled Generators*, including those priced at *VoLL*, there would still be insufficient *supply* to meet the *load* in any *region*, *NEMMCO* may make such *changes* to the *pre-dispatch schedule* or to *central dispatch* as may be necessary to *dispatch plant* provided under a *reserve contract*, provided that *NEMMCO* must aim to do so in such a way that any distortions to *spot prices* are minimised.

3.12.8 NEMMCO's risk management and accounts relating to the reliability safety net

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

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

3.12.9 [Deleted - refer to clause 4.5.B]Issue of directions

(a) If the latest practicable time for intervention, as estimated by *NEMMCO* under clause 3.12.2, is reached and, taking into account any *reserve contracts*, the *low reserve* or *lack of reserve* condition has not been alleviated then *NEMMCO* must notify *Market Participants* and *Scheduled Generators* that *NEMMCO*:

(1) considers the time for the negotiation of further *reserve contracts* to have elapsed; and

(2) intends to issue *directions* to *Market Participants* or *Scheduled Generators* in accordance with clause 4.8.5.

~~(b) If *NEMMCO* notifies *Market Participants* and *Scheduled Generators* in terms described in clause 3.12.9(a) that it intends to issue *directions* to *Market Participants* or *Scheduled Generators* in accordance with clauses 4.8.5(c), *NEMMCO* must request:~~

~~(1) all *Scheduled Generators* who have advised of *plant* availability during the relevant period of *low reserve* or *lack of reserve* condition, which is lower than their capacity as recorded in their *registered bid and offer data*; and~~

~~(2) all *Market Customers* who, in respect of their *scheduled loads* which are *normally on*, have advised of a lower level which may be *off loaded* during the relevant period of *low reserve* or *lack of reserve* condition, than that recorded in their *registered bid and offer data; and*~~

~~(3) All *Scheduled Network Service Providers* who have advised of *plant* availability during the relevant period of *low reserve* or *lack* of *reserve* condition, which is lower than the *power transfer capability* recorded in their *registered bid and offer data; and*~~

~~to provide, to the best of their ability, their estimates of the costs which would be associated with deferring or cancelling any proposed *outages* or restoring available capacity.~~

~~(c) *Market Participants* and *Scheduled Generators* must not unreasonably withhold such information and must use their reasonable endeavours to comply with a request made by *NEMMCO* under clause 3.12.9(b) in a timely manner.~~

~~(d) *NEMMCO* must treat any information provided in response to a request under clause 3.12.9(b) as *confidential information* and use it for the sole purpose of assessing to which *Market Participants* and *Scheduled Generators* it should issue *directions* if necessary to maintain or re-establish the *power system* in a *reliable operating state* in accordance with clause 4.8.5.~~

~~(e) In considering whether to issue any *directions* and, if so, to whom, *NEMMCO* must, subject to its obligations concerning *sensitive loads* as described in Chapter 4, seek to give effect to the objective of minimising any costs incurred by *Market Customers* under the *Code* as a result of such *direction*.~~

3.12.10 Directions Intervention Settlement Timetable ~~Intervention price trading intervals~~

~~An *intervention price trading interval* is a *trading interval* in which *NEMMCO* has declared an *intervention price dispatch interval* in accordance with clause 3.9.3.~~

(a) *NEMMCO* must use reasonable endeavours to complete and fulfil its obligations set out in clauses 3.12.11, 3.12.11A, 3.15.7, 3.15.7A, 3.15.7B and 3.15.8 and 3.15.10C as soon as practicable and no later than:

(1) 100 *business days* of the end of the *direction* or *dispatch* of *plant* under a *reserve contract* or the end of a series of related *directions* or a related series of *dispatch* of *plant* under a *reserve contract* if *NEMMCO* is not required to appoint an independent expert pursuant to clause 3.15.7A; and

(2) 150 *business days* of the end of the *direction* or *dispatch* of *plant* under a *reserve contract* or the end of a series of related *directions* or a related series of *dispatch* of *plant* under a *reserve contract* if *NEMMCO* is required to appoint an independent expert pursuant to clause 3.15.7A.

(b) Subject to clause 3.12.10(a), *NEMMCO* must *publish* a timetable, ~~subject to clause 3.12.10(a),~~ that sets a date for each of *NEMMCO's* and the independent expert's obligations pursuant to clauses 3.12.11, 3.12.11A, 3.15.7, 3.15.7A, 3.15.7B ~~and~~ 3.15.8 and 3.15.10C, where required (the "***~~directions~~ intervention settlement timetable***");

(c) *NEMMCO* must at least once a month revise and *publish* the ~~*directions*~~ *intervention settlement timetable* to reflect any changes to the ~~*directions*~~ *intervention settlement timetable*.

3.12.11 ~~Payments to and by~~ Affected Participants and Market Customers entitlements to compensation in relation to directions and reserve contracts~~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 operation of 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 was 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~~

(a) In respect of each *intervention price trading interval*:

(1) An *Affected Participant* is entitled to receive from *NEMMCO*, or must pay to *NEMMCO*, an amount as determined in accordance with clause 3.12.11 that will put the *Affected Participant* in the position that the *Affected Participant* would have been in regarding the *scheduled generating unit* or *scheduled network service*, as the case may be, had the *direction* not been issued or the *plant* under the *reserve contract* not been *dispatched*, as appropriate, taking into account solely the items listed in clause 3.12.11(d);

(2) a *Market Customer*, *other* ~~in respect of one or more of its *scheduled loads* (other than a *scheduled load* which was provided under a *reserve contract*), then the~~ than a *Market Customer* which was the subject of that *direction*, in respect of one or more of its *scheduled loads is* entitled to receive ~~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* determined in accordance with clause 3.9.3;

LF where the *scheduled load's connection point* is a *transmission connection point*, is the *intra-regional loss factor* at that *connection point* or where the *scheduled load's connection point* is a *distribution network connection point,* is the product of the *distribution loss factor* at that *connection point* multiplied by the *intra-regional loss factor* at the *transmission connection point* to which it is assigned;

BidP (in dollars per MWh) is the price of the highest priced *price band* specified in a *dispatch offer* for the *scheduled load* in the relevant *intervention price trading interval;*

QD (in MWh) is the difference between the amount of electricity consumed by the *scheduled load* during the relevant *intervention price trading interval* determined from the *metering data* and the amount of electricity which *NEMMCO* reasonably ~~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 claim~~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 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* in 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 generation 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 *scheduled 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;

(F) other costs incurred in connection with the *scheduled generation 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;

(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 the adjustments payable by, or receivable by, *Scheduled Generators* or *Market Customers* under clause 3.12.11(a) in respect of the *intervention price trading interval*.

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

(a1) An *Affected Participant* or *Market Customer* is not entitled to receive from, or obliged to pay to, *NEMMCO* an amount pursuant to this clause 3.12.11 if such an amount is less than $5,000.

(b) In respect of each *intervention price trading interval*, *NEMMCO* must in accordance with the *directions intervention settlement timetable*, notify, in writing~~prepare and *publish* a report setting out~~:

(~~b~~1) each *Affected Participant* (except *eligible persons*) of:

(i) the estimated level of *dispatch* in MW that its *plant* would have been *dispatched* at had the *direction* not been issued or the *plant* under *reserve contract* not been *dispatched*; and

(ii) an amount equal to ~~the sum of~~:

(A) ~~the sum of~~, the estimated *trading amount* that it would have received had the *direction* not been issued or the *plant* under *reserve contract* not been *dispatched* based on the level of *dispatch* in clause 3.12.11(b)(1)(i), less;

(B) the *trading amount* for that *Affected Participant* (excluding from that *trading amount* the amount referred to in clause 3.15.10C(a)) as set out in its ~~preliminary~~ final statement provided pursuant to clause 3.15.14 for the *billing period* in which the *intervention price trading interval* occurs.

(2) each *eligible person*:

(i) the estimated level of flow in MW of all relevant *directional interconnectors* that would have occurred had the *direction* not been issued or the *plant* under *reserve contract* not been *dispatched*; and

(ii) ~~the sum of~~ an amount equal to:

(A) the estimated amount that person ~~is~~ would have been entitled to receive pursuant to clause 3.18.1(b) had the *direction* not been issued or the *plant* under *reserve contract* not been

dispatched based upon the flows referred to in clause 3.12.11(b)(2)(i); less

(B) the actual entitlement of that person under clause 3.18.1(b)

(1) the change in *dispatch* in MW of each *Affected Participant* as a result of that *direction* or *dispatch* of *plant* under a *reserve contract*;

(2) the difference between the *trading amount* of each *Affected Participant* for the relevant *intervention price trading interval* and the change in the *trading amount* for each *Affected Participant* based upon the change in *dispatch* calculated pursuant to clause 3.12.11(b)(1) above;

(3) each *eligible person* the change in the flow in MW of each all relevant *directional interconnector*s as a result of that *direction* or *dispatch* of *plant* under a *reserve contract*;

(4) each *eligible person* the difference between the amount an *eligible person* is entitled to receive from *NEMMCO* pursuant to clause 3.18.1(b)(1) and the change in the amount for each *eligible person* it is entitled to receive from *NEMMCO* pursuant to clause 3.18.1(b)(1)based upon the change in flow of a relevant *directional interconnector* pursuant to clause 3.12.11(b)(3);and

(3) (5) each *Market Customer* of the an amount for each *Market Customer* calculated in accordance with clause 3.12.11(a)(2); and.

(6) the sum of the amounts calculated pursuant to clauses 3.12.11(b)(2), 3.12.11(b)(4) and 3.12.11(b)(5).

(b1) The amount notified by *NEMMCO* to an *Affected Participant* or *Market Customer* in accordance with clause 3.12.11(b) must be included in that person's final statement provided under clause 3.15.15 for a *billing period* in which the *direction* was issued in accordance with clause 3.15.10C(1).

(b1) *NEMMCO* must include in an *Affected Participant's* or *Market Customer's* final statement provided pursuant to clause 3.15.1 for a *billing period* in which a *direction* was issued:

(1) the amount notified by *NEMMCO* pursuant to 3.12.11(b) if the absolute value of such amount is greater than $5,000; and

(2) in all other cases no amount in relation to compensation pursuant to clause 3.12.11.

(b2) If the figure calculated pursuant to clauses 3.12.11(b)(2), 3.12.11(b)(4) and 3.12.11(b)(5) is:

(1) negative, the absolute value of that amount is the amount payable to *NEMMCO* by the relevant person; and

(2) positive, the absolute value of that amount is the amount receivable from *NEMMCO* by the relevant person.

(c) Subject to clause 3.12.11(c3), within 7 *business days* of receipt of the notice referred the *publication* of the report by *NEMMCO* pursuant to in clause 3.12.11(b) , an *Affected Participant* or *Market Customer* may make a written submission to *NEMMCO* in accordance with clause 3.12.11(ec1) claiming that the amount set out in the notice is greater than, less than, or equal to, its entitlement pursuant to clause 3.12.11(a)(1) as an *Affected Participant* or clause 3.12.11(a)(2) as a *Market Customer*, as the case may be.

(i)(1) greater than, an amount that will put the *Affected Participant* in the position that the *Affected Participant* would have been in regarding the *scheduled generating unit* or *scheduled network service* (as the case may be) had the *direction* not been issued or the *plant* under the *reserve contract* not been dispatched, as appropriate taking into account the items listed in clause 3.12.11(d) and requesting payment of such amount; or

(ii)(2) less than an amount that will put the *Affected Participant* in the position that the *Affected Participant* would have been in regarding the *scheduled generating unit* or *scheduled network service* (as the case may be) had the *direction* not been issued or the *plant* under the *reserve contract* not been *dispatched*, as appropriate taking into account the items listed in clause 3.12.11(d) and specifying the difference between such amount and the amount calculated pursuant to clause 3.12.11(b)(2) for that participant (such difference being the "***affected participant's additional claim***"); or

(iii)(3) equal to, the amount that will put the *Affected Participant* in the position that the *Affected Participant* would have been in regarding the *generating unit* or *scheduled network service* (as the case may be) had the *direction* not been issued or the *plant* under the *reserve contract* had not been *dispatched* and requesting payment of such amount.

its entitlement pursuant to clause 3.12.11(a)(1) as an *Affected Participant* or clause 3.12.11(a)(2) as a *Market Customer*, as the case maybe, and requesting payment of such amount.

(2) A *Market Customer* may make a written submission to *NEMMCO* in accordance with clause 3.12.11(e) claiming that the amount calculated by *NEMMCO* pursuant to clause 3.12.11(b) is:

(i) less greater than its entitlement pursuant to clause 3.12.11(a)(2) and specifying the difference between such amount and the amount calculated pursuant to clause 3.12.11(b)(3) for that participant (such difference being the "***market customer's additional claim***");

(ii) less greater than its entitlement pursuant to clause 3.12.11(a)(2) and requesting payment of such lower amount; or

~~(iii) equal to the amount calculated by *NEMMCO* pursuant to clause 3.12.11(b) is consistent with~~

~~its entitlement pursuant to clause 3.12.11(a) and requesting payment of such amount.~~

(c1) A written submission made by an *Affected Participant* or *Market Customer* pursuant to clause 3.12.11(c) must:

(1) itemise each component of the claim;

(2) contain sufficient data and information to substantiate each component of a claim;

(3) if the *Affected Participant* claims that the amount calculated by *NEMMCO* pursuant to clauses 3.12.11(b)(21) or 3.12.11(b)(42) is less than the amount the *Affected Participant* is entitled to receive pursuant to clause 3.12.11(a)(1), specify the difference between such amounts (such difference being the "*affected participant's additional adjustment claim*");

(4) if the *Market Customer* claims that the amount calculated by *NEMMCO* pursuant to clause 3.12.11(b)(53) is less than the amount the *Market Customer* is entitled to receive pursuant to clause 3.12.11(a)(2), specify the difference between such amounts (such difference being the "*market customer's additional claim*"); and

(5) be signed by an authorised officer of the *Affected Participant* or *Market Customer* certifying that the written submission is true and correct.

(c2) If an *Affected Participant* or *Market Customer* does not deliver to *NEMMCO* a written submission in accordance with clause 3.12.11(c) it shall cease to have an entitlement to compensation under this clause 3.12.11.

(c3) An *Affected Participant* or *Market Customer* may only make a claim pursuant to clause 3.12.11(c) if it claims that its entitlement or liability pursuant to clause 3.12.11 is greater than $5,000.

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

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

(1) ~~(2)~~ the direct costs incurred or avoided by the *Affected Participant* in respect of that *scheduled generating unit* or *scheduled network services*, as the case may be,~~*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* or *scheduled network services*~~*scheduled generating unit*~~; and

(ii) incremental maintenance costs in connection with the *scheduled generated unit* or *scheduled network services*~~*scheduled generating unit*~~; and

(iii) incremental manning costs in connection with the *scheduled generating unit* or *scheduled network services*~~*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* or *scheduled network services* to be available; and~~

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

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

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

~~(2)~~ (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~~

~~(2)~~ (3) any amounts which the Affected Participant~~*Scheduled Generator*~~ is entitled to receive under clauses 3.15.6 and 3.15.6A ~~in respect of the *scheduled generating unit* in that *intervention price trading interval*~~;

~~(3)~~ (4) the *regional reference price published* pursuant to clause 3.13.4(m).

~~(c) 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.

(e) A written submission made by an *Affected Participant* or *Market Customer* pursuant to clause 3.12.11(e) must:

(1) itemise each component of the claim;

(2) contain sufficient data and information to substantiate each component of a claim; and

(3) be signed by an authorised officer of the *Affected Participant* or *Market Customer* certifying that the written submission is true and correct.

(e1) *NEMMCO* must in accordance with the *directions intervention settlements timetable* calculate the "*additional direction intervention claims*" being the total of:

(1) the sum of the *affected participant's additional adjustment claims* and *market customer's additional claims* in respect of a *direction* or *dispatch* of *plant* provided under a *reserve contract*, or in respect of, in *NEMMCO*'s reasonable opinion, a series of related *directions* or *dispatch* of *plant* provided under a *reserve contract*; plus

(2) the total claims by *Directed Participants* pursuant to clauses 3.15.7B(a), and 3.15.7B(a1) and 3.15.7B(a2) in respect of that *direction* or *dispatch* of that *plant* provided under a *reserve contract*, or in respect of that series of related *directions* or *dispatch* of *plant* provided under a *reserve contract*.

(the "*additional direction claims*").

(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.

(f) If *NEMMCO* determines that either:

(1) the *additional direction claims* in respect of a *direction* or *dispatch* of *plant* provided under a *reserve contract* is less than $100,000; or

(2) an *affected participant's additional claim* or *market customer's additional claim* in respect of that *direction* or *dispatch* of that *plant* provided under a *reserve contract* is less than $20,000,

then *NEMMCO* must, in accordance with the *directions intervention settlement timetable*, determine in its sole discretion if that claim or claims are reasonable and if so pay the amount claimed in accordance with clause 3.15.10B.

(f) *NEMMCO* must in accordance with the *intervention settlement timetable*:

(1) refer an *affected participant's ~~additional~~ adjustment claim* ~~and~~ or *market customer's additional claim* equal to or greater than $20,000 to an independent expert to determine the claim for compensation in accordance with clause 3.12.11A if the *additional ~~direction~~ intervention claim* that includes that claim is equal to or greater than $100,000; and

(2) determine in its sole discretion if all other *affected participant's ~~additional~~ adjustment claims* and *market customer's additional claims* are reasonable and, if so pay the amounts claimed in accordance with clause 3.15.10C.

~~(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.~~

(g) If *NEMMCO* determines pursuant to clause 3.12.11(f) that an *affected participant's ~~additional~~ adjustment claim* or *market customer's additional claim* in respect of a *direction* or *dispatch* of *plant* provided under a *reserve contract* is unreasonable, it must in accordance with the *~~directions~~ intervention settlement timetable*:

(1) advise the *Affected Participant* or *Market Customer*, as the case may be, in writing of its determination including ~~setting out~~ its reasons for ~~determining that the compensation claimed is unreasonable~~ the determination; and

(2) refer the matter to an independent expert to determine the claim for compensation in accordance with clause 3.12.11A.

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

~~(h) If *NEMMCO* determines that:~~

~~(1) the *additional direction claims* in respect of a *direction* or *dispatch* of *plant* provided under a *reserve contract* is equal to or greater than $100,000; and~~

~~(2) an *affected participant's additional claim* or *market customer's additional claim* in respect of that *direction* or *dispatch* of that *plant* provided under a *reserve contract* is equal to or greater than $20,000,~~

~~then *NEMMCO* must, in accordance with the *directions intervention settlement timetable* refer all such claims equal to or greater than $20,000 to an independent expert to determine the claim for compensation in accordance with clause 3.12.11A.~~

~~(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); 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*.~~

(h)~~(i)~~ For the purpose of clause 3.15.8 and 3.15.10BC(b) ~~the amount of compensation due to an *Affected Participant* or *Market Customer*~~ any payment pursuant to clause 3.12.11(a) must include interest on the sum of that ~~the principal~~ amount less the payment made in accordance with 3.15.10C(1), computed at the average *bank bill rate* for the period from the date on which payment was required to be made under clauses 3.15.16 and 3.15.17 in respect of the *final statement* for the billing period in which the *direction* was issued or *plant* provided under a *reserve contract* was *dispatched* pursuant to clause 4.8.6 to the date on which payment is required to be made pursuant to clause 3.15.10BC.

~~(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:~~

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

~~(B) 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.~~

3.12.11A Role of the Independent Expert in calculating payments in relation to intervention by NEMMCO

(a) Subject to clause 3.12.11A(a1), iIf a matter is to be referred to an independent expert pursuant to clauses 3.12.11(ef), 3.12.11(hg) or 3.15.7B, *NEMMCO* must in accordance with the ~~*directions*~~ *intervention settlement timetable publish* a

notice of its proposed nominee as independent expert and appoint such nominee.

(a1) If within 3 *business days* of *publication* of *NEMMCO's* nominee pursuant to clause 3.12.11A(a) ~~in relation to the direction~~ more than 25% of the *Referred Affected Participants*, *Referred Market Customers* and *Referred Directed Participants* in relation to that *direction* object in writing to *NEMMCO's* nominee ~~then~~ *NEMMCO* must, as soon as reasonably practicable thereafter, request *NECA* to nominate an independent expert.

(a2) If a valid objection pursuant to clause 3.12.11A(a1) is made, *NECA* must, within 3 *business days* of a written request from *NEMMCO*, nominate an independent expert to be appointed by *NEMMCO* for the purposes of this clause 3.12.11A.

(b) *NEMMCO* must provide to the independent expert a copy of all written submissions made by *Referred Affected Participants*, *Referred Market Customers* or *Referred Directed Participants* under clause 3.12.11(c) or 3.15.7B(a).

(b1) To the extent reasonably practicable, all claims arising out of a single *direction* or *dispatch* or *reserve plant* or arising out of, in *NEMMCO*'s reasonable opinion, a series of related *directions* or *dispatch* of *plant* provided under a *reserve contract*, should be ~~dealt with~~ determined by the same independent expert as part of the same process.

(c) *NEMMCO* must include as part of the independent expert's terms of appointment the following requirements:

(1) In accordance with the ~~*directions*~~ *intervention settlement timetable* the independent expert must:

(i) determine and *publish* a draft report setting out:

(A) as appropriate, the total compensation payable by, or receivable by *Referred Affected Participants* and *Referred Market Customers* under clause 3.12.11(a) pursuant to claims referred to the independent expert pursuant to clauses 3.12.11(~~e~~f) and 3.12.11(~~f~~g) in respect of the *intervention price trading interval*;

(B) the total amount of compensation payable to *Referred Directed Participants* pursuant to clause 3.15.7B; and

(C) the methodology and assumptions, if any, used by the independent expert in making the determination in clauses 3.12.11A(c)(1)(ii) and 3.12.11A(c)(1)(iii).

(ii) notify individual assessments by delivery to each *Referred Affected Participant* and *Referred Market Customer* and to *NEMMCO* of a

draft assessment detailing the amount payable or receivable by that party, as the case may be, pursuant to clause 3.12.11(a); and

(iii) deliver to each *Referred Directed Participant* and to *NEMMCO* a draft assessment detailing the calculation of the amount of compensation receivable by that party pursuant to 3.15.7B ~~with a copy to *NEMMCO*~~.

(2) The independent expert must call for submissions from all relevant *Referred Affected Participants, Referred Market Customers* and *Referred Directed Participants* after *publishing* the draft report and delivering the draft assessment under clause 3.12.11A(c)(1).

(3) Before the *publication* of the final report and delivery of the final assessment pursuant to clause 3.12.11A(c)(4), the independent expert must:

(i) if requested to do so by a *Referred Affected Participant, Referred Market Customer* or *Referred Directed Participant*, within 15 *business days* of the publication of the draft report and draft assessment, meet with *representatives* of the *Referred Affected Participant, Referred Market Customer, or Directed Participant* to discuss any queries it has in relation to the draft report or draft assessment as appropriate; and

(ii) take into consideration, any further written submissions made by a *Referred Affected Participant, Referred Market Customer or Referred Directed Participant* ~~to the independent expert~~ in relation to the draft report or draft assessment, as the case may be, if ~~received by~~ the independent expert receives those submissions within 15 *business days* of the *publication* of the draft report and draft assessment.

(4) The independent expert must in accordance with the ~~*directions*~~ *intervention settlement timetable*:

(i) prepare and *publish* a final report;

(ii) prepare and deliver ~~its~~ his or her final assessment of the amounts payable or receivable by the relevant party pursuant to clause 3.12.11(a) or 3.15.7B, as the case may be; and

(iii) deliver to *NEMMCO* a final tax invoice for the services rendered by the independent expert and a copy of all final assessments issued pursuant to clause 3.12.11A(c)(ii).

(5) ~~The~~ A reports prepared under clause 3.12.11A(c)(1)(i) and 3.12.11A(c)(4)(i) must not disclose *confidential information*.

(6) If the independent expert requires further information than that contained in ~~the~~ a written submission made by the *Referred Affected Participant*, *Referred Market Customer* or *Referred Directed Participant* under clause 3.12.11(c) or 3.15.7B(a), the independent expert may advise the relevant party in writing of the information required.

(7) If the relevant party has not provided that information to the independent expert within 10 business days of the date of ~~the period set out in~~ the request for further information, then the independent expert, acting reasonably, is entitled to make such assumptions concerning that information as he or she thinks appropriate.

~~(7) The independent expert must provide *NEMMCO* with his or her final tax invoice for services rendered at the time of publication of the final report.~~

(8) The independent expert must enter into, and deliver, a confidentiality ~~agreement~~ deed for the benefit of each *Referred Affected Participant*, *Referred Market Customers* and *Referred Directed Participants* in a form developed by *NEMMCO* pursuant to clause 3.12.11A(e).

(d) A final report and a final assessment of an independent expert prepared in accordance with clause 3.12.11A(c)(4) is final and binding.

(e) *NEMMCO* must in accordance with the *Code consultation procedures* prepare and *publish* a confidentiality ~~agreement~~ deed for the purposes of clause 3.12.11A.

3.13.5A Settlement residue auctions

(a) If *NEMMCO* conducts an *auction* under clause 3.18, *NEMMCO* must, as soon as practicable thereafter, make available to all *Code Participants* a report outlining:

(1) the *auction* clearing prices;

(2) all bids (but not the name of any bidder); and

(3) the proceeds of each *auction* conducted under clause 3.18.

(b) *NEMMCO* must, as soon as practicable after the *final statements* for a *billing period* have been given to *Market Participants* under clause 3.15.15, make available to all *Code Participants* a report setting out:

(1) the total *settlements residue*;

(2) the amount of *settlements residue* attributable to each *directional interconnector* (including the amount paid pursuant to the jurisdictional derogations in Chapter 9); and

(3) the amount of *settlement residue* attributable to *intra-regional loss factors* for each *region*, for that *billing period*.

(c) *NEMMCO* may provide copies of its reports under paragraphs (a) and (b) to persons other than *Code Participants*, and may charge a fee for doing so to cover an appropriate share of the costs of preparing the report.

3.13.6 Reserve trading by NEMMCO

(a) If any *plant* under a *reserve contract* with *NEMMCO* is *dispatched*, then *NEMMCO* must, as soon as practicable thereafter, ~~make available to all *Market Participants* *publish*~~ a report outlining:

~~(1) the reasons why the *reserve plant* was *dispatched*;~~

~~(2) *NEMMCO*'s opinion as to the effect that the *dispatch* of the *reserve plant* had on the amounts to be paid to each *Scheduled Generator* and *Market Network Service Provider* and by each *Market Customer*; and~~

~~(3) *NEMMCO*'s estimate of the financial effect on its *reserve* trading activities due to the *dispatch* of the *plant*.~~

(1) the circumstances giving rise to the need for *dispatch* of *reserves*;

(2) the basis on which it determined the latest time for that *dispatch* of *reserves* and on what basis that it determined that a *market* response would not have avoided the need for the *dispatch* of *reserves*;

(3) details of the changes in *dispatch* outcomes due to the *dispatch of reserves*;

(4) the processes implemented by *NEMMCO* to *dispatch* the *reserves*; ~~and~~

(5) ~~where appropriate~~if applicable, reasons why *NEMMCO* did not follow any or all of the processes set out in clause 4.8 either in whole or in part prior to the *dispatch* of *reserves*; and

(6) ~~if appropriate~~applicable, the basis upon which *NEMMCO* considered it impractical to set *spot prices* and *ancillary service prices* in accordance with clause 3.9.3(a1)~~; and~~.

(a1) As soon as reasonably practicable after *NEMMCO* has, in accordance with 3.15.9, included the amounts arising under a *reserve contract* in a final statement provided under clause 3.15.15, *NEMMCO* must *publish* details of:

(1) the payments under the *reserve contract* for the relevant *billing periods*; and

(2) a breakdown of the recovery of those costs by each category of *Code Participant*, as determined by *NEMMCO*, in each *region*.

(b) Within 30 days of the end of each *financial year*, *NEMMCO* must *publish* a report detailing:

(1) each occasion on which it intervened to secure *reserve plant* availability;

(2) each occasion during the financial year when *plant* under a *reserve contract* was *dispatched*; and

(3) its costs and finances in connection with its *reserve* trading activities according to appropriate accounting standards including profit and loss, balance sheet, sources and applications of funds.

3.13.6A - Report by NEMMCO

(a) *NEMMCO* must, as soon as reasonably practicable after issuing a *direction*, *publish* a report outlining:

(1) the circumstances giving rise to the need for *direction*;

(2) the basis on which it determined the latest time for that *direction* and on what basis that it determined that a *market* response would not have avoided the need for the *direction*;

(3) details of the changes in *dispatch* outcomes due to the *direction*;

(4) the processes implemented by *NEMMCO* to issue the *direction*;

(5) ~~where appropriate~~if applicable, the basis upon which *NEMMCO* did not follow any or all of the processes set out in clause 4.8 either in whole or in part prior to the issuance of the *direction*;

(6) ~~if appropriate~~applicable, the basis upon which *NEMMCO* considered it impractical to set *spot prices* and *ancillary service prices* in accordance with clause 3.9.3(a1); ~~and~~

(7) details of the adequacy and effectiveness of responses to inquiries made by *NEMMCO* under clause 4.8.5A(c); and

(8) and information regarding any notification by a *Code Participant* that it will not be able to comply with a *direction* under clause 4.8.9(d). ~~*Code Participants* are not to be identified in this report.~~

(b) As soon as reasonably practicable after *NEMMCO* has, in accordance with clause 3.15.10BC, included the amounts arising from a *direction* in a settlement statement provided under clause 3.15.15, *NEMMCO* must *publish* details of:

(1) the *compensation recovery amount* arising from the *direction* as calculated under clause 3.15.8(a) for the period of the *direction*;

(2) details of the calculation of the regional benefit determined under clause 3.15.8(b); and

(3) A breakdown of the *compensation recovery amount* by each category of *Code Participant*, as determined by *NEMMCO*, in each *region*.

3.13.6B - Reports by NECA

NECA must, in accordance with clauses 4.8.9(g) and 8.7.4(a)(3) prepare reports on the use of *NEMMCO's* power to issue *directions* under clause 4.8.9.

3.15 Settlements

3.15.1 Settlements management by NEMMCO

(a) *NEMMCO* must facilitate the billing and settlement of *transactions* under this Chapter 3, including:

(1) *spot market transactions*;

(2) *reallocation transactions*; and

(3) ancillary services transactions under clause 3.15.6A.

(b) *NEMMCO* must determine the *Participant fees* and the *Market Participants* must pay them to *NEMMCO* in accordance with the provisions of clause 2.11.

3.15.2 Electronic funds transfer

(a) *NEMMCO* must ensure that an electronic funds transfer (EFT) facility is provided and made available for all *Market Participants* for the purposes of *settlements* and the collection and payment of all *market* fees.

(b) Unless otherwise authorised by *NEMMCO*, all *Market Participants* must use the EFT facility provided by *NEMMCO* under clause 3.15.2(a) for the *settlement* of *transactions* and the payment of *market* fees.

(c) In establishing the EFT facility in accordance with clause 3.15.2(a) *NEMMCO* must use its reasonable endeavours to ensure that the use of that facility does not impose unnecessary restrictions on the normal banking arrangements of *Market Participants*.

3.15.3 Connection point responsibility

(a) For each *market connection point* there is one person that is *financially responsible* for that *connection point*. The person that is *financially responsible* for such a *connection point* is:

(1) the *Market Participant* which has classified the *connection point* as a *market load;*

(2) the *Market Participant* which has classified the *generating unit connected* at that *connection point* as a *market generating unit;* or

(3) the *Market Participant* which has classified the *network service connected* at that *connection point* as a *market network service.*

3.15.4 Adjusted energy amounts - connection points

Where a *connection point* is not a *transmission network connection point*, the *adjusted gross energy* amount for that *connection point* for a *trading interval* is calculated by the following formula:

AGE = ME × DLF

where

AGE is the *adjusted gross energy* amount to be determined

ME is the amount of electrical *energy*, expressed in MWh, flowing at the *connection point* in the *trading interval*, as recorded in the *metering data* in respect of that *connection point* and that *trading interval*, (expressed as a positive where the flow is towards the *transmission network connection point* to which the *connection point* is assigned, and negative where the flow is in the other direction)

DLF is the *distribution loss factor* applicable at that *connection point.*

3.15.5 Adjusted energy - transmission network connection points

Where a *connection point* is a *transmission network connection point*, the *adjusted gross energy* amount for that *connection point* for a *trading interval* is calculated by the following formula:

AGE = ME - AAGE

where

AGE is the *adjusted gross energy* amount to be determined

ME is the amount of electrical *energy*, expressed in MWh, flowing at the *connection point* in the *trading interval*, as recorded in the *metering data* in respect of that *connection point* and that *trading interval*, (expressed as a positive where the flow is towards the *transmission network*, and negative where the flow is in the other direction)

AAGE is the aggregate of the *adjusted gross energy* amounts for that *trading interval* for each *connection point* assigned to that *transmission network connection point,* for which a *Market Participant* (other than a suspended *Market Participant*) is *financially responsible* (and in that aggregation positive and negative *adjusted gross energy* amounts are netted out to give a positive or negative aggregate amount).

3.15.6 Spot market transactions

(a) In each *trading interval,* in relation to each *connection point* for which a *Market Participant* is *financially responsible*, a *spot market transaction* occurs, which results in a *trading amount* for that *Market Participant* determined in accordance with the formula:

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

where

TA is the *trading amount* to be determined (which will be a positive or negative dollar amount for each *trading interval*)

AGE is the *adjusted gross energy* for that *connection point* for that *trading interval*, expressed in MWh

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

RRP is the *regional reference price* for the *regional reference node* to which the *connection point* is assigned, expressed in dollars per MWh.

(b) *NEMMCO* is entitled to ~~any~~ the *trading amount* resulting from the *dispatch* of *plant* in accordance with ~~under a *reserve contract* pursuant to clause 4.8.6(a) or the issuance~~ issue of a *direction* pursuant to clause 4.8.9(a), ~~for the service the subject of the *reserve contract* or the *direction*~~ and for the purposes of determining *settlement amounts*, any such *trading amount* is not a *trading amount* for the relevant *Market Participant*.

(c) A *Directed Participant* is entitled to the *trading amount* resulting from the ~~*dispatch* of *plant* under a *reserve contract* pursuant to clause 4.8.6(a) or the~~ issue of a *direction* pursuant to clause 4.8.9(c), for any service rendered as a result of the *reserve contract* of the *direction* other than the service the subject of the *reserve contract* or the *direction*.

3.15.6A Ancillary service transactions

(a) In each *trading interval,* in relation to each *enabled ancillary service generating unit* or *enabled ancillary service load*, an ancillary services transaction occurs, which results in a *trading amount* for the relevant *Market Participant* determined in accordance with the following formula:

$$TA = \text{the aggregate of } \left(EA * ASP\right) \text{ for each } \textit{dispatch interval} \text{ in a } \textit{trading interval}$$
$$\left(\frac{\quad}{12}\right)$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a positive number);
EA (in MW)	=	the amount of the relevant *market ancillary service* which the *ancillary service generating unit* or *ancillary service load* has been *enabled* to provide in the *dispatch interval*; and
ASP (in $ per MW per hour)	=	the *ancillary service price* for the *market ancillary service* for the *dispatch interval*.

(b) In each *trading interval*, in relation to each *Market Participant* which provides *non-market ancillary services* under an *ancillary services agreement*, an ancillary services transaction occurs, which results in a *trading amount* for the relevant *Market Participant* determined in accordance with that agreement.

(c) In each *trading interval*, in relation to each *Market Customer*, an ancillary services transaction occurs, which results in a *trading amount* for the *Market Customer* determined in accordance with the following formula:

$$TA = TNCASP \times \frac{TCE}{ATCE} \times -1$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
TNCASP (in $)	=	all amounts payable by *NEMMCO* in respect of the *trading interval* under *ancillary services agreements* in respect of the provision of *NCAS*;
TCE (in MWh)	=	the *customer energy* for the *Market Customer* for the *trading interval*; and
ATCE (in MWh)	=	the aggregate *customer energy* figures for all *Market Customers* for the *trading interval*.

(d) In each *trading interval*, in relation to each *Market Generator*, an ancillary services transaction occurs, which results in a *trading amount* determined in accordance with the following formula:

$$TA = \frac{TSRP}{2} \times \frac{TGE}{ATGE} \times -1$$

where:

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

(e) In each *trading interval*, in relation to each *Market Customer*, an ancillary services transaction occurs, which results in a *trading amount* determined in accordance with the following formula:

$$TA = \frac{TSRP}{2} \times \frac{TCE}{ATCE} \times -1$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
TSRP (in $)	=	has the meaning given in paragraph (d);
TCE (in MWh)	=	the *customer energy* for the *Market Customer* for the *trading interval*; and
ATCE (in MWh)	=	the aggregate of the *customer energy* figures for all *Market Customers* for the *trading interval*.

(f) In each *trading interval*, in relation to each *Market Generator*, an ancillary services transaction occurs, which results in a *trading amount* determined in accordance with the following formula:

$$TA = TCRSP \times \frac{TGE}{ATGE} \times -1$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);

TCRSP (in $)	=	the total of all amounts calculated by *NEMMCO* under clause 3.15.6A(a) for the *fast raise service, slow raise service* or *delayed raise service* in respect of *dispatch intervals* which fall in the *trading interval*;
TGE (in MWh)	=	the *generator energy* figures for all *Market Generators* for the *trading interval*; and
ATGE (in MWh)	=	the aggregate of the *generator energy* figures for all *Market Generators* for the *trading interval*.

(g) In each *trading interval*, in relation to each *Market Customer*, an ancillary services transaction occurs, which results in a *trading amount* determined in accordance with the following formula:

$$TA = TCLSP \times \frac{TCE}{ATCE} \times -1$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
TCLSP (in $)	=	the total of all amounts calculated by *NEMMCO* under clause 3.15.6A(a) for the *fast lower service, slow lower service* or *delayed lower service* in respect of *dispatch intervals* which fall in the *trading interval;*
TCE (in MWh)	=	the *customer energy* for the *Market Customer* for the *trading interval*; and
ATCE (in MWh)	=	the aggregate *customer energy* figures for all *Market Customers* for the *trading interval*.

(h) In each *trading interval*, in relation to each *Market Generator* or *Market Customer* which has *metering* to allow their individual contribution to the aggregate deviation in *frequency* of the *power system* to be assessed, an ancillary services transaction occurs, which results in a *trading amount* determined in accordance with the following formula:

$$TA = PTA \times -1$$

and

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

in the *trading interval*

where:

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

(i) In each *trading interval*, in relation to each *Market Customer* for whom the *trading amount* is not calculated in accordance with the formula in paragraph (h), an ancillary services transaction occurs, which results in a *trading amount* determined in accordance with the following formula:

$$TA = PTA \times \frac{TCE}{ATCE} \times -1$$

and

PTA = the aggregate of $\left(TSFCAS \times \frac{MPF}{AMPF}\right)$ for each *dispatch interval* in the *trading interval*

where:

TA (in $)	=	the *trading amount* to be determined (which is a negative number);
TSFCAS (in $)	=	has the meaning given in clause 3.15.6A(h);
MPF (a number)	=	the aggregate of the factor set by *NEMMCO* under paragraph (j) for *Market Customers*, for whom the *trading amount* is not calculated in accordance with the formula in paragraph (h);
AMPF (a number)	=	the aggregate of the MPF figures for all *Market Participants* for the *dispatch interval*;

TCE (in MWh)	=	the *customer energy* for the *Market Customer* for the *trading interval*; and
ATCE (in MWh)	=	the aggregate of the *customer energy* figures for all *Market Customers*, for whom the *trading amount* is not calculated in accordance with the formula in paragraph (h), for the *trading interval*.

(j) *NEMMCO* must determine a factor for each *Market Participant* for the purposes of paragraphs (h) and (i) in accordance with the procedure contemplated by paragraph (k).

(k) *NEMMCO* must prepare a procedure for determining contribution factors for use in paragraph (j) taking into account the following principles:

(1) the contribution factor for a *Market Participant* should reflect the extent to which the *Market Participant* contributed to the need for *regulation services*;

(2) the contribution factor for all *Market Customers* that do not have *metering* to allow their individual contribution to the aggregate need for *regulation services* to be assessed must be equal;

(3) the individual *Market Participant's* contribution to the aggregate need for *regulation services* will be determined over a period of time to be determined by *NEMMCO*; and

(4) a Code Participant which has classified a scheduled generating unit, *scheduled load, ancillary service generating unit* or *ancillary service load* (called a '**Scheduled Participant**') will not be assessed as contributing to the deviation in the *frequency* of the *power system* if within a *dispatch interval:*

(a) the Scheduled Participant achieves its *dispatch target* at a uniform rate;

(b) the Scheduled Participant is *enabled* to provide a *market ancillary service* and responds to a control signal from *NEMMCO* to *NEMMCO's* satisfaction; or

(c) the Scheduled Participant is not enabled to provide a *market ancillary service*, but responds to a need for *regulation services* in a way which tends to reduce the aggregate deviation.

(l) *NEMMCO* may amend the procedure referred to in paragraph (j) from time to time.

(m) *NEMMCO* must comply with the *Code consultation procedures* when making or amending the procedure referred to in paragraph (j).

(n) *NEMMCO* must *publish*, in accordance with the timetable, the historical data used in determining a factor for each *Market Participant* for the purposes of paragraphs (h) and (i) in accordance with the procedure contemplated by paragraph (k).

(o) In this clause 3.15.6A:

(1) 'generator energy' in respect of a Market Generator for a trading interval means the sum of the adjusted gross energy figures calculated for that trading interval in respect of that Market Generator's applicable connection points, provided that, if the sum of those figures is negative, then the Market Generator's generator energy for that trading interval is zero;

(2) a *connection point* is an *applicable connection point* of a *Market Generator* if:

(A) the Market Generator is financially responsible for the connection point; and

(B) the *connection point connects* a market *generating unit* to the *national grid*;

(3) *'customer energy'* in respect of a *Market Customer* for a *trading interval* means the sum of the *adjusted gross energy* figures calculated for that *trading interval* in respect of that *Market Customer's* relevant *connection points*; and

(4) a connection point is a relevant connection point of a Market Customer if:

(A) the *Market Customer* is *financially responsible* for the *connection point*; and

(B) the *load* at that *connection point* has been classified (or is deemed to be classified) as a *market load*.

3.15.7 ~~[Deleted]~~Payment to dDirected pParticipants

(a) Subject to clause 3.15.7(b), *NEMMCO* must pay compensation to *Directed Participants* calculated in accordance with clauses 3.15.7, 3.15.7A and 3.15.7B, as the case may be, for ~~providing~~ any service which the *Directed Participant* was required to provide.

(b) ~~(a1)~~ For the purpose of clause 3.15.8 and 3.15.10BC the amount of compensation due to a *Directed Participant* pursuant to clause 3.15.7(a) must include interest on ~~the principal~~ the sum of that amount less any payment made in accordance with clause 3.15.10C(a), computed at the average *bank bill rate* for the period beginning on the day ~~from the date~~ on which payment was required to be made under clauses 3.15.16 and 3.15.17 in respect of the *final statement* for the billing period in which the *direction* was issued ~~to the date~~

and ending on the day on which payment is required to be made pursuant to clause 3.15.10BC.

~~(b) *NEMMCO* must not pay compensation to a *Directed Participant* pursuant to clause 3.15.7(a) where the amount of compensation payable pursuant to clause 3.15.7(a) is less than $5,000.~~

(c) Subject to clause 3.15.7(d) and clause 3.15.7B, *NEMMCO* ~~must in accordance with the *intervention settlement timetable* calculate~~ the compensation payable to each *Directed Participant* for the provision of *energy* or *market ancillary* services pursuant to a *direction* is to be determined in accordance with the formula set out below ~~and must advise each *Directed Participant* in writing of such amount~~:

DCP = AMP x DQ

where:

DCP = the amount of compensation the *Directed Participant* is entitled to receive.

AMP = the price below which are 90% of the *spot prices* or *market ancillary service prices* (as the case may be) for the relevant service provided by *Scheduled Generators*, *Scheduled Network Service Providers* or *Market Customers* in the *region* to which the *direction* relates, ~~expressed in dollars per MWh~~, for the 12 months immediately preceding the *trading day* in which the *direction* was issued.

DQ = is either

(A) the difference between the total *adjusted gross energy* delivered or consumed by the *Directed Participant* and the total *adjusted gross energy* that would have been delivered or consumed by the *Directed Participant* had the *direction* not been issued; or

(B) the amount of the relevant *market ancillary service* which the *Directed Participant* has been *enabled* to provide in response to the *direction*.

(d) If at the time *NEMMCO* issues a *direction*, the *Directed Participant* had submitted a valid *dispatch bid*, *dispatch offer* or *rebid* for *dispatch* of the service that is to be *dispatched* in accordance with the *direction*, the *Directed Participant* is entitled to receive compensation for the provision of that service at a price equal to the *dispatch price* in that *dispatch bid*, *dispatch offer* or *rebid* as appropriate.

~~(d) A *Directed Participant* that submitted to *NEMMCO* a valid *dispatch bid* or *dispatch offer* for the *dispatch* of *plant* in an *intervention price dispatch*~~

~~*interval* shall only be entitled to receive compensation for that capacity that was not *dispatched* by the *central dispatch process* but was *dispatched* by a *direction* equal to the *dispatch price* for the capacity *dispatched* by *direction* set out in the *dispatch bid* or *dispatch offer*, as the case may be.~~

~~(c)(d) If during an *intervention price dispatch interval NEMMCO* sets *dispatch prices* and *ancillary service prices* pursuant to 3.9.3(c3) a *Directed Participant* is not entitled to any compensation pursuant to 3.15.7(e). *NEMMCO* must in accordance with the *intervention settlement timetable* advise each *Directed Participant* in writing of the amount the *Directed Participant* is entitled to receive pursuant to clause 3.15.7(e) or 3.15.7(d).~~

3.15.7A Payment to Directed Participants for services other than energy and market ancillary services

(a) ~~If *NEMMCO* issues a *direction* for the provision of services other than *energy* and *market ancillary services*,~~Subject to clause 3.15.7(d) and clause 3.15.7B, *NEMMCO* must compensate ~~each~~ the relevant *Directed Participant* for the provision of services other than *energy* and *market ancillary services* at the fair payment price of the services determined in accordance with this clause 3.15.7A.

~~(i) for the provision of services other than *energy* and *market ancillary services*; and~~

~~(ii) if clause 3.15.7(e) does not apply, for the provision of *energy* and *market ancillary services*,~~

~~at the fair payment price of the services determined in accordance with this clause 3.15.7A.~~

(b) Subject to clause 3.15.7A(e), *NEMMCO* must, in accordance with the ~~*directions intervention settlement timetable*~~ and any guidelines developed by *NEMMCO* in accordance with the *Code Consultation Procedures*, determine if in *NEMMCO*'s reasonable opinion, an independent expert could reasonably be expected to determine a fair payment price for the services provided pursuant to the *direction* within a reasonable time period.

(b1) If *NEMMCO* determines pursuant to clause 3.15.7A(b) that an independent expert could reasonably be expected to determine a fair payment price for the services provided pursuant to the *direction* within a reasonable time period it must as soon as reasonably practicable after making such determination *publish* its determination and appoint an independent expert in accordance with the ~~*directions intervention settlement timetable*~~ to determine the fair payment price for the services pursuant to the *direction*.

(c) *NEMMCO* must include as part of the ~~independent expert's~~ terms of appointment of an independent expert the following requirements:

(1) that tThe independent expert must, in determining the fair payment price of the relevant service for the purposes of clause 3.15.7A, take into account;

(i) other relevant pricing methodologies in Australia and overseas, including but not limited to;

(A) other electricity markets;

(B) other markets in which the relevant service may be utilised; and

(C) relevant contractual arrangements which specify a price for the relevant service.

(ii) the following principles;

(A) the disinclination of *Scheduled Generators*, *Market Non-Scheduled Generators*, *Scheduled Network Service Providers* or *Market Customers* to provide the service the subject of the *direction* must be disregarded;

(B) the urgency of the need for the service the subject of the *direction* must be disregarded;

~~(C) the fair payment price is not the fair payment price to the *Directed Participant*; and~~

(C) the *Directed Participant* is to be treated as willing to supply at the market price that would otherwise prevail for the directed services the subject of the *direction* in similar demand and supply conditions; and

~~(D) the fair payment price is the fair payment price to the *market*.~~

(D) the fair payment price is the market price for the directed services the subject of the *direction* that would otherwise prevail in similar demand and supply conditions.

(2) that In accordance with the *directions intervention settlement timetable* the independent expert must determine and *publish* a draft report in accordance with the *directions intervention settlement timetable* setting out;

(i) a description of the services provided in response to the *direction*;

(ii) the independent expert's draft determination of each the fair payment price for the services provided;

(iii) the methodology and assumptions used by the independent expert in making the draft determination of the fair payment price; and

(iv) a request for submissions from interested parties on the matters set out in the draft report.

(3) that ~~In accordance with the *directions intervention settlement timetable*~~ the independent expert must in accordance with the *directions intervention settlement timetable* determine the fair payment price for the services provided, taking into account the submissions received, and must prepare and *publish* a final report setting out:

(i) the description of the services provided in response to the *direction*;

(ii) the independent expert's determination of the fair payment price for the services provided;

(iii) the methodology and assumptions used by the independent expert in making the determination of each fair payment price; and

(iv) summaries of the submissions made by interested parties.

(4) that ~~T~~the independent expert must deliver to *NEMMCO* a final tax invoice for the services rendered ~~by the independent expert~~ at the time ~~the independent expert~~ he or she *publishes* the final report.

(5) that ~~T~~the a report *published* by the independent expert pursuant to clause 3.15.7A(c)~~(2) and 3.15.7A(c)(3)~~ must not disclose *confidential information* or the identity of a *Directed Participant*.

(d) In accordance with the ~~*directions intervention settlement timetable*~~ *NEMMCO* must calculate the compensation payable to the *Directed Participant* using the fair payment price *published* by the independent expert under clause 3.15.7A(c)(3).

(e) The fair payment price determined in accordance with clause 3.15.7A(c)(3) is to be the fair payment price for that service to be applied in all future occurrences where there is a *direction* for that service at any time within ~~for~~ a period of 12 calendar months from the date on which the determination of that price was ~~made~~published.

(f) Within 1 *business day* of calculating the compensation payable pursuant to clause 3.15.7A(a) by application of clause 3.15.7A(e) or pursuant to clause 3.15.7A(d), *NEMMCO* must advise the relevant *Directed Participant* in writing of ~~such~~ the amount of compensation.

(g) The determination of a fair payment price pursuant to clause 3.15.7A(c)(1) and the calculation of compensation payable to *Directed Participants* pursuant to clause 3.15.7A(d) is final and binding.

3.15.7B Claim for additional compensation by Directed Participants

(a) Subject to clauses 3.15.7B(a1) and 3.15.7B(a4), a *Directed Participant* entitled to compensation pursuant to clause 3.15.7A may, in accordance with the *intervention settlement timetable*, make a written submission to *NEMMCO* claiming an amount equal to the sum of:

(1) the aggregate of the loss of revenue and additional net direct costs incurred by the *Directed Participant* in respect of a *scheduled generating unit* or *scheduled network services*, as the case may be, as a result of the provision of the service under *direction*; less

(2) the amount notified to that *Directed Participant* pursuant to clause 3.15.7(c) or clause 3.15.7A(f); less

(3) the aggregate amount the *Directed Participant* is entitled to receive in accordance with clause 3.15.6(c) for the provision of a service rendered as a result of the *direction*.

~~(a) If a *Directed Participant* considers that the notified amount pursuant to clause 3.15.7(c) or clause 3.15.7A(f) is less than the aggregate of the loss of revenue and additional direct costs which the *Directed Participant* incurred as a direct result of the provision of the services under *direction* then the *Directed Participant* may, in accordance with the *directions settlement timetable*, make a written submission to *NEMMCO* requesting compensation from *NEMMCO* for such difference.~~

(a1) Subject to clause 3.15.7B(a4), iIf *NEMMCO* determines pursuant to clause 3.15.7A(a) that an independent expert could not reasonably be expected to determine within a reasonable period of time the relevant fair payment price, then a *Directed Participant* may, in accordance with the ~~*directions intervention settlement timetable*~~, make a written submission to *NEMMCO* claiming compensation from *NEMMCO* for the provision of services under the *direction* equal to:

(1) loss of revenue and additional net direct costs which the *Directed Participant* incurred as a result of the provision of services under the *direction*; and

(2) a reasonable rate of return on the capital employed in the provision of the service determined by reference as far as reasonably practicable to rates of return for the provision of similar services by similar providers of such services.

(a2) Subject to clause 3.15.7B(a4), if a *Directed Participant* entitled to compensation pursuant to clause 3.15.7(d) considers that the amount notified pursuant to clauses 3.15.7(e) is less than the amount it is entitled to receive pursuant to that clause, the *Directed Participant* may, in accordance with the *intervention settlement timetable*, make a written submission to *NEMMCO* requesting compensation from *NEMMCO* for that difference.

(a3) For the purposes of the calculation of additional net direct costs pursuant to clause 3.15.7B(a)(1) and clause 3.15.7B(a1)(1) the additional net direct costs incurred by the *Directed Participant* in respect of that *scheduled generating unit* or *scheduled network services*, as the case may be, includes without limitation:

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

(ii) incremental maintenance costs in connection with the *scheduled generated unit* or *scheduled network services*; and

(iii) incremental manning costs in connection with the *scheduled generating unit* or *scheduled network services*; 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* or *scheduled network services* to ~~be available~~ comply with the *direction*; and

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

(vi) other costs incurred in connection with the *scheduled generating unit* or *scheduled network services*, where such costs are incurred to enable the *scheduled generating unit* to ~~be available~~ comply with the *direction*; and

(vii) any compensation which the *Directed Participant* receives or could have obtained by taking reasonable steps in connection with the *scheduled generating unit* or *scheduled network services* being available.

(a4) A *Directed Participant* may only make a claim pursuant to clauses 3.15.7B(a), 3.15.7B(a1) or 3.15.7B(a2) if the amount of the claim is greater than $5,000.

(b) The submissions pursuant to clauses 3.15.7B(a), ~~and~~ 3.15.7B(a1) and 3.15.7B(a2) must:

(1) itemise each component of a claim;

(2) contain sufficient data and information to substantiate each component of a claim for loss of revenue and additional direct costs incurred and the reasonable rate of return; as the case may be, and

(3) be signed by an authorised officer of the applicant certifying that the written submission is true and correct.

(c) *NEMMCO* must in accordance with the *intervention settlement timetable*:

(1) refer a claim by a *Directed Participant* in respect of a *direction* pursuant to clauses 3.15.7B(a), 3.15.7B(a1) and 3.15.7B(a2) equal to or greater than $20,000 to an independent expert to determine the claim for compensation in accordance with clause 3.12.11A if the *additional direction intervention claim* that includes that claim is equal to or greater than $100,000; and

(2) determine in its sole discretion if all other claims by a *Directed Participant* in respect of that *direction* pursuant to clauses 3.15.7B(a), 3.15.7B(a1) and 3.15.7B(a2) are reasonable and if so pay the amount claimed in accordance with clause 3.15.10C.

~~(e) If *NEMMCO* determines that either:~~

~~(1) the *additional direction claims* calculated pursuant to clause 3.12.11(e) in respect of a *direction* is less than $100,000; or~~

~~(2) the amount of an individual claim by a *Directed Participant* in respect of a *direction* pursuant to clauses 3.15.7B(a) or 3.15.7B(a1) or 3.15.7B(a2) is equal to or less than $20,000;~~

~~then *NEMMCO* must, in accordance with the *directions intervention settlement timetable* determine in its sole discretion if that claim by a *Directed Participant* is reasonable, and if so, pay the amount claimed in accordance with clause 3.15.10B; or~~

(d) If *NEMMCO* considers that a claim by a *Directed Participant* under clause 3.15.7B(a) or 3.15.7B(a1) or 3.15.7B(a2) is unreasonable, it must in accordance with the ~~*directions intervention settlement timetable*~~:

(1) advise the *Directed Participant* of its determination in writing, setting out its reasons; and

(2) refer the matter to an independent expert to determine the claim for compensation in accordance with clause 3.12.11A.

~~(e) If *NEMMCO* determines that:~~

~~(1) the *additional direction claims* in respect of a *direction* is equal to or greater than $100,000; and~~

~~(2) the amount of an individual claim by a *Directed Participant* in respect of a *direction* pursuant to 3.15.7B(a) or 3.15.7B(a1) or 3.15.7B(a2) in respect of a *direction* is equal to or greater than $20,000;~~

~~*NEMMCO* must, in accordance with the *directions intervention settlement timetable* refer the claim to an independent expert to determine, pursuant to clause 3.12.11A.~~

3.15.8 Adjustments Funding of Compensation 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 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*.~~

(a) *NEMMCO* must in accordance with the *directions intervention settlement timetable* calculate the "*compensation recovery amount*" being:

(1) the sum of:

(i) the total of the compensation payable to *NEMMCO* by *Affected Participants* and *Market Customers* under clause 3.12.11 in respect of a *direction* for the provision of *energy*; plus

(ii) the total of the amounts retained by *NEMMCO* pursuant to clause 3.15.6(b) in respect of a *direction* for the provision of *energy*;

(2) less the sum of:

(i) the total of the compensation payable by *NEMMCO* to *Affected Participants* and *Market Customers* pursuant to clause 3.12.11 in respect of a *direction* for the provision of *energy*; plus

(ii) the total of the compensation payable by *NEMMCO* to *Directed Participants* pursuant to clause 3.15.7(a) in respect of a *direction* for the provision of *energy*; plus

(iii) the total amount payable by *NEMMCO* to the independent expert pursuant to clause 3.12.11A(c);

~~(the "*compensation recovery amount*".)~~

~~(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.~~

(b) *NEMMCO* must in accordance with the ~~*directions*~~ *intervention settlement timetable* calculate a figure for each *Market Customer* in each *region* applying the following formula:

$$MCP = \frac{E}{\Sigma E} \times \frac{RB}{\Sigma RB} \times CRA$$

where:

MCP — is the amount payable or receivable by a *Market Customer* pursuant to this clause 3.15.8(b).

E — is the sum of the *Market Customer's adjusted gross energy* amounts at each *connection point* for which the *Market Customer* is *financially responsible* in a *region*, determined in accordance with clauses 3.15.4 and 3.15.5 in respect of the relevant *intervention price trading intervals* excluding any *loads* in respect of which the *Market Customer* submitted a *dispatch bid* for the relevant *intervention price trading interval* in that *region*; and

RB — is the regional benefit determined by *NEMMCO* pursuant to clause 3.15.8(b1) at the time of issuing the *direction*.

CRA — is the *compensation recovery amount*.

(b1) *NEMMCO* must, as soon as practicable following the issuance of a *direction*, determine the relative benefit each *region* receivesd from the issuance of a *direction* ~~determined~~ in accordance with the *regional benefit directions procedures*.

(b2) *NEMMCO* must develop in accordance with the *Code Consultation procedures* a procedure to determine the relative benefit each *region* receives from the issuance of a *direction* (the "***regional benefit directions procedures***"). Such procedures must take into account, where applicable to the reason the *direction* was given, the *load* at risk of not being supplied if the *direction* were not issued or the extent of improvement in available *energy* reserve in the *region*, capability to control *voltage* in the *region*, and capability to control *power system frequency* within the *region* and any other relevant matters.

(b3) Any steps taken by *NEMMCO* prior to the enactment of clause 3.15.8(b2), in respect of the *regional benefit directions procedures* to be developed by *NEMMCO* under clause 3.15.8(b2), which are consistent with the *Code consultation procedures*, are deemed to be valid if otherwise invalid due to the relevant amendments to the *Code* not having come into force at the time of the action being taken.

~~(a) 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.~~

(c) If the figure calculated for a *Market Customer* under clause 3.15.8(b) is negative, the absolute value of that amount is the amount payable by ~~then~~ the *Market Customer* ~~is liable to pay~~ *NEMMCO* pursuant to clause 3.15.8(b)~~an amount equal to that figure.~~

~~(b) 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*.~~

(d) Subject to clause 3.15.22, if the figure calculated for a *Market Customer* under clause 3.15.8(b) is positive, such amount is the amount receivable by ~~then~~ *NEMMCO* ~~is liable to pay~~ the *Market Customer* from *NEMMCO* pursuant to clause 3.15.8(b), subject to the provisions of clause 3.15.22 ~~an amount equal to that figure~~.

(e) *NEMMCO* must in accordance with the *intervention settlement timetable* calculate for each *ancillary service* the subject of a *direction*, the "***ancillary service compensation recovery amount***" being:

(2) the sum of:

(i) the total of the compensation payable to *NEMMCO* by *Affected Participants* and *Market Customers* under clause 3.12.11 in respect of a *direction* for the provision of that *ancillary service*; plus

(ii) the total of the amounts retained by *NEMMCO* pursuant to clause 3.15.6(b) in respect of a *direction* for the provision of that *ancillary service*;

(2) less the sum of:

(iv) the total of the compensation payable by *NEMMCO* to *Affected Participants* and *Market Customers* pursuant to clause 3.12.11 in respect of a *direction* for the provision of that *ancillary service*; plus

(v) the total of the compensation payable by *NEMMCO* to *Directed Participants* pursuant to clause 3.15.7(a) in respect of a *direction* for the provision of that *ancillary service*; plus

(vi) the total amount payable by *NEMMCO* to the independent expert pursuant to clause 3.12.11A(c), if the *direction* the subject of the independent experts determination was with respect to that *ancillary service*.

~~(e) If:~~

~~(1) a *direction* is given under clause 4.8.9A to a *Code Participant* to provide an *ancillary service*; and~~

~~(2) *NEMMCO* is required to pay compensation to a *Code Participant* under that clause in respect of the *direction*;~~

~~then, when the amount of that compensation has been agreed between the *Code Participant* and *NEMMCO* or has been determined under clause 8.2, an ancillary services transaction occurs, which results in a *trading amount* for each *Market Participant* calculated in accordance with paragraph (hf).~~

~~(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*.~~

(f) The *trading amount* ~~will~~ must be calculated as follows:

(1) subject to the following sub-paragraphs *NEMMCO* ~~will~~ must use the appropriate formula set out in clause 3.15.6A(c), (d), (e), (f), (g), (h) or (i) depending on which *ancillary service* was the subject of the *direction*;

(2) TNCASP, TASP, TSRP, TCRSP, TCLPTCLSP or TRSFCAS (as applicable) in the relevant formula is equal to the *ancillary service compensation recovery amount* ~~compensation payable~~ for the ~~provision of~~ the relevant *ancillary service* in respect of the *direction*; and

(3) if TCE, TGE, ATCE or ATGE is used in the relevant formula, then the words 'the *trading interval*' in the definitions of those terms in the formula are ~~taken~~ to be read as 'all of the *trading intervals* during which the *direction* applied'.

~~(g) If:~~

~~(1) a direction is given under clause 4.8.9A to a *Code Participant* to provide an *ancillary service*, and~~

~~(2) *NEMMCO* is required to pay compensation to a *Code Participant* under that clause in respect of the direction.~~

~~then, when the amount of that compensation has been agreed between the *Code Participant* and *NEMMCO* or has been determined under clause 8.2, an ancillary services transaction occurs, which results in a *trading amount* for each *Market Participant* calculated in accordance with paragraph (h).~~

(g) Any compensation payable by *NEMMCO* pursuant to clauses 3.12.11 and 3.15.7 not recovered pursuant to clauses 3.15.8(b) and 3.15.8(e) ~~is~~ must be recovered from *Code Participants* in the same proportion as the largest single fixed component of *Participants fees*.

~~(h) The *trading amount* will be calculated as follows:~~

~~(1) subject to the following sub-paragraphs, *NEMMCO* will use the appropriate formula in clause 3.15.6A (c), (d), (e), (f), (g), (h) or (i) depending on which *ancillary service* was the subject of the direction;~~

~~(2) TASP, TSRP, TCRSP, TCLP or TRFCAS (as applicable) in the relevant formula is equal to the compensation payable for the provision of the relevant *ancillary service* in respect of the direction; and~~

~~(3) if TCE, TGE, ATCE or ATCE is used in the relevant formula, then the words 'the *trading interval*' in the definitions of those terms in the formula are taken to read 'all of the *trading intervals* during which the direction applied'.~~

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, NEMMCO* must calculate in relation to each *Market Customer* for each *region* in respect of each *billing period* a sum determined by applying the following formula:

$$MCP = \frac{E \times RRC}{\Sigma E}$$

Where:

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

E is the sum of all that *Market Customer's adjusted gross energy amounts* in a *region* (the **"relevant region"**) in each *trading interval* which commences between 0800 hours and 1930 hours on a *business day* in the

billing period excluding any loads in that *region* in respect of which the *Market Customer* submitted a *dispatch bid* for any such *trading interval;*

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

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

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

(g) **[Deleted]**

(h) **[Deleted]**

(i) **[Deleted]**

(j) **[Deleted]**

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

(l) **[Deleted]**

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

3.15.10 Administered price, VoLL or market floor price compensation payments

(a) In the event that *NECA* awards compensation to a *Scheduled Generator*, *Market Participant* which submitted a *dispatch bid* or *Scheduled Network Service Provider* in accordance with clause 3.14.6, then *NEMMCO* shall determine an amount which shall be payable by all *Market Customers* who purchased electricity from the *spot market* in a *region* in which the *regional reference price* was affected by the imposition of an *administered price* or *VoLL,* or *market floor price* in the *trading interval* or *trading intervals* in respect of which such compensation has been awarded.

(b) *NEMMCO* shall determine the amounts payable for each relevant *trading interval* by each of the affected *Market Customers* under clause 3.15.10(a) as follows:

$$\frac{APC \times E_i}{\Sigma E_i}$$

where

APC is the total amount of any compensation payments awarded by *NECA* to *Scheduled Generators, Market Participants* which submitted *dispatch bids* or *Scheduled Network Service Providers* in respect of that *trading interval* in accordance with clause 3.14.6.

E_i is the sum of all of the *Market Customer's adjusted gross energy* amounts, determined in accordance with clauses 3.15.4 and 3.15.5, in respect of each *trading interval* in the *billing period* and each *connection point* for which the *Market Customer* is *financially responsible* in any *region* or *regions* affected by the imposition of an *administered price* or *VoLL* or *market floor price.*

$\sum E_i$ is the sum of all amounts determined as "E_i" in accordance with this clause 3.15.10 for all *Market Customers* in all *regions* affected by the imposition of an *administered price* or *VoLL* or *market floor price* in that *trading interval.*

(c) Within 15 *business days* of being notified by *NECA* that compensation is to be paid to a *Scheduled Generator, Market Participant* which submitted a *dispatch bid* or Scheduled Network Service Providers in accordance with clause 3.14.6, *NEMMCO* shall include in statements provided under clauses 3.15.14 and 3.15.15 separate details of any amounts payable by or to *Market Participants* as determined in accordance with this clause 3.15.10.

3.15.10A [DELETED]~~System security direction settlements~~

~~A *Market Customer* is liable to pay to *NEMMCO* in respect of system security directions each *trading interval* an amount calculated in accordance with the following formula:~~

$$SSD = TSSDP \times \frac{TIGE}{ATIGE}$$

~~where:~~

~~SSD (in $)~~ = ~~the amount the *Market Customer* is liable to pay *NEMMCO* in respect *of* system security directions for the *trading interval*;~~

~~TSSDP (in $)~~ = ~~the total of all compensation payable in respect of the *trading interval* under 4.8.9;~~

~~TIGE (in MWh)~~ = ~~the *trading interval gross energy* for the *Market Customer* for the trading interval; and~~

~~ATIGE (in MWh)~~ = ~~the aggregate trading interval gross energy for all Market Customers for the trading interval.~~

3.15.10B [This clause was gazetted on 11 October 2001 but does not take effect until 17 December 2001.]

3.15.10C ~~Directions Intervention Settlements~~

~~(a) If:~~

~~(i) the final report of the independent expert prepared under clause 3.12.11A(e)(4) has been *published*; and~~

~~(ii) the amount payable or receivable by *Market Customers*, as the case may be, pursuant to 3.15.8 has been calculated by *NEMMCO*; and~~

~~(iii) all total amounts payable or receivable by *NEMMCO* pursuant to clause 3.12.11 and clause 3.15.7(a) have been finally determined;~~

~~then *NEMMCO* must:~~

~~(iv) receivable by a *Directed Participant* pursuant to 3.15.7(a);~~

~~(v) any amount payable or receivable by a *Market Customer* pursuant to clause 3.15.8(b) or 3.15.8(c); and~~

~~(vi) any amounts payable or receivable by an *Affected Participant* or *Market Customer* pursuant to 3.12.11;~~

(a) *NEMMCO* must include in the final statement provided under clause 3.15.14 and 3.15.15 for a *billing period* in which a *direction* was issued:

(1) For each *Affected Participant* and *Market Customer* in relation to that *direction* the amount calculated pursuant to clause 3.12.11(b);

(2) For each *Directed Participant* in relation to that *direction* the amount calculated pursuant to clause 3.15.7(c) or clause 3.15.7A(a) by application of clause 3.15.7A(e), as the case may be;

(3) For each *Market Customer* in relation to that *direction* the amount calculated pursuant to clause 3.15.8(b) by application of clause 3.15.8 mutatis mutandis provided that the amount for the purposes of:

(i) clause 3.15.8(a)(1)(i) shall be the total amount payable to *NEMMCO* by *Affected Participants* and *Market Customers* calculated pursuant to clause 3.12.11(b);

(ii) clause 3.15.8(a)(1)(ii) shall be the amount calculated in accordance with that clause;

(iii) clause 3.15.8(a)(2)(i) shall be the total amount payable by *NEMMCO* to *Affected Participants* and *Market Customers* calculated pursuant to clause 3.12.11(b);

(iv) clause 3.15.8(a)(2)(ii) shall be the sum of the total amount payable by *NEMMCO* to *Directed Participants* calculated pursuant to clause 3.15.7(c) and 3.15.7A(a) by application of 3.15.7A(e); and

(v) clause 3.15.8(a)(2)(iii) shall be zero.

(4) For each *Market Customer* and *Market Generator* in relation to that *direction* an amount calculated pursuant to clause 3.15.8(e) by application of clause 3.15.8 mutatis mutandis provided that for the purposes of clause 3.15.8(f)(2) TNCASP, TSRP, TCRSP, TCLSP and TSFCAS shall be the total compensation payable by *NEMMCO* for the relevant *ancillary service* calculated in accordance with clause 3.15.7(c) or clause 3.15.7A(a) by application of clause 3.15.7A(e), as the case may be.

(b) *NEMMCO* must include in the first statement it provides under 3.15.14 and 3.15.15 following a final determination of all total amounts payable or receivable by it pursuant to clause 3.12.11, clause 3.15.7(a) and clause 3.15.8, separate details of amount:

(1) receivable by each *Directed Participant* pursuant to 3.15.7(a) less the amount, if any, paid to that Directed Participant pursuant to clause 3.15.10C(a)(2);

(2) receivable by each *Affected Participant* or *Market Customer* pursuant to 3.12.11;

(i) less the amount paid to that *Affected Participant* or *Market Customer*, in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any ;or

(ii) plus the amount paid by that *Affected Participant* or *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any; and

(3) payable by each *Affected Participant* or *Market Customer* pursuant to 3.12.11;

(i) less the amount paid by that *Affected Participant* or *Market Customer*, in accordane with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any; and

(ii) plus the amount paid to that *Affected Participant* or *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(1), if any; and

(4) receivable by each *Market Customer* pursuant to clause 3.15.8(b) as the case may be;

(i) less the amount paid to that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any; or

(ii) plus the amount paid by that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any.

(5) payable by each *Market Customer* pursuant to clause 3.15.8(b) as the case may be;

(i) less the amount paid by that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any; or

(ii) plus the amount paid to that *Market Customer* in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(3), if any.

(6) If an *Affected Participant* or *Market Customer* is not entitled to any compensation pursuant to clause 3.12.1, the amount receivable or payable, as the case may be, by each *Affected Participant* or *Market Customer* equal to the amount paid by, or to, it pursuant to clause 3.15.10C(a);

(i) receivable by that person equal to the amount paid by that person pursuant to clause 3.15.10C(a); or

(ii) payable by that person equal to the amount paid to that person pursuant to clause 3.15.10C(a)

(7) payable by each *Market Customer* and *Market Generator* equal to:

(A) the amount payable by the *Market Customer* or *Market Generator*, as the case may be, pursuant to clause 3.15.8(e) by application of clause 3.15.8 *mutatis mutandis*, provided that for the purposes of clause 3.15.8(f)(2) TNCASP, TSRP, TCRSP, TCLSP and TSFCAS shall be the total compensation payable by *NEMMCO* for the relevant *ancillary service* calculated in accordance with clause 3.15.7A(a); less

(B) the amount paid by ~~that~~ the *Market Customer* or *Market Generator*, as the case may be, in accordance with the statement issued to it pursuant to clause 3.15.10C(a)(4); and

(8) payable by Code Participants pursuant to clause 3.15.8(g)

(c) If the *National Electricity Tribunal* determines, in relation to a *direction*, that a *Directed Participant* has breached clause 3.8.22B then:

(1) the *Directed Participant* shall not be entitled to, and must repay, any compensation plus interest pursuant to clause 3.15.7, 3.15.7A and 3.15.7B, in relation to that *direction*;

(2) *NECA* must forward to *NEMMCO* a written notice of the *National Electricity Tribunal*'s determination;

(3) *NEMMCO* must include in the first relevant statement it provides under 3.15.14 and 3.15.15 following receipt of the notice from *NECA* issued pursuant to clause 3.15.10C(c)(2) separate details of:

(i) an amount payable to *NEMMCO* by the *Directed Participant* equal to the total compensation received by that *Directed Participant* in accordance with clauses 3.15.7, 3.15.7A and 3.15.7B plus interest on that total compensation computed at the average *bank bill* rate for the period from the date of payment of such amount to the *Directed Participant* until the date of that first settlement;

(ii) an amount payable by *NEMMCO* to each relevant *Market Customer* calculated by applying clause 3.15.8(b) mutatis mutandis except that:

(A) MCP shall equal the amount receivable by the *Market Customer*; and

(B) CRA shall equal that part of the amount, including interest, calculated pursuant to clause 3.15.10C(c)(3)(i) attributable to the provision of *energy* by the *Directed Participant*;

(iii) an amount payable by *NEMMCO* to each relevant *Market Customer* and *Market Generator* calculated by applying clause 3.15.8(f)(2) mutatis mutandis except that:

(A) all *trading amounts* determined by this clause 3.15.10C(c)(3)(iii) shall be positive; and

(B) TNCASP, TSRP, TCRSP, TCLSP, and TSFCAS shall all be an amount equal to that part of the amount, including interest, calculated pursuant to clause 3.15.10(c)(3)(i) attributable to the provision of the relevant *ancillary service*.

3.15.11A Goods and services tax

(a) In this clause 3.15.11A:

"GST" means goods and services tax; and

"supply" and **"taxable supply"** each have the meaning given to that term in the legislation under which GST is imposed,

and the definition of *"supply"* in Chapter 10 does not apply.

(b) Despite anything else in this *Code*, *Participant fees*, *spot prices,* adjustments for directions, reserve settlements, administered price cap compensation payments, system security direction settlements, *re-allocation transactions,* compensation, interest, IRFM uplift, settlements residues, white hole money uplift, smelter reduction amounts, ancillary services settlements, settlement residue distributions (including auction proceeds), *auction expense fees* and other prices, fees, charges and amounts payable to or by *NEMMCO* or *NECA* in respect of supplies under this *Code* will be priced to exclude GST. Accordingly:

(1) where a *Code Participant* makes a taxable supply to *NEMMCO* or *NECA* under this *Code* on or after 1 July 2000, *NEMMCO* or *NECA* (as applicable) must also pay the *Code Participant* making the supply an additional amount equal to the consideration payable for the supply multiplied by the applicable GST rate;

(2) where *NEMMCO* or *NECA* makes a taxable supply to a *Code Participant* under this *Code* on or after 1 July 2000, the *Code Participant* must also pay *NEMMCO* or *NECA* (as applicable) an additional amount equal to the consideration payable for the supply multiplied by the applicable GST rate; and

(3) *NEMMCO* must include in preliminary statements, *final statements, routine revised statements, special revised statements,* statements and invoices issued under this *Code* the additional amounts contemplated by the preceding paragraphs.

(c) However, if the additional amount paid or payable to a *Code participant* or *NECA* under clause 3.15.11A(b) in respect of a taxable supply differs from the actual amount of GST payable by or to the *Code Participant* under the relevant legislation in respect of the relevant supply, then adjustments must be made in accordance with clause 3.15.19 so as to ensure the additional amount paid under this clause in respect of the supply is equal to the actual amount of GST payable under the relevant legislation in respect of the supply.

3.15.11 Reallocation transactions

(a) A *reallocation transaction* is a *transaction* undertaken with the consent of two *Market Participants* and *NEMMCO*, under which *NEMMCO* credits one *Market Participant* with a positive *trading amount* in respect of a *trading interval*, in consideration of a matching negative *trading amount* debited to the other *Market Participant* in respect of the same *trading interval*.

(b) *NEMMCO* must establish, maintain and *publish* procedures to record *reallocation requests* and *reallocation transactions*.

(c) *Reallocation transactions* may be either *quantity reallocation transactions* or *dollar reallocation transactions*.

(d) A *reallocation transaction* is initiated by a *reallocation request* lodged with *NEMMCO* by or on behalf of two *Market Participants*. In order to be valid, a *reallocation request* must:

(1) be executed by each of the two *Market Participants* which are parties to the *reallocation request*;

(2) specify the *trading interval(s)* (*specified trading intervals*) to which the *reallocation request* applies;

(3) specify the starting day, being the first day on which a *reallocation transaction* is to occur;

(4) specify the termination day, being the last day on which a *reallocation transaction* is to occur;

(5) specify whether it is a request for a *quantity reallocation transaction* or a *dollar reallocation transaction*;

(6) if it is a *quantity reallocation transaction*, specify the *reallocated quantity* (in MWh) for each *specified trading interval*;

(7) if it is a *quantity reallocation transaction*, specify the applicable *regional reference node*, of which the *regional reference price* will be used for the calculation of the result of the *reallocation transaction*;

(8) if it is a *dollar reallocation transaction,* specify the amount in dollars as the *reallocated dollar amount* for each *specified trading interval*;

(9) specify which of the *Market Participants* is the credited party, the other *Market Participant* being the debited party;

(10) be lodged with *NEMMCO* in accordance with the procedures and timetable for submission of *reallocation requests* as published by *NEMMCO* from time to time; and

(11) otherwise be in the form determined from time to time by *NEMMCO*.

(e) Upon receipt of a *reallocation request NEMMCO* must verify the acceptability of the proposal (in accordance with rules and protocols to be established by *NEMMCO)* and must notify the parties of the verification or rejection of the *reallocation request* within the time specified in the procedures and timetable for the recording of *reallocation requests* as published by *NEMMCO* from time to time.

(f) A decision by *NEMMCO* to reject a *reallocation request* is a *reviewable decision.*

(g) *NEMMCO* may notify the parties that acceptance under clause 3.15.11(e) is conditional upon satisfaction of *prudential requirements* or other conditions specified by *NEMMCO*, in which case if the conditions are not met in accordance with the procedures and timetable for the recording of *reallocation requests* as published by *NEMMCO* from time to time then the *reallocation request* may be declined by *NEMMCO.*

(h) After the parties have satisfied any *prudential requirements* or other conditions imposed by *NEMMCO* in respect of the *reallocation*, *NEMMCO* must register the *reallocation request* within the time required in the procedures and timetable for recording *reallocation requests* as published by *NEMMCO* from time to time, or on the starting date specified in the *reallocation request*, whichever is the later, and must notify both *Market Participants* of the date and time of commencement of *reallocation transactions* in accordance with the *reallocation request.*

(i) *NEMMCO* must include details of *reallocation transactions* in the *settlement statements* issued to all parties to those *reallocation transactions.*

(j) Where there is a subsisting registration of a *reallocation request* in respect of a *trading interval* at the time of occurrence of that *trading interval*, a *reallocation transaction* occurs in accordance with that *reallocation request.*

(k) Where a *quantity reallocation transaction* occurs, the *reallocation transaction* results in a positive *trading amount* for the credited party, the *trading amount* being the *reallocated quantity* multiplied by the *regional reference price* for the specified *region* for the *trading interval* specified in the *reallocation request.*

(l) Where a *dollar reallocation transaction* occurs, the *reallocation transaction* results in a positive *trading amount* for the credited party, the *trading amount* being the *reallocated dollar amount.*

(m) A *quantity reallocation transaction* and a *dollar reallocation transaction* each result in a *trading amount* for the debited party which is the negative of that for the credited party.

(n) If a *default event* occurs in relation to either party to a *reallocation request* when one or more of the *trading intervals* specified in the *reallocation request* has not occurred, then *NEMMCO* may deregister the *reallocation request* by

notice given at any time whilst the *default event* is subsisting. The deregistration is effective forthwith upon *NEMMCO* notifying both of the parties to a *reallocation request* of the fact of deregistration. Upon such notice the deregistration of that *reallocation request* is effective for all *trading intervals* commencing after the time of notice, and notwithstanding that the *default event* may be subsequently cured. Deregistration of the *reallocation request* prevents *reallocation transactions* occurring pursuant to the *reallocation request* in the *trading intervals* which commence after notice of the deregistration is given.

(o) In addition to any other right which *NEMMCO* may exercise in relation to a *default event*, upon deregistration of a *reallocation request NEMMCO* may redetermine the *maximum credit limit* and *trading limit* for either or both of the parties to the *reallocation request,* having regard to the deregistration which has occurred.

3.15.12 Settlement amount

(a) Subject to clause 3.15.12(b), for each *billing period NEMMCO* must calculate a net "*settlement amount*" for each *Market Participant* by aggregating the *trading amounts* resulting for each *Market Participant* from each *transaction* in respect of each *trading interval* occurring in that *billing period* together with *Participant fees* determined in accordance with clause 2.11 and any other amounts payable or receivable by the *Market Participants* in that *billing period* under this Chapter 3 of the *Code*. The *settlement amount* will be a positive or negative dollar amount for each *Market Participant*.

(b) *NEMMCO* may calculate an estimate of the net *settlement amount* for each *Market Participant* (the "*estimated settlement amount*") if, within the time provided for the giving of preliminary statements in accordance with clause 3.15.14 *NEMMCO* is prevented from calculating the net *settlement amount* in accordance with clause 3.15.12(a) by factors which are beyond the control of *NEMMCO* and which deprive *NEMMCO* of the relevant data required to calculate the net *settlement amount* (the "*relevant data*"), *including:*

(1) a failure of:

(i) metering data processing;

(ii) communications; or

(iii) the settlements processing system; and

(2) any other events or circumstances which prevent the calculation of the actual net *settlement amount* by *NEMMCO*.

(c) *NEMMCO* must develop the principles and the process to be applied in calculating the *estimated settlement amount,* and make any necessary modifications to those principles and that process, in accordance with the *Code consultation process*.

3.15.13 Payment of settlement amount

Where the *settlement amount* for a *Market Participant* is negative the absolute value of the *settlement amount* is an amount payable by the *Market Participant* to *NEMMCO* pursuant to clause 3.15.15. Where the *settlement amount* for a *Market Participant* is positive the *settlement amount* is an amount receivable by the *Market Participant* from *NEMMCO* pursuant to clause 3.15.15, subject to the provisions of clause 3.15.22.

3.15.14 Preliminary statements

(a) Subject to clause 3.15.14(b), within 5 *business days* after the end of each *billing period*, *NEMMCO* must give each *Market Participant* a draft of the statement to be given to the *Market Participant* under clause 3.15.15 together with supporting data relating to the *transactions* in that *billing period* and the prices at which electricity was bought and sold by the *Market Participant*.

(b) If *NEMMCO* calculates an *estimated settlement amount* in accordance with clause 3.15.12(b), *NEMMCO* must:

(1) when giving a preliminary statement in accordance with this clause 3.15.14, provide a detailed report to affected *Market Participants* setting out the basis and calculations used for its estimation; and

(2) if requested to do so by affected *Market Participants*, consult with those *Market Participants* to ascertain whether or not any adjustments are required to the *estimated settlement amount* prior to the giving of a *final statement*.

3.15.15 Final statements

(a) No later than 18 *business days* after the end of each *billing period*, *NEMMCO* must give to each *Market Participant* a *final statement* stating the amounts payable by the *Market Participant* to *NEMMCO* or receivable by the *Market Participant* from *NEMMCO* (subject to clause 3.15.22) in respect of the relevant *billing period*.

(b) Unless *NEMMCO* has used an *estimated settlement amount* in accordance with clause 3.15.12, the statements issued under this clause 3.15.15 must include supporting data for all amounts payable or receivable.

3.15.15A Use of estimated settlement amounts by NEMMCO

(a) Subject to clause 3.15.15A(b), if *NEMMCO* calculates an *estimated settlement amount* in accordance with clause 3.15.12(b), then clauses 3.15.13, 3.15.14 and 3.15.15 will have effect mutatis mutandis by applying the *estimated settlement amount* in place of a *settlement amount* for a *Market Participant* for the purposes of those clauses.

(b) If *NEMMCO* received *relevant data:*

(1) after it has given the preliminary statement in accordance with clause 3.15.14 but before giving a *final statement*, then it must adjust the *estimated settlement amount* accordingly for the purposes of preparing the *final statement*; or

(2) within 60 days after it has given a *final statement* to which the *relevant data* relates, then *NEMMCO* must adjust the relevant *estimated settlement amount* accordingly and issue a *revised statement* in accordance with clause 3.15.19(a).

3.15.16 Payment by market participants

On the 20th *business day* after the end of a *billing period*, or 2 *business days* after receiving a statement under clause 3.15.15, whichever is the later, and in accordance with the *timetable* each *Market Participant* must pay to *NEMMCO* in cleared funds the net amount stated to be payable by that *Market Participant* in that statement whether or not the *Market Participant* continues to dispute the net amount payable.

3.15.17 Payment to market participants

Subject to clause 3.15.22 on the day on which *NEMMCO* is to be paid under clause 3.15.16, *NEMMCO* must pay to each *Market Participant* in cleared funds the net amount stated to be payable to that *Market Participant* in the relevant statement given to it under clause 3.15.15.

3.15.18 Disputes

(a) In the event of a dispute between a *Market Participant* and *NEMMCO* concerning either the net amount (including any *estimated settlement amount*) stated in a preliminary statement provided under clause 3.15.14 to be payable by or to it or the supporting data, they must each use reasonable endeavours to resolve the dispute within 15 *business days* of the end of the relevant *billing period.*

(b) Disputes in respect of *final statements* or the supporting data provided with them in accordance with clause 3.15.15 must be raised within 6 months of the relevant *billing period.*

(c) Disputes raised under this clause 3.15.18:

(1) can only be raised by a *Market Participant* or *NEMMCO* issuing a written notice of dispute in the form prescribed by *NEMMCO*'s *DMS* and otherwise in accordance with clause 8.2.4(a);

(2) must be resolved by agreement or pursuant to clause 8.2; and

(3) are for the purpose of this clause, deemed to have been raised on the day *NEMMCO* receives the written notice of dispute.

(d) A *market participant* that may be materially affected by the outcome of a dispute under clause 3.15.18 may be joined to that dispute by the *Dispute Resolution Adviser* on request by that *market participant* or by *NEMMCO*.

3.15.19 Revised Statements and Adjustments

(a) Where a dispute about a *final statement* has been either resolved by agreement between *NEMMCO* and the relevant *Market Participant* ("the Disputant") or determined under clause 8.2 and an adjustment to the *settlement amount* stated in the disputed *final statement* is required, or an adjustment is required under clause 3.15.11A, *NEMMCO* must:

(1) recalculate the *settlement amount* for that *Market Participant* and each other *Market Participant* who received a *final statement* for the relevant *billing period:*

(i) in accordance with the applicable procedures set out in the Code and,

(ii) taking into account the adjustment;

(2) if the adjustment is required as a result of a dispute and the recalculated *settlement amount* for the Disputant is between 95% and 105% of the relevant *settlement amount*:

(i) calculate for each *Market Participant* the amount by which the relevant *settlement amount* must be adjusted to be equal to the recalculated *settlement amount* after taking into account any *routine* or *special revised statement*; and,

(ii) for each *Market Participant* include that amount in the next *routine revised statement* given to those *Market Participants* for the relevant *billing period* practicable and if there is no *routine revised statement,* in accordance with clauses 3.15.19(a)(3) (ii) and (iii).

(3) if the adjustment is required under clause 3.15.11A, or the adjustment is required as a result of a dispute and the recalculated *settlement amount* for the Disputant is less than 95% or more than 105% of the relevant *settlement amount:*

(i) calculate for each *Market Participant* the amount by which the relevant *settlement amount* must be adjusted to be equal to the recalculated *settlement amount* after taking into account any *routine* or *special revised statement*;

(ii) give each *Market Participant* a *special revised statement* for the relevant *billing period* in addition to any *routine revised statement* given under clause 3.15.19(b); and

(iii) give each *Market Participant* a notice advising of the reason why a *settlement statement* was given by *NEMMCO* under clause 3.15.19(a)(3).

(b) For each *billing period NEMMCO* must give each *Market Participant* a *routine revised statement* approximately 20 weeks after the relevant *billing period* and approximately 30 weeks after the relevant *billing period.* Each *routine revised statement* must recalculate the *Market Participant*'s *settlement amount* for that *billing period:*

(1) taking into account all amended *metering data,* amended *trading amounts*, amended *Participant fees* and any other amounts payable or receivable by *Market Participants* under Chapter 3 of the *Code*; and

(2) using the most recent version of *NEMMCO*'s settlement calculation software applicable to that *billing period.*

(c) Each *special* and *routine revised statement* issued under this clause must:

(1) state the revised *settlement amount* for the relevant *billing period*;

(2) be issued in accordance with the revised statement policy;

(3) be issued with revised supporting data for the *transactions* for the relevant *billing period* (except in the case of a *special revised statement* dealing with an adjustment required under clause 3.15.11A) and must include supporting data for all amounts payable or receivable.

(d) If *NEMMCO* has issued a *routine revised statement* or *special revised statement* (the "revised statement") to a *Market Participant* in respect of a *billing period* (the "original *billing period*"), *NEMMCO* must include in the next *final statement* to the *Market Participant* issued not less than 8 *business days* after the *revised statement* (the "next statement"):

(1) the amount necessary to put the *Market Participant* in a position it would have been in at the time payment was made under clause 3.16.16 or 3.15.17 (as applicable) in respect of the *final statement* for the original *billing period,* if the original *revised statement* had been given as the *final statement* for the *billing period,* but taking into account any adjustments previously made under this clause 3.15.19 as a result of any other *routine revised statement* or *special revised statement* in relation to the original *billing period*; and

(2) interest on the amount referred to in paragraph (1) computed at the average *bank bill rate* for the period from the date on which payment was required to be made under clauses 3.15.16 and 3.15.17 in respect of the *final statement* for the original *billing period* to the date on which payment is required to be made under those clauses in respect of the next statement.

(e) *NEMMCO* must develop and publish a policy for *routine* and *special revised statements*. *NEMMCO* may amend the policy at any time. *NEMMCO* must develop and amend the policy in accordance with the *Code consultation procedures*. The policy must include:

(1) a calendar setting out when *routine revised statements* will be issued by *NEMMCO*;

(2) the process by which the calendar can be amended or varied by *NEMMCO* and the process by which *Market Participants* are notified of any amendment and variation; and

(3) a transitional process by which *NEMMCO* will issue any outstanding *routine revised statement*.

3.15.20 Payment of adjustments

(a) Adjustments made and interest calculated and included in a *final statement* under clause 3.15.19 must be paid as part of the *settlement amount* shown on that *final statement* in accordance with either clause 3.15.16 or 3.15.17.

(b) Clause 3.15.22 does not apply to a *final statement* to the extent that the *final statement* incorporates an adjustment amount and interest pursuant to clause 3.15.19.

(c) disputes in respect of adjustment amounts and interest incorporated into a *final statement* pursuant to clause 3.15.19 must be:

(1) raised within 20 *business days* of the date of the *final statement* that they are incorporated into; and

(2) resolved by agreement or pursuant to the dispute resolution procedures set out in clause 8.2.

3.15.21 Payment default procedure

(a) Each of the following is a *default event* in relation to a *Market Participant*:

(1) the *Market Participant* does not pay any money due for payment by it under the *Code* by the appointed time on the due date;

(2) *NEMMCO* does not receive payment in full of any amount claimed by *NEMMCO* under any *credit support* in respect of a *Market Participant*, within 90 minutes after the due time for payment of that claim;

(3) the *Market Participant* fails to provide *credit support* required to be supplied under the *Code* by the appointed time on the due date;

(4) it is unlawful for the *Market Participant* to comply with any of its obligations under the *Code* or any other obligation owed to *NEMMCO* or it is claimed to be so by the *Market Participant*;

(5) it is unlawful for any *credit support provider* in relation to the *Market Participant* to comply with any of its obligations under the *Code* or any other obligation owed to *NEMMCO* or it is claimed to be so by that *credit support provider*;

(6) an authorisation from a government body necessary to enable the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* to carry on their respective principal business or activities ceases to be in full force and effect;

(7) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* ceases or threatens to cease to carry on its business or a substantial part of its business;

(8) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* enters into or takes any action to enter into an arrangement (including a scheme of arrangement), composition or compromise with, or assignment for the benefit of, all or any class of their respective creditors or members or a moratorium involving any of them;

(9) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* states that it is unable to pay from its own money its debts when they fall due for payment;

(10) a receiver or receiver and manager is appointed in respect of any property of the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant*;

(11) an administrator, provisional liquidator, liquidator, trustee in bankruptcy or person having a similar or analogous function under the laws of any relevant jurisdiction is appointed in respect of the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant,* or any action is taken to appoint any such person;

(12) an application or order is made for the winding up or dissolution or a resolution is passed or any steps are taken to pass a resolution for the winding up or dissolution of the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant*;

(13) a notice under s 572 of the Corporations Law is given to the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* unless such application or order is rejected as being frivolous;

(14) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* dies or is dissolved unless such notice of dissolution is discharged;

(15) the *Market Participant* or a *credit support provider* which has provided *credit support* for that *Market Participant* is taken to be insolvent or unable to pay its debts under any applicable legislation.

(b) Where a d*efault event* has occurred in relation to a *Market Participant, NEMMCO* may:

(1) issue a "*default notice*" specifying the alleged default and requiring the *Market Participant* to within 24 hours remedy the default; and/or

(2) if it has not already done so, make claim upon any *credit support* held in respect of the obligations of the *Market Participant* for such amount as *NEMMCO* determines represents the amount of any money actually or contingently owing by the *Market Participant* to *NEMMCO* pursuant to the *Code*.

(c) If the *default event* is not remedied within 24 hours of the *default notice* or any later deadline agreed to in writing by *NEMMCO,* or if *NEMMCO* receives notice from the *defaulting Market Participant* that it is not likely to remedy the default, then *NEMMCO* may issue a "*suspension notice*" under which *NEMMCO* notifies the *defaulting Market Participant* that it is suspended from trading.

(d) At the time of issue of a *suspension notice*, or as immediately thereafter as is practicable, *NEMMCO* must forward a copy of the *suspension notice* to each *Market Participant* which is *financially responsible* for a *transmission network connection point* to which is allocated a *connection point* for which the *defaulting Market Participant* is *financially responsible*.

(e) *NEMMCO* must lift a *suspension notice* if the *default event* is remedied and there are no other circumstances in existence which would entitle *NEMMCO* to issue a *suspension notice.*

(f) *NEMMCO* may simultaneously with, or at any time after issue of a *suspension notice*, issue a public announcement that the *Market Participant* has been suspended from the *market* including details of the extent of the suspension. *NEMMCO* must issue a public notice promptly after a *suspension notice* is lifted.

(g) From the time that *NEMMCO* issues a *suspension notice* to a *Market Participant* the *Market Participant* is ineligible to trade or enter into any *transaction* in the *market* to the extent specified in the notice, until such time that *NEMMCO* notifies the *Market Participant* and all other *Market Participants* that the suspension has been lifted.

(h) The *defaulting Market Participant* must comply with a *suspension notice.*

(i) Following the issue of a *suspension notice, NEMMCO* may do all or any of the following to give effect to the *suspension notice:*

(1) reject any *dispatch bid* or *dispatch offer* submitted by the *defaulting Market Participant;*

(2) withhold the payment of any amounts otherwise due to the *defaulting Market Participant* under this *Code*; or

(3) deregister or reject any *reallocation request* to which the *defaulting Market Participant* is a party.

(i) Unless provided with instructions from the relevant *participating jurisdiction* or *participating jurisdictions* that a nominated third party is to assume financial responsibility for a suspended *Market Participant*'s obligations under the *Code* and that person does so, then, following the issue of a *suspension notice, NEMMCO* must request *NECA* to seek an order from the *Tribunal* to physically *disconnect market loads* for which the *defaulting Market Participant* is *financially responsible*

Directions Code Change Package
Volume 2
Chapters 4, 5, 8 & 10 Code Changes
31/01/02

National Electricity Code Administrator

4. Power System Security

4.1 Introduction

4.1.1 Purpose and application of Chapter 4

(a) This Chapter of the *Code*, which applies to, and defines obligations for, all *Code Participants*:

(1) provides the framework for achieving and maintaining a secure *power system*;

(2) provides the conditions under which *NEMMCO* can intervene in the processes of the *spot market* and issue *directions* or *ancillary services directions* to *Code Participants* so as to maintain or re-establish a secure and reliable *power system*;

(3) has the following aims:

(i) to detail the principles and guidelines for achieving and maintaining *power system security*;

(ii) to establish the processes for the assessment of the adequacy of *power system* reserves;

(iii) to establish processes and arrangements to enable *NEMMCO* to plan and conduct operations within the *power system* to achieve and maintain *power system security*; and

(iv) to establish arrangements for the actual *dispatch* of *scheduled generating units, scheduled loads* and scheduled network services and *ancillary services* by *NEMMCO*.

(b) By virtue of this Chapter, *NEMMCO* has responsibility for *power system security*. This Chapter requires *NEMMCO* to request that the *Jurisdictional Co-ordinator* for each *participating jurisdiction* advise *NEMMCO* of the requirements of the *participating jurisdiction* regarding *sensitive loads* and priority of *load shedding* and requires *NEMMCO* to provide copies of the *load shedding procedures* to the *Jurisdictional Co-ordinator* upon request. *NEMMCO* will make arrangements with the *participating jurisdictions* concerning the use by them of emergency powers over the *power system*.

4.1.2 Impact of regions within the transmission system

The *transmission network* is characterised by the existence of limited capacity *interconnectors* between parts of the meshed *transmission networks* that effectively divide the *power system* into separate *regional* systems. Each section is called a "*region*" as described in clause 3.5.1.

4.2 Definitions and Principles

This clause sets out certain definitions and concepts that are relevant to Chapter 4 of the *Code*.

4.2.1 Power system security and reliability standards

The *power system security and reliability standards* are defined in the glossary to the *Code* and will be determined by the *Reliability Panel* described in clause 8.8 on the advice of *NEMMCO*.

4.2.2 Satisfactory Operating State

The *power system* is defined as being in a *satisfactory operating state* when:

(a) the *frequency* at all energised *busbars* of the *power system* is within the *normal operating frequency band* (49.9Hz to 50.1Hz), except for brief excursions within the *normal operating frequency excursion band* (49.75Hz to 50.25Hz) as specified by the *power system security and reliability standards*;

(b) the voltage magnitudes at all energised *busbars* at any *switchyard* or *substation* of the *power system* are within the relevant limits set by the *Network Service Providers* in accordance with clause S5.1.4 of schedule 5.1;

(c) the current flows on all *transmission lines* of the *power system* are within the ratings (accounting for time dependency in the case of emergency ratings) as defined by the relevant *Network Service Providers* in accordance with schedule 5.1 in consultation with *NEMMCO*;

(d) all other *plant* forming part of or impacting on the *power system* is being operated within the relevant operating ratings (accounting for time dependency in the case of emergency ratings) as defined by *Network Service Providers* in accordance with schedule 5.1;

(e) the configuration of the *power system* is such that the severity of any potential fault is within the capability of circuit breakers to *disconnect* the faulted circuit or equipment; and

(f) the conditions of the *power system* are stable in accordance with requirements designated in or under clause S5.1.8 of schedule 5.1.

4.2.3 Credible and non-credible contingency events

(a) A "*contingency event*" means an event affecting the *power system* which *NEMMCO* expects would be likely to involve the failure or removal from operational service of a *generating unit* or *transmission element*.

(b) A "*credible contingency event*" means a *contingency event* the occurrence of which *NEMMCO* considers to be reasonably possible in the surrounding

circumstances including the *technical envelope*. Examples of *credible contingency events* typically include:

(1) the unexpected automatic or manual *disconnection* of, or the unplanned reduction in capacity of, one operating *generating unit*;

(2) the unexpected *disconnection* of one major item of *transmission plant* (e.g. *transmission line*, *transformer* or *reactive plant*) other than as a result of a three phase electrical fault anywhere on the *power system*

(c) A "*single credible contingency event*" means an individual *credible contingency event* for which a *Code Participant* adversely affected by the event would reasonably expect, under normal conditions, the design or operation of the relevant part of the meshed *power system* would adequately cater, so as to avoid significant disruption to *power system security*.

(d) The "*critical single credible contingency event*" at any particular time is defined as a *single credible contingency event* considered by *NEMMCO*, in the particular circumstances, to have the potential for the most significant impact on the *power system* at that time. This would generally be the instantaneous loss of the largest *generating unit* on the *power system*. However, this may involve the consideration by *NEMMCO* of the impact of the loss of any *interconnection* under abnormal conditions.

(e) A "*non-credible contingency event*" is a *contingency event* other than a *credible contingency event*. It means a *contingency event* in relation to which, in the circumstances, the probability of occurrence is considered by *NEMMCO* to be very low. Without limitation, examples of *non-credible contingency events* are likely to include:

(1) Three phase electrical faults on the *power system*; or

(2) Simultaneous disruptive events such as:

(i) multiple *generating unit* failures;

(ii) double circuit *transmission line* failure (such as may be caused by tower collapse); or

(iii) an abnormal conditions as described below in clause 4.2.3(f).

(f) Abnormal conditions are conditions posing added risks to the *power system* including, without limitation, severe weather conditions, lighting storms, and bush fires. During such abnormal conditions, *NEMMCO* may, in its reasonable opinion, determine a *non-credible contingency event* (in particular, but without limitation, the tripping of some *sub-station* or *switchyard busbars* or both circuits of a double circuit *transmission line*) to be a *credible contingency event*. *NEMMCO* must notify all *Market Participants* of such a re-classification as soon as practicable.

4.2.4 Secure operating state and power system security

(a) The *power system* is defined to be in a *secure operating state* if, in *NEMMCO*'s reasonable opinion, taking into consideration the appropriate *power system security* principles described in clause 4.2.6:

(1) the *power system* is in a *satisfactory operating state*; and

(2) the *power system* will return to a *satisfactory operating state* following the occurrence of a *single credible contingency event* in accordance with the *power system security and reliability standards*.

(b) Without limitation, in forming the opinions described in clause 4.2.4(a), *NEMMCO* must:

(1) consider the impact of each of the potentially *constrained interconnectors*; and

(2) use the *technical envelope* as the basis of determining events considered to be *credible contingency events* at that time.

4.2.5 Technical envelope

(a) The *technical envelope* means the technical boundary limits of the *power system* for achieving and maintaining the *secure operating state* of the *power system* for a given demand and *power system* scenario.

(b) *NEMMCO* must determine and revise the *technical envelope* (as may be necessary from time to time) by taking into account the prevailing *power system* and *plant* conditions as described in clause 4.2.5(c).

(c) The *technical envelope* determination must take into account matters such as:

(1) the *NEMMCO* forecast total *power system load*;

(2) the provision of the applicable *contingency capacity reserves*;

(3) operation within all *plant* capabilities and *plant* on the *power system*;

(4) *contingency capacity reserves* available to handle a *single credible contingency event*;

(5) advised *generation* minimum *load constraints*;

(6) *constraints* on *transmission networks*, including short term limitations;

(7) *ancillary service* requirements; and

(8) **[Deleted]**

(9) the existence of proposals for any major equipment or *plant* testing, including the checking or possible changes in *transmission plant* availability.

4.2.6 General principles for maintaining power system security

The *power system security* principles are as follows:

(a) To the extent practicable, the *power system* should be operated such that it is and will remain in a *secure operating state*.

(b) Following a *credible contingency event* or a significant change in *power system* conditions, it is possible that the *power system* may no longer be in a condition which could be considered secure on the occurrence of a further *contingency event*. Following a *contingency event* (whether or not a *credible contingency event*) or a significant change in *power system* conditions, *NEMMCO* should take all reasonable actions to adjust, wherever possible, the operating conditions with a view to returning the *power system* to a *secure operating state* as soon as it is practical to do so, and, in any event, within thirty minutes.

(c) Adequate *load shedding* facilities initiated automatically by *frequency* conditions outside the *normal operating frequency excursion band* should be available and in service to restore the *power system* to a *satisfactory operating state* following significant multiple *contingency events*.

(d) *Code Participants* must ensure that *connection agreements* require the provision and maintenance of all required *facilities* consistent with *good electricity industry practice* and operate their equipment in a manner:

(1) to assist in preventing or controlling instability within the *power system*;

(1A) comply with the minimum technical service standards *published* pursuant to 3.11.4(b);

(2) to assist in the maintenance of, or restoration to a *satisfactory operating state* of the *power system*; and

(3) to prevent uncontrolled separation of the *power system* into isolated *regions* or partly combined *regions, intra-regional transmission* break-up, or *cascading outages*, following any *power system* incident.

(e) Sufficient *black start-up facilities* should be available so as to allow the restoration of *power system security* and any necessary restarting of *generating units* following a *black system* condition.

4.2.7 Reliable Operating State

The *power system* is assessed to be in a *reliable operating state* when:

(a) *NEMMCO* has not *disconnected*, and does not expect to *disconnect*, any points of *load connection* under clause ~~4.8.8 (a)(2)~~4.8.9;

(b) no *load shedding* is occurring or expected to occur anywhere on the *power system* under clause ~~4.8.8 (b)~~4.8.9; and

(c) in *NEMMCO's* reasonable opinion the levels of *short term* and *medium term capacity reserves* available to the *power system* are at least equal to the required levels determined in accordance with *power system security and reliability standards*.

4.2.8 Time for undertaking action

The provisions of clause 1.7.1(l) do not apply to Chapter 4 of the *Code* and an event which is required under Chapter 4 of the *Code* to occur on or by a stipulated *day* must occur on or by that *day* whether or not a *business day*.

4.3 Power System Security Responsibilities and Obligations

4.3.1 Responsibility of NEMMCO for power system security

The *NEMMCO power system security responsibilities* are:

(a) to maintain *power system security*;

(b) to monitor the operating status of the *power system*;

(c) to co-ordinate the *System Operators* in undertaking certain of its activities and operations and monitoring activities of the *power system*;

(d) to take reasonable steps to ensure that *high voltage* switching procedures and arrangements are utilised by *Network Service Providers* to provide adequate protection of the *power system*;

(e) to assess potential infringement of the *technical envelope* or *power system operating procedures* which could affect the security of the *power system*;

(f) to ensure that the *power system* is operated within the limits of the *technical envelope*;

(g) to ensure that all *plant* and equipment under its control or co-ordination is operated within the appropriate operational or emergency limits which are advised to *NEMMCO* by the respective *Network Service Providers* or *Code Participants*;

(h) to assess the impacts of technical and any operational *plant* on the operation of the *power system*;

(i) to arrange the *dispatch* of *scheduled generating units, scheduled loads*, scheduled network services and *ancillary services* (including *dispatch* by

remote control actions or specific directions) in accordance with this *Code*, allowing for the dynamic nature of the *technical envelope*;

(j) to determine any potential *constraint* on the *dispatch* of *generating units, loads, market network services* and *ancillary services* and the assessment of the effect of this *constraint* on the maintenance of *power system security*;

(k) to assess the availability and adequacy, including the dynamic response, of *contingency capacity reserves* and *reactive power reserves* in accordance with the *power system security and reliability standards* and to take reasonable steps to ensure that appropriate levels of *contingency capacity reserves* and *reactive power reserves* are available:

(1) to ensure the *power system* is, and is maintained, in a *satisfactory operating state*; and

(2) to arrest the impacts of a range of significant multiple *contingency events* (affecting up to 60% of the total *power system load*) to allow a prompt restoration or recovery of *power system security*, taking into account under-frequency initiated *load shedding* capability provided under *connection agreements* or as otherwise;

(l) to determine the required levels of *short term capacity reserves* and *medium term capacity reserves* in accordance with the *power system security and reliability standards*, and to assess the availability of the actual *short term capacity reserve* and actual *medium term capacity reserve* in accordance with the *projected assessment of system adequacy* (PASA), described in Chapter 3 of the *Code*, which would be available to supplement utilised *contingency capacity reserves* and, if necessary, initiate action in relation to the trading in *reserves* in accordance with Chapter 3;

(m) to make available to *Code Participants* as appropriate, information about the potential for, or the occurrence of, a situation which could significantly impact, or is significantly impacting on *power system security*, and advise of any *low reserve* condition for the relevant periods where the *short term capacity reserve* and/or *medium term capacity reserve* is assessed as being less than the *short term capacity reserve standard* or *medium term capacity reserve standard* respectively;

(n) to refer to other *Code Participants*, as *NEMMCO* deems appropriate, information of which *NEMMCO* becomes aware in relation to significant risks to the *power system* where actions to achieve a resolution of those risks are outside the responsibility or control of *NEMMCO*;

(o) to utilise resources and services provided or procured as *ancillary services* or otherwise to maintain or restore the *satisfactory operating state* of the *power system*;

(p) to procure ~~as~~ adequate *system restart ancillary services* in accordance with clause 3.11 to enable *NEMMCO* to co-ordinate the response to a partial or total *black system* condition;

(q) to interrupt, subject to clause 4.3.2 (l), *Code Participant connections* as necessary during emergency situations to facilitate the re-establishment of the *satisfactory operating state* of the *power system*;

(r) to issue a *direction* to~~direct~~ (as necessary) any *Code Participant* ~~to take action necessary to ensure, maintain or restore the *power system* to a *satisfactory operating state*~~;

(r1) to direct any *Code Participant* to provide *ancillary services* in accordance with clause 4.8.9A;

(s) to co-ordinate and direct any rotation of widespread interruption of demand in the event of a major *supply* shortfall or disruption;

(t) to liaise with *participating jurisdictions* should there be a need to manage an extensive disruption, including the use of emergency services powers in a *participating jurisdiction*;

(u) to determine the extent to which the levels of *contingency capacity reserves* and *reactive power reserves* are or were appropriate through appropriate testing, auditing and simulation studies;

(v) to investigate and review all major *power system* operational incidents and to initiate action plans to manage any abnormal situations or significant deficiencies which could reasonably threaten *power system security*. Such situations or deficiencies include without limitation:

(1) *power system frequencies* outside those specified in the definition of *satisfactory operating state*;

(2) *power system voltages* outside those specified in the definition of *satisfactory operating state*;

(3) actual or potential *power system* instability; and

(4) unplanned/unexpected operation of major *power system* equipment; and

(w) to ensure that each *System Operator* satisfactorily interacts with *NEMMCO*, other *System Operators* and *Distribution System Operators* for both *transmission* and *distribution network* activities and operations, so that *power system security* is not jeopardised by operations on the *connected transmission networks* and *distribution networks*.

4.3.2 System security

(a) *NEMMCO* must use its reasonable endeavours, as permitted under the *Code*, including through the provision of appropriate information to *Code Participants* to the extent permitted by law and under this *Code*, to achieve the *NEMMCO power system security responsibilities* in accordance with *power system security* principles.

(b) Where an obligation is imposed on *NEMMCO* under Chapter 4 of the *Code* to arrange or control any act, matter or thing or to ensure that any other person undertakes or refrains from any act, that obligation is limited to a requirement for *NEMMCO* to use reasonable endeavours as permitted under the *Code*, including to give such directions as are within its powers, to comply with that obligation.

(c) If *NEMMCO* fails to arrange or control any act, matter or thing or the acts of any other person notwithstanding the use of *NEMMCO's* reasonable endeavours, *NEMMCO* will not be taken to have breached such obligation.

(d) *NEMMCO* must make accessible to *Code Participants* such information as:

(1) *NEMMCO* considers appropriate;

(2) *NEMMCO* is permitted to disclose in order to assist *Code Participants* to make appropriate market decisions; and

(3) *NEMMCO* is able to disclose to enable *Code Participants* to consider initiating procedures to manage the potential risk of any necessary action by *NEMMCO* to restore or maintain *power system security*,

provided that, in doing so, *NEMMCO* must use reasonable endeavours to ensure that such information is available to those *Code Participants* who request the information on equivalent bases.

(e) The *Minister* for each *participating jurisdiction* may from time to time appoint and remove a person or body specified by the *Minister* to be responsible for the specification of *sensitive loads* and *load shedding* priorities and to request copies of the *load shedding procedures* (a "*Jurisdictional Co-ordinator*"). The *Jurisdictional Co-ordinator* may nominate an individual to be the principal point of contact with *NEMMCO* for the *Jurisdictional Co-ordinator*.

(f) NEMMCO must request that the Jurisdictional Co-ordinator for each participating jurisdiction provides NEMMCO with:

(1) a schedule of *sensitive loads* in that jurisdiction, specifying:

(i) the priority, in terms of security of *supply*, that each *load* specified in the schedule has over the other *loads* specified in the schedule; and

(ii) the *loads* (if any) for which the approval of the *Jurisdictional Co-ordinator* must be obtained by *NEMMCO* under clause 4.3.2(1) before *NEMMCO* can interrupt supply to, or prevent reconnection of, that *load*: and

(2) a schedule setting out the order in which *loads* in the *participating jurisdiction*, other than *sensitive loads*, may be shed by *NEMMCO* for the purposes of undertaking any *load shedding* under clause 4.8.

(g) A *Jurisdictional Co-ordinator* may from time to time amend the schedules provided to *NEMMCO* under clause 4.3.2(f) and may provide to *NEMMCO* a copy of the amended schedules.

(h) *NEMMCO* must develop, update and maintain a set of procedures for each *participating jurisdiction* under which *loads* will be shed and restored in accordance with the priorities set out in the schedules for that *participating jurisdiction* (which procedures for a *participating jurisdiction* shall be known as the "*load shedding procedures*" for that jurisdiction).

(i) *NEMMCO* must, if requested by the *Jurisdictional Co-ordinator*, provide the *Jurisdictional Co-ordinator* with a copy of the *load shedding procedures* for that *participating jurisdiction*.

(j) The *load shedding procedures* for a jurisdiction must be consistent with the schedules of the jurisdiction provided under clause 4.3.2(f) and must, without limitation, include a requirement that:

(1) automatic *disconnection* of a *sensitive load* under clause 4.3.5 (a) shall not occur until the occurrence of a specified *power system frequency* referred to in the *load shedding procedures*;

(2) any such *sensitive load* (or part thereof) which would otherwise have been part of a block of *interruptible load* in an under-*frequency* band specified in clause 4.3.5 (b), must be replaced in that band in relation to the *participating jurisdiction* with an equivalent amount of *interruptible load* nominated by other *Market Customers* in the relevant *participating jurisdiction*;

(3) after supply is interrupted to a *load*, supply to that *load* must be restored as soon as this can be achieved and in accordance with the schedules of *loads* referred to in clause 4.3.2(f); and

(4) in the event of a major *supply* shortfall, the rotation of any *load shedding* requirements within *regions* (or parts of *regions*) in the *participating jurisdiction* must be in accordance with the *load shedding procedures*.

(k) Notwithstanding any other provision of this *Code*, *NEMMCO* must use its reasonable endeavours to ensure that the *power system* is operated in a manner that will maintain security of *supply* to any *sensitive loads* prescribed by the

Jurisdictional Co-ordinator for each *participating jurisdiction* under clause 4.3.2 (f).

(1) (1) Notwithstanding any other provision of this *Code*, in the event that *NEMMCO*, in its reasonable opinion for reasons of public safety or for *power system security*, needs to interrupt *supply* to any *sensitive loads*, *NEMMCO* give a direction requiring that interruption:

(i) in accordance with the *load shedding procedures*; and

(ii) if it is a *sensitive load* of a type described in clause 4.3.2(f)(l)(ii), once the *Jurisdictional Co-Ordinator* for the relevant *participating jurisdiction* has given *NEMMCO* its approval (which approval must not be unreasonably withheld).

(2) Other than to ensure the maintenance of *power system security* or public safety, after *disconnection*, notwithstanding any other provision of this *Code*, *NEMMCO* must not take any steps to prevent the reconnection of a *sensitive load* of the type described in clause 4.3.2(f)(l)(ii) without the approval of the *Jurisdictional Co-ordinator* for the relevant *participating jurisdiction* (which approval must not be unreasonably withheld).

(m) *NEMMCO* will liaise with the relevant *participating jurisdictions* to assist in the management of any declared emergency *supply* situation necessary under clause 4.8.9 where there has been a major disruption within that *participating jurisdiction*.

(n) *Protected provision*:

(1) Clauses 4.3.2(e),(f),(g),(h),(i),(j),(k),(l),(m) and (n) must be read and construed subject to Chapter 9;

(2) These clauses 4.3.2(e),(f),(g),(h),(i),(j),(k),(l),(m) and (n) are *protected provisions*;

(3) Nothing in this clause 4.3.2.(n) is to be read or construed as limiting the validity, force or effect of a derogation in Chapter 9 in respect of a *participating jurisdiction* and any derogation in Chapter 9 which is intended to modify, vary or exempt a provision of clauses 4.3.2(e),(f),(g),(h),(i),(j),(k),(l), (m) and (n) is deemed to prevail over that provision of clauses 4.3.2(e),(f),(g),(h),(i),(j),(k),(l),(m) and (n) in respect of the *participating jurisdiction* to which the derogation applies.

4.3.3 The role of System Operators

(a) For the purpose of complying with its obligations under clause 4.3.2, *NEMMCO* may, from time to time, in addition to any other power or right under the *Code*:

(1) engage such agents as it considers appropriate to carry out on its behalf some or all of its rights and obligations under Chapter 4 of the *Code* (such persons being known as "*System Operators*" upon registration with *NEMMCO*); and

(2) organise, enter into and manage any contractual arrangements with appropriately competent service providers.

(b) *NEMMCO* must make accessible to *Code Participants* information as to:

(1) the engagement of any agent or any service provider appointed under clause 4.3.3;

(2) the identity of that agent or service provider; and

(3) the scope of the engagement, including without limitation, the activities in relation to which the engagement applies.

(c) A *Code Participant* must ensure that where *NEMMCO* has engaged an agent or a service provider under clause 4.3.3 in relation to certain of its rights, functions or obligations, that any communications from the *Code Participant* to *NEMMCO* under Chapter 4 of the *Code* concerning the rights, functions or obligations within the scope of an agent's or a service provider's engagement are made through that agent or service provider to the extent notified to the *Code Participant* by *NEMMCO*.

(d) A *System Operator* must carry out those rights and obligations delegated to it by *NEMMCO* in accordance with the provisions of the *Code*.

(e) A *System Operator* must, to the extent that the *System Operator* is aware or ought reasonably to have been aware, keep *NEMMCO* fully and timely informed as to:

(1) the state of the security of the *power system*;

(2) any present or anticipated risks to *power system security*; and

(3) any action contemplated or initiated to address a risk to *power system security* or to restore or maintain the *power system* in a *satisfactory operating state*.

(f) *NEMMCO* must ensure that any agent contracted under clause 4.3.3 (a) (1) registers with it as a *System Operator*.

Notwithstanding that *NEMMCO* may have allocated a right or obligation to an agent or service provider appointed under clause 4.3.3, *NEMMCO* remains liable under the *Code* for performance of that right or obligation.

4.3.4 Network Service Providers

(a) Each *Network Service Provider* must use reasonable endeavours to exercise its rights and obligations in relation to its *networks* so as to co-operate with and assist *NEMMCO* in the proper discharge of the *NEMMCO power system security responsibilities*.

(b) Each *Network Service Provider* must use reasonable endeavours, including without limitation, through the inclusion of appropriate provisions in *connection agreements*, to ensure that *interruptible loads* are provided as specified in clause 4.3.5 and clause S.5.1.10 of schedule 5.1.

(c) Each *Network Service Provider* must arrange and maintain, in accordance with the standards described in clause 4.3.4(e), controls, monitoring and secure communication systems to facilitate a manually initiated, rotational *load shedding* and restoration process which may be necessary if there is, in *NEMMCO's* opinion, a prolonged major *supply* shortage or extreme *power system* disruption.

(d) Each *Network Service Provider* must advise *NEMMCO* of any *ancillary services* or similar services provided under any *connection agreement* to which it is a party.

(e) *NEMMCO* must develop, and may amend, standards in consultation with *Network Service Providers* in accordance with the *Code consultation procedures* which must be met by *Network Service Providers* in arranging and maintaining the control, monitoring and secure communications systems referred to in clause 4.3.4(c).

(f) Until the standards contemplated by clause 4.3.4(e) are issued by *NEMMCO*, each *Network Service Provider* must maintain the control, monitoring and secure communication systems referred to in clause 4.3.4(c) that were in place at *market start* so as to achieve substantially the same performance and functionality as they did over the 12 months prior to *market start*. In this clause *"market start"* means *market commencement* in respect of the *spot market*.

4.3.5 Market Customer obligations

(a) All *Market Customers* having expected peak demands at *connection points* in excess of 10 MW, must provide automatic *interruptible load* of the type described in clause S5.1.10 of schedule 5.1. The level of this automatic *interruptible load* will be a minimum of 60% of their expected demand, or such other minimum *interruptible load* level as may be periodically determined by the *Reliability Panel*, to be progressively automatically *disconnected* following the occurrence of a *power system* under-*frequency* condition described in the *power system security and reliability standards*.

(b) *Market Customers* must provide their *interruptible load* in manageable blocks spread over a number of steps within under-*frequency* bands from 49.0 Hz down to 47.0 Hz as nominated by *NEMMCO*.

(c) any *load shedding* capability the subject of an *ancillary services agreement* or *enabled* as a *market ancillary service* can be counted as automatic *interruptible load* provided for the purposes of clause 4.3.5.

4.4 Power System Frequency Control

4.4.1 Power system frequency control responsibilities

NEMMCO must use its reasonable endeavours to:

(a) control the *power system frequency*; and

(b) ensure that the *power system frequency operating standards* set out in the *power system security and reliability standards* are achieved.

4.4.2 Operational frequency control requirements

To assist in the effective control of *power system frequency* by *NEMMCO* the following provisions apply:

(a) *NEMMCO* may give *dispatch instructions* in respect of *scheduled generating units, scheduled loads* and *scheduled network services* and *market ancillary services* pursuant to clause 4.9.

(b) Each *Generator* must ensure that all of its *generating units* have responsive speed *governor systems* in accordance with the requirements of schedule 5.2, so as to automatically share in *changes* in *power system* demand or loss of *generation* as it occurs through response to the resulting excursion in *power system frequency*.

(c) *NEMMCO* must use its reasonable endeavours to arrange to be available and specifically allocated to *regulating duty* such *generating plant* as *NEMMCO* considers appropriate which can be automatically controlled or directed by *NEMMCO* to ensure that all normal *load* variations do not result in *frequency* deviations outside the limitations specified in clause 4.2.2 (a).

(d) **[Deleted]**

(e) *NEMMCO* must use its reasonable endeavours to ensure that adequate *facilities* are available and are under the direction of *NEMMCO* to allow the managed recovery of the *satisfactory operating state* of the *power system*.

4.4.3 Generator protection requirements

Generators, as provided in schedule 5.2 and Chapter 5, are required to provide any necessary automatically initiated protective device or systems to protect their *plant* and associated *facilities* against abnormal *voltage* and extreme *frequency* excursions of the *power system*.

4.5 Control of Power System Voltage

4.5.1 Power system voltage control

(a) *NEMMCO* must determine the adequacy of the capacity to produce or absorb *reactive power* in the control of the *power system voltages*.

(b) *NEMMCO*, in consultation with *Network Service Providers*, must assess and determine the limits of the operation of the *power system* associated with the avoidance of *voltage* failure or collapse under *single credible contingency event* scenarios.

(c) The limits of operation of the *power system* must be translated by *NEMMCO*, in consultation with *Network Service Providers*, into key location operational *voltage* settings or limits, *transmission line* capacity limits, *reactive power* production (or absorption) capacity or other appropriate limits to enable their use by *NEMMCO* in the maintenance of *power system security*.

(d) The determination referred to in clause 4.5.1 (b) must include a review of the dynamic stability of the *voltage* of the *power system*.

(e) *NEMMCO* must use its reasonable endeavours to maintain *voltage* conditions throughout the *power system* so that the *power system* remains in a *satisfactory operating state*.

(f) *NEMMCO* must use its reasonable endeavours to arrange the provision of *reactive power facilities* and *power system voltage* stabilising *facilities* through:

(1) contractual arrangements for *ancillary services* with appropriate *Code Participants* in accordance with clause 3.11;

(2) negotiation and agreement with appropriate *Network Service Providers*; or

(3) obligations on the part of *Code Participants* under their *connection agreements* in accordance with clause 3.11.4(b)(1).

(g) Without limitation, such *reactive power facilities* may include:

(1) *synchronous generator voltage* controls (rotor current adjustment) usually associated with *tap-changing transformers*;

(2) *synchronous condensers* (compensators);

(3) *static VAR compensators* (SVC);

(4) *shunt capacitors*;

(5) *shunt reactors*.

4.5.2 Reactive power reserve requirements

(a) *NEMMCO* must use its reasonable endeavours to ensure that sufficient *reactive power reserve* is available at all times to maintain or restore the *power system* to a *satisfactory operating state* after the most *critical contingency event* as determined by previous analysis or by periodic contingency analysis by *NEMMCO*.

(b) If *voltages* are outside acceptable limits, and the means of *voltage* control set out in this clause 4.5 are exhausted, *NEMMCO* must take all reasonable actions, including to direct *changes* to demand (through selective *load shedding* from the *power system*), additional *generation* operation or reduction in the *transmission line* flows but only to the extent necessary to restore the *voltages* to within the relevant limits. A *Code Participant* must comply with any such direction.

4.5.3 Audit and testing

NEMMCO must arrange, co-ordinate and supervise the conduct of appropriate tests to assess the availability and adequacy of the provision of *reactive power* to control and maintain *power system voltages* under both *satisfactory operating state* and *contingency event* conditions.

4.6 Protection of Power System Equipment

4.6.1 Power system fault levels

(a) *NEMMCO*, in consultation with *Network Service Providers*, must determine the fault levels at all *busbars* of the *power system* as described in clause 4.6.1(b);

(b) *NEMMCO* must ensure that there are processes which will allow the determination of fault levels for normal operation of the *power system* and in anticipation of all *credible contingency events* which *NEMMCO* considers may affect the configuration of the *power system* so that *NEMMCO* can identify any *busbar* which could potentially be exposed to a fault level which exceeds the fault current ratings of the circuit breakers associated with that *busbar*.

4.6.2 Power system protection co-ordination

NEMMCO must use its reasonable endeavours to co-ordinate, in consultation with the *Network Service Providers*, the protection of *transmission system plant* and equipment that *NEMMCO* reasonably considers could effect *power system security*.

4.6.3 Audit and testing

NEMMCO must use its reasonable endeavours to co-ordinate such inspections and tests as *NEMMCO* thinks appropriate to ensure that the protection of the *power system* is adequate to protect against damage to *power system plant* and equipment.

4.6.4 Short-term thermal ratings of power system

(a) *NEMMCO* may act so as to use, or require or recommend actions which use the full extent of the thermal ratings of *transmission elements* to maintain *power system security*, including the short-term ratings (being time dependent ratings), as defined by the *Network Service Providers* from time to time.

(b) *NEMMCO* must use its reasonable endeavours not to exceed the ratings defined by the *Network Service Providers* and not to require or recommend action which causes those ratings to be exceeded, to the extent that *NEMMCO* is or ought reasonably to be aware of such ratings.

4.6.5 Partial outage of power protection systems

(a) Where there is an *outage* of one *protection system* of a *transmission line*, *NEMMCO* must determine, in consultation with the relevant *Network Service Provider*, the most appropriate action. Depending on the circumstances the determination may be:

(1) to leave the *transmission element* in service for a limited duration;

(2) to take the *transmission element* out of service immediately;

(3) to install a temporary *protection system*;

(4) to accept a degraded performance from the *protection system*, with or without additional operational measures or temporary protection measures to minimise *power system* impact; or

(5) to operate the *transmission element* at a lower capacity.

(b) If there is an *outage* of both *protection systems* on a *transmission line* and *NEMMCO* determines this to be an unacceptable risk to *power system security*, *NEMMCO* must take the *transmission element* out of service as soon as possible and advise the appropriate *Network Service Provider* immediately this action is undertaken.

(c) The *Network Service Provider* must comply with a determination made by *NEMMCO* under this clause 4.6 unless in the reasonable opinion of the *Network Service Provider*, it would threaten the safety of any person or cause material damage.

4.7 Power System Stability Co-Ordination

4.7.1 Stability analysis co-ordination

(a) *NEMMCO* must use its reasonable endeavours to ensure that all necessary calculations associated with the stable operation of the *power system* as described in clause S5.1.8 of schedule 5.1 and for the determination of settings of equipment used to maintain that stability are carried out and to co-ordinate these calculations and determinations. The *Network Service Provider* must submit to *NEMMCO* for approval the settings of any *transmission* equipment used to maintain the stable operation of the *power system*.

(b) *NEMMCO* must arrange and endorse the installation of *power system* devices which are approved by *NEMMCO* to be necessary to assist the stable operation of the *power system*.

4.7.2 Audit and testing

NEMMCO must arrange, co-ordinate and supervise the conduct of such inspections and tests as it deems appropriate to assess the availability and adequacy of the devices installed to maintain *power system* stability.

4.8 Power System Security Operations

4.8.1 Code Participants' advice

A *Code Participant* must promptly advise *NEMMCO* or a relevant *System Operator* at the time that the *Code Participant* becomes aware of any circumstance which could be expected to adversely affect the secure operation of the *power system* or any equipment owned or under the control of the *Code Participant* or a *Network Service Provider*.

4.8.2 Protection or control system abnormality

(a) If a *Code Participant* becomes aware that any relevant *protection system* or *control system* is defective or unavailable for service, that *Code Participant* must advise *NEMMCO*. If *NEMMCO* considers it to be a threat to *power system security*, *NEMMCO* may direct that the equipment protected or operated by the relevant *protection system* or *control system* be taken out of operation or operated as *NEMMCO* directs.

(b) A *Code Participant* must comply with a direction given by *NEMMCO* under clause 4.8.2(a).

4.8.3 NEMMCO's advice on power system emergency conditions

(a) *NEMMCO* must *publish* all relevant details promptly after *NEMMCO* becomes aware of any circumstance with respect to the *power system* which, in the

reasonable opinion of *NEMMCO*, could be expected to materially adversely affect *supply* to or from *Code Participants*.

(b) Without limitation, such circumstances may include:

(1) electricity *supply* capacity shortfall, being a condition where there is insufficient *generation* or *supply* options available to securely *supply* the total load in a *region*;

(2) unexpected disruption of *power system security*, which may occur when:

(i) an unanticipated major *power system* or *generation plant contingency event* occurs; or

(ii) significant environmental or similar conditions, including weather, storms or fires, are likely to, or are affecting the *power system*; or

(3) a *black system* condition.

4.8.4 Declaration of ~~low reserve or lack of reserve~~ conditions

NEMMCO may declare the following conditions in relation to a period of time, either present or future:

(a) *Low reserve* condition - when *NEMMCO* considers that the *short term capacity reserves* or *medium term capacity reserves* for the period being assessed have fallen below those determined by *NEMMCO* as being in accordance with the relevant *short term capacity reserve standards* or *medium term capacity reserve standards*;

(b) *Lack of reserve* level 1 (LOR1) - when *NEMMCO* considers that there is insufficient *capacity reserves* available to provide complete replacement of the *contingency capacity reserve* on the occurrence of a *critical single credible contingency event* for the period nominated;

(c) *Lack of reserve* level 2 (LOR2) - when *NEMMCO* considers that the occurrence of a *critical single credible contingency event* is likely to require involuntary *load shedding*;

(d) *Lack of reserve* level 3 (LOR3) - when *NEMMCO* considers that *Customer load* (other than *ancillary services* or contracted *interruptible loads*) would be, or is actually being interrupted automatically or manually in order to maintain or restore the security of the *power system*.

4.8.5 Managing declarations of conditions~~low reserve or lack of reserve~~

(a) *NEMMCO* must as soon as reasonably practicable *publish* any declaration under clause 4.8.4.

(a1) The *publication* of any such declaration must, to the extent reasonably practicable, include the following:

(1) the nature and extent of the *low reserve* or *lack of reserve* condition; and

(2) the time period over which the *low reserve* or *lack of reserve* condition applies.

(b) If *NEMMCO* makes ~~*publishes*~~ a declaration under clause 4.8.4, *NEMMCO* must use its reasonable endeavours to follow the processes set out in clauses 4.8.5A and 4.8.5B~~3.12~~.

(c) ~~If *NEMMCO* makes a declaration under clause 4.8.4,~~ Following a declaration, *NEMMCO* must as soon as reasonably practicable *publish* notice of:

(1) any cancellation of ~~the~~ that declaration; or

(2) any significant changes in the *low reserve* or *lack of reserve* condition due to *changed* positions of *Scheduled Network Service Providers*, *Market Customers* and *Scheduled Generators* or for other reasons any change of the condition declared.

~~(e) Provided *NEMMCO* has complied with the processes set out in clause 3.12, *NEMMCO* may, in accordance with any guidelines issued by the *Reliability Panel*, give reasonable directions to any *Scheduled Generator* in relation to its *scheduled generating units*, *Scheduled Network Service Provider* in relation to its scheduled network services or any *Market Customer* in relation to its *scheduled loads* requiring the *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* (as the case may be) to do any act or thing which *NEMMCO* deems necessary to maintain or re-establish the *power system* in a *reliable operating state*.~~

~~(d) A *Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* must use its reasonable endeavours to comply with any such directions given to it by *NEMMCO*.~~

~~(e) *NEMMCO's* obligations and powers under clauses 4.8.5(b) and (c) cease five years after the *market commencement* or, if *NEMMCO's* role in *reserve* trading is extended beyond 30 June 2000, when *NEMMCO's* right to enter into contracts for the provision of *reserves* in accordance with clause 3.12 ceases.~~

4.8.5A Determination of the latest time for intervention by direction or dispatch of reserve contract

(a) *NEMMCO* must immediately *publish* a notice of any foreseeable circumstances that may require *NEMMCO* to issue a *direction* or *dispatch reserves* it has available under clause 4.8.6.

(a1) Any such notice must include the forecast circumstances creating the need to issue a *direction* or *dispatch* of *reserves*.

(b) *NEMMCO* must, as soon as reasonably practicable after the *publication* of a notice pursuant to clause 4.8.5A(a), estimate and *publish* the latest time at

which it would need to intervene to issue a *direction* under clause 4.8.9, or *dispatch reserves* it has available under *reserve contracts* under clause 4.8.6, should there be an inadequate response from the market to avoid the need to issue a *direction* or *dispatch reserves*.

(c) In order to ~~make the estimation described~~ estimate the time referred to in clause 4.8.5A(b), *NEMMCO* may request information from a *Scheduled Network Service Provider*, *Scheduled Generator* or *Market Customer* and may specify the time within which that information is to be provided ~~for the sole purpose of making the estimation~~. Such information may include, but is not limited to:

(1) *plant* status;

(2) any expected or planned *plant outages* and the MW capacity affected by the *outage*, proposed start date and time and expected end date and time associated with the *outage* and an indication of the possibility of deferring the *outage*;

(3) estimates of the relevant costs to be incurred by the *Scheduled Network Service Provider*, *Scheduled Generator* or *Market Customer* should it be the subject of a *direction*, ~~if, and~~ but only if, *NEMMCO* considers it reasonably likely that such *Scheduled Network Service Provider*, *Scheduled Generator* or *Market Customer* will be subject to a *direction*.

(d) A *Scheduled Network Service Provider*, *Scheduled Generator* or *Market Customer* must use reasonable endeavours

(1) to comply with a request for information pursuant to clause 4.8.5A(c) and ~~must use its reasonable endeavours~~

(2) to provide *NEMMCO* with the information required in the time specified by *NEMMCO*.

~~(e) *NEMMCO* must as soon as reasonably practicable *publish* its estimate of the latest time at which it would need to intervene to issue a *direction* under clause 4.8.9 or to *dispatch reserves* it has available under *reserve contracts* under clause 4.8.6.~~

(e) *NEMMCO* must regularly review its estimate of the latest time at which it would need to intervene to issue a *direction* under clause 4.8.9 or to *dispatch reserves* it has available under *reserve contracts* under clause 4.8.6 and *publish* any revisions to the estimate.

(f) *NEMMCO* must treat any information provided in response to a request under clause 4.8.5A(bc) as *confidential information* and use it for the sole purpose of assessing to which *Scheduled Network Service Providers*, *Market Customers* and or *Scheduled Generators* it should issue *directions*.

4.8.5B Notifications of last time of intervention

If the latest practicable time for ~~intervention~~ the *dispatch* of reserves, as estimated by *NEMMCO* under clause 4.8.5A, is reached and, taking into account any *reserve contracts*, the circumstances described under clause 4.8.5A(a) has not been alleviated, *NEMMCO* must to the extent reasonably practicable immediately:

(1) *publish* a notice that *NEMMCO*:

(i) considers the time for the negotiation of further *reserve contracts* in accordance with clause 3.12.1 ~~to have~~ has elapsed; and

(ii) intends to issue *directions* under clause 4.8.9 or *dispatch reserve* available under *reserve contracts* under clause 4.8.6; and

(2) amend the *pre-dispatch schedule* to ensure that it is a physically realisable schedule for all periods in which *NEMMCO* intends to issue *directions* or *dispatch reserves* available under *reserve contracts*.

4.8.6 ~~Cancellation of lack of reserve and low reserve declaration~~NEMMCO utilisation of reserves under contract

~~*NEMMCO* must *publish* notice of:~~

~~(a) a cancellation of a declaration of *low reserve* or *lack of reserve* conditions; or~~

~~(b) a change of the condition declared.~~

(a) Notwithstanding clauses 4.8.4, 4.8.5, 4.8.5A and 4.8.5B, if in *NEMMCO's* opinion, the latest time for intervention by *dispatch* of *reserves* it has available under *reserve contracts* has elapsed, then *NEMMCO* may *dispatch* such *reserves*.

(b) *NEMMCO* must follow ~~all~~ the relevant ~~process~~ procedure in clause 4.8 prior to *dispatching plant* the subject of a *reserve contract* unless it is not reasonably ~~practical~~ practicable to do so.

(b1) *NEMMCO* may only *dispatch plant* the subject of a *reserve contract* in accordance with the procedures developed pursuant to clause 4.8.6(c). ~~and~~

(b2) ~~i~~In order to effect the *dispatch* of *plant* the subject of a *reserve contract* *NEMMCO* may:

(1) submit, update or vary *dispatch bids* or *dispatch offers* in relation to all or part of such a *scheduled generating unit*, *scheduled network service* or a *schedule load* which is the subject of a *reserve contract*; or

(2) change other inputs to the *dispatch process* to give effect to the *dispatch* of *reserves*.

(c) *NEMMCO* must develop, and may amend from time to time, in accordance with the *Code Consultation procedures*, procedures for the *dispatch* of *reserves* it has available under *reserve contracts* pursuant to clause 4.8.6(a). Such procedures must reflect the following principles:

(1) *NEMMCO* must use its reasonable endeavours to minimise the cost of *dispatching reserves* and compensation to *Affected Participants* and *Market Customers* pursuant to clause 3.12.11 and compensation to *Directed Participants* pursuant to clause 3.15.7 and 3.15.7A;

(2) the instruction to *dispatch reserves* is to be revoked as soon as *NEMMCO* determines the *dispatch* of such *reserves* is no longer required.

(3) *NEMMCO* ~~should~~ must take into account the procedures developed pursuant to clause 4.8.9(b).

(d) *NEMMCO* must within [6 months of date of gazettal of the Directions Code Changes - insert actual date] develop and *publish* procedures for the *dispatch* of *reserves* pursuant to clause 4.8.6(c). Until such time as *NEMMCO publishes* procedures pursuant to this clause 4.8.6(d) *NEMMCO* ~~shall~~ must *dispatch reserves* in accordance with interim procedures *published* by *NEMMCO* from time to time.

(e) *NEMMCO* must take into account any guidelines issued by the *Reliability Panel* pursuant to clause 8.8.1(a)(4) for the provision of *reserves*.

4.8.7 Managing a power system contingency event

(a) During the period when the *power system* is affected by a *contingency event* *NEMMCO* must carry out actions, in accordance with the guidelines set out in the *power system security and reliability standards* and its obligations concerning *sensitive loads* to:

(1) identify the impact of the *contingency event* on *power system security* in terms of the capability of *generating units* or *transmission* or *distribution networks*;

(2) identify and implement the actions required in each affected *region* to restore the *power system* to its *satisfactory operating state*.

(b) When *contingency events* lead to potential or actual electricity *supply* shortfall events, *NEMMCO* must follow the procedures outlined in clauses 4.8.8 and 4.8.9.

4.8.8 DELETED~~Managing electricity supply shortfall events~~

~~(a) If, at any time, there are insufficient *generation* or *supply* options available to securely *supply* total *load* in a *region*, then *NEMMCO* may undertake all or any of the following:~~

(1) attempt to increase the *generation* or *supply* capability such as requesting available but not committed *generating units* to start up, or recall of *transmission* equipment *outages*;

(2) *disconnect* one or more points of *load connection* as *NEMMCO* considers necessary;

(3) direct in accordance with clause 4.8.9 a *Market Customer* to take such steps as are reasonable to immediately reduce its *load*; and

(4) attempt to increase the availability of *market network services* such as requesting *Market Network Service Providers* to increase the availability of such services.

(b) If there is a major *supply* shortfall, *NEMMCO* must

(1) first, if any *region* has agreed to accept a lower level of security than that specified in the *power system security and reliability standards* and nominated automatic or manually *interruptible load* to be shed for this purpose, shed that *load*; and

(2) implement any *load shedding* required across *interconnected regions* in an equitable manner as specified in the *power system security and reliability standards* up to the *power transfer capability* of the *network*.

(c) If there is a major *supply* shortfall, *NEMMCO* must, to the extent possible in accordance with its obligations regarding *sensitive loads*, rotate any *load shedding* requirements within a *region* in accordance with policies and schedules determined by *participating jurisdictions* and advised by the *System Operators* for the relevant *participating jurisdictions* as described in clause 4.3.3 and procedures agreed with *Network Service Providers*.

(d) *NEMMCO* must liaise with *participating jurisdictions* if the management of an extensive disruption requires the use of emergency services powers in those *participating jurisdictions*.

4.8.9 Power to issue Directions and clause 4.8.9 instructionsby NEMMCO affecting power system security

(a) Subject to clauses 4.8.9(d), 4.3.2(k), 4.3.2(l) and 4.3.2(m), as provided in section 76 of the *National Electricity Law*, if *NEMMCO* is satisfied that it is necessary to do so for reasons of public safety or the security of the electricity system, *NEMMCO* may issue directions authorising a person to require a *Code Participant* to do or, authorising a person to do, any one or more of the acts or things listed in section 76(1) of the *National Electricity Law*.

(b) A person authorised by a direction from *NEMMCO* under clause 4.8.9(a) must not take any action referred to in that clause unless the person has requested the

Code Participant to take that action and the *Code Participant* has failed to take the action within a reasonable period.

(e) **[Deleted]**

(d) *NEMMCO* must use reasonable endeavours to comply with the process set out in clauses 3.12 prior to exercising its powers under clause 4.8.9(a) unless *NEMMCO* in its absolute discretion considers that it is inappropriate to do so.

(e) *NECA* must undertake a review of and report on *NEMMCO*'s use of the powers granted to *NEMMCO* under clause 4.8.9 (a) in each *financial year* as part of *NECA*'s annual report prepared in accordance with clause 8.7.4. The review must consider for each occasion when the powers granted to *NEMMCO* under clause 4.8.9 (a) were exercised:

(1) whether the exercise, and the manner of exercise, of the powers granted to *NEMMCO* under clause 4.8.9(a) was appropriate in the circumstances and was consistent with the *Code objectives*; and

(2) such other matters as *NECA* considers appropriate,

and may make any recommendations in relation to *NEMMCO's* future exercise of the power as *NECA* considers appropriate.

(f) Subject to clause 4.8.9(g), any *Generator* or *Market Network Service Provider* in relation to which *NEMMCO*, under section 4.8.9(a) or section 76 of the *National Electricity Law*, authorises a person to require that *Generator* or *Market Network Service Provider* to do any one or more of the acts or things listed in section 76(1) of the *National Electricity Law* must be compensated by *NEMMCO* in accordance with the methodology determined under clause 4.8.9(g)(h) for providing any service which the *Generator* or *Market Network Service Provider* was so required to provide.

(g) *NEMMCO* is not required to pay any compensation to a *Generator* or *Market Network Service Provider* in accordance with clause 4.8.9(f) where *NEMMCO* reasonably determines that an intentional or reckless act or omission of the *Generator* or *Market Network Service Provider* created or significantly contributed to the circumstances which resulted in *NEMMCO* exercising its powers under clause 4.8.9(a) or section 76 of the *National Electricity Law*.

(h) *NEMMCO* must, no later than 1 July 1999:

(1) determine, in accordance with the *Code consultation procedures*, a methodology for compensating *Generators* and *Market Network Service Providers* under clause 4.8.9(f) (the *"direction compensation methodology")*;

(2) in determining the direction compensation methodology, compare and contrast the methodologies for the calculation of compensation in clauses 3.11.2(e), 4.5.2(b) and 4.8.5(e), publish the results of such

~~comparison and discuss those results during the course of the *Code consultation procedures* conducted in determining the direction compensation methodology; and~~

~~(3) once it has determined the direction compensation methodology in accordance with sub-paragraph (1) above, publish the rationale underlying its determination.~~

~~(i) *NEMMCO* shall only be required to pay compensation to any *Generator* or *Market Network Service Provider* which becomes entitled to compensation under clause 4.8.9(f) prior to any methodology being determined under clause 4.8.9(g) once such a methodology has been determined.~~

(a) Notwithstanding any other provision of clause 4.8;

(1) *NEMMCO* may require ~~any~~ a *Code Participant* to do any act or thing if *NEMMCO* is satisfied that it is necessary to do so to maintain or re-establish the *power system* to ~~in~~ a *secure operating state*, a *satisfactory operating state*, or a *reliable operating state*; and

(2) *NEMMCO* may authorise a person to do any of the things contemplated by Section 76 of the *National Electricity Law* if *NEMMCO* is satisfied that it is necessary to do so for reasons of public safety or the security of the electricity system.

(a1) ~~Where~~ If *NEMMCO*, or a person authorised by *NEMMCO*, requires a *Code Participant* to:

(1) take action as contemplated by clause 4.8.9(a)~~paragraph (a)~~ or Section 76 of the *National Electricity Law* in relation to *scheduled plant*, *NEMMCO* is taken to have issued a *direction*; ~~and~~ or

(2) take some other action contemplated by clause 4.8.9(a)~~paragraph (a)~~ or Section 76 of the *National Electricity Law*, *NEMMCO* is taken to have issued a *clause 4.8.9 instruction*.

(a2) *NEMMCO* must, and must use reasonable endeavours to ensure that persons authorised by *NEMMCO* under clause 4.8.9(a)(2)~~paragraph (a)(2)~~, follow all relevant processes in clause 4.8 prior to issuing a *direction*, unless it is not reasonably practical to do so.

(b) *NEMMCO* must develop, and may amend from time to time, in accordance with the *Code Consultation procedures*, procedures for the issuance of *directions*. Such procedures must reflect the following principles:

(1) *NEMMCO* must use its reasonable endeavours to minimise any cost related to *directions* and compensation to *Affected Participants* and *Market Customers* pursuant to clause 3.12.11 and compensation to *Directed Participants* pursuant to clause 3.15.7 and 3.15.7A.

(2) a *direction* should be revoked as soon as *NEMMCO* determines that ~~a~~ the *direction* is no longer required.

(3) *NEMMCO* ~~must should~~ take into account any guidelines issued by the *Reliability Panel*.

(4) *NEMMCO* must observe its obligations under clause 4.3.2 concerning *sensitive loads*.

(5) *NEMMCO* must expressly notify a *Directed Participant* that *NEMMCO's* requirement or that of another person authorised by *NEMMCO* pursuant to clause 4.8.9(a) is a *direction*.

(b1) *NEMMCO* must within [6 months of the date of gazettal of the Directions Code Changes - insert actual date] develop the initial procedures for the issuance of *directions* pursuant to clause 4.8.9(b). Until such time *NEMMCO* ~~shall~~ must issue *directions* in accordance with interim procedures *published* by *NEMMCO* from time to time.

(c) A *Code Participant* must use its reasonable endeavours to comply with a *direction* or *clause 4.8.9 instruction* unless to do so would, in the *Code Participant's* reasonable opinion, be a hazard to public safety, or materially risk damaging equipment, or contravene any other law.

(c1) A *Code Participant* must use its best endeavours to comply with a *direction* or *clause 4.8.9 instruction* in accordance with the timeframe specified by *NEMMCO* in the *direction* or *clause 4.8.9 instruction*.

(d) A *Code Participant* must immediately notify *NEMMCO* of its inability to comply or its intention not to comply with a *direction* or *clause 4.8.9 instruction*.

(e) If a *Code Participant* does not comply with a *direction* or *clause 4.8.9 instruction*, it must within 2 *business days* of the *direction* or *clause 4.8.9 instruction* deliver to *NEMMCO* and *NECA* a report detailing the reasons for the non compliance together with all relevant facts.

(f) *NEMMCO* must *publish* a report in accordance with 3.13.6A.

(g) *NECA* must undertake a review of and report on *NEMMCO*'s use of the powers granted to *NEMMCO* under clause 4.8.9(a) in each *financial year* as part of *NECA*'s annual report prepared in accordance with clause 8.7.4(a)(3).

(h) *NEMMCO's* obligations and powers under clauses 4.8.9(a) to issue a *direction* or *clause 4.8.9 instruction* to maintain or re-establish the *power system* in a *reliable operating state* cease five years after the *market commencement* or, if *NEMMCO's* role in *reserve* trading is extended, when *NEMMCO's* right to enter into contracts for the provision of *reserves* in accordance with clause 3.12 cease.

(i) Any *Code Participant* who is aware of a failure to comply with a *direction* or *clause 4.8.9 instruction* or who believes any such failure has taken place must ~~refer the allegation to~~ notify *NECA* of that fact in accordance with the procedures contained in clause 8.5.4.

(j) If *NEMMCO* issues a *direction* or *clause 4.8.9 instruction*, ~~then~~ *NEMMCO*, may to give effect to the *direction* or *clause 4.8.9 instruction*:

(1) submit, update or vary *dispatch bids*, ~~or~~ *dispatch offers* or *rebids* in relation to the *plant* of *Directed Participants* and *Affected Participants* ~~the subject of the *direction* or *clause 4.8.9 instruction*~~, or

(2) change other inputs to the *dispatch process*; or

(3) select a *Market Participant* or *Market Participants* to become *Affected Participants* to implement clause 3.8.1(b)(11).

~~to give effect to the *direction* or *clause 4.8.9 instruction*.~~

(k) When issuing *clause 4.8.9 instructions* to implement *load shedding* across *interconnected regions*, *NEMMCO* must use reasonable endeavours to implement ~~the~~ *load shedding* in an equitable manner as specified in the *power system security and reliability standards*, taking into account the *power transfer capability* of the relevant *networks*.

(l) When issuing *clause 4.8.9 instructions* to implement *load shedding*, *NEMMCO* must comply with its obligations under clauses 4.3.2(e) to (n).

(m) *NEMMCO* must liaise with *participating jurisdictions* if the management of an extensive disruption requires the use of emergency services powers in those *participating jurisdictions*.

4.8.9A Provision of an ancillary service under a direction

(a) If:

(1) *NEMMCO* becomes aware that it requires an *ancillary service* in order to maintain the *power system* in a *secure operating state* at some time in the future; and

(2) *NEMMCO* believes that it is not able to meet that requirement using the *ancillary services* available to it through the *spot market* or under *ancillary services agreements*; and

(3) in the case of a *non-market ancillary service*, *NEMMCO* believes that it is not practicable to meet that requirement by calling for offers under clause 3.11.5,

then *NEMMCO* may direct any *Code Participant* to provide the *ancillary service* in order to meet that requirement.

(b) A *Code Participant* must comply with a direction given under clause 4.8.9A(a) unless:

(1) the *Code Participant* is not capable of providing the *ancillary service*; or

(2) compliance would pose an imminent threat to the safety of any person or of damage to any property.

(c) If *NEMMCO* directs a *Code Participant* to provide an *ancillary service* under 4.8.9A and the *Code Participant* complies with the direction, then *NEMMCO* must compensate the *Code Participant* for doing so. Clause 8.2 shall apply to the determination of compensation.

(d) The compensation referred to in clause 4.8.9A(c) must be calculated in accordance with the following principles:

(1) the *Code Participant* is entitled to recover the higher of:

(i) the market value of the *ancillary services* provided under the direction, taking into account:

(A) for *market ancillary services*, the applicable *ancillary services prices* for the relevant *dispatch intervals* where these prices can be ascertained; or

(B) for *non-market ancillary services,* the prices payable under any *ancillary services agreements* for the provision of the relevant kind of *ancillary services* to *NEMMCO* where these prices can be ascertained; and

(ii) the additional costs the *Code Participant* incurred in complying with the direction, taking into account:

(A) the additional cost associated with maintaining the equipment used to provide the *ancillary service*; and

(B) the additional cost of any labour required to operate and maintain the equipment used to provide the *ancillary service*; and

(C) the additional cost of any materials consumed when the *ancillary service* is *dispatched*; and

(D) in the case of *non-market ancillary services*, the pricing structure of any *ancillary services agreements* for the provision of the relevant kind of *ancillary service* entered into under clause 3.11;

PLUS

(2) if the output of a *scheduled generating unit* or *scheduled load* of the *Code Participant* is limited below the level to which it would otherwise have been *dispatched* by *NEMMCO* on the basis of its *dispatch offer* or *dispatch bid* when complying with the direction, then the *Code Participant* is entitled to recover an amount equal to:

(i) any *spot market* revenue under the *Code* foregone as a result of the *scheduled generating unit's* or *scheduled load's* output being limited below the level to which it would otherwise have been *dispatched* by *NEMMCO* on the basis of its *dispatch offer* or *dispatch bid* when complying with the direction determined by the extent to which the *scheduled generating unit's* or *scheduled load's* (as the case may be) output is limited below the level to which it would otherwise have been *dispatched* and the *spot price* during the *trading interval*; less

(ii) any operating costs which the *Code Participant* would have incurred to earn that *spot market* revenue;

OR

(3) if the output of a *scheduled generating unit* or *scheduled load* of the *Code Participant* is limited above the level to which it would otherwise have been *dispatched* by *NEMMCO* on the basis of its *dispatch offer* or *dispatch bid* when complying with the direction, then the *Code Participant* is entitled to recover an amount equal to the greater of:

(i) an amount equal to:

(A) any operating costs which the *Code Participant* incurs in complying with the direction; minus

(B) any *spot market* revenue the *Code Participant* receives under the *Code* as a result of complying with the direction determined by the extent to which the *scheduled generating unit's* or *scheduled load's* (as the case may be) output is limited above the level to which it would otherwise have been *dispatched* by *NEMMCO* on the basis of its *dispatch offer* or *dispatch bid* and the *spot price* during the *trading interval*; and

(ii) zero.

4.8.10 Disconnection of generating units and market network services

(a) Where, under the *Code*, *NEMMCO* has the authority or responsibility to *disconnect* a *generating unit*, or a *market network service*, then it may do so (either directly or through any agent) as described in clause 5.9.

(b) The relevant *Generator* or *Market Network Service Provider* must provide all reasonable assistance to *NEMMCO* for the purpose of such *disconnection*.

4.8.11 [Deleted]

4.8.12 Local black system procedures

(a) Each *Generator* and *Market Network Service Provider* must develop draft *local black system procedures* for each of its *power stations* and each of its *network elements* which contribute to the provision of *market network services* and must submit those procedures for approval by *NEMMCO*.

(b) *NEMMCO* may request amendments to draft *local black system procedures* or any proposed changes as *NEMMCO* reasonably considers necessary by notice in writing to a *Generator* or *Market Network Service Provider*.

(c) If *NEMMCO* and a *Generator* or *Market Network Service Provider* are unable to agree on the amendments, the matter may be dealt with under the dispute resolution procedures in clause 8.2.

4.8.13 Testing of black start-up facilities and local black system procedures

(a) Each *Generator* providing *black start-up facilities* must arrange for the testing of:

(1) its *black start-up facilities* which are the subject of an *ancillary services agreement*; and

(2) the approved *local black system procedures*, to be carried out in accordance with *NEMMCO's* reasonable requirements at intervals nominated by *NEMMCO*, not exceeding 12 months to demonstrate that:

(3) each of the *black start-up facilities* is capable of start-up from a condition where it is *disconnected* from external power supplies; and

(4) the arranged *black start-up facilities* can actually start up the nominated *generating units* without assistance from the *power system*.

(b) Each *Generator* providing *black start-up facilities* must ensure that the auxiliary *plant* associated with those *black start-up facilities* is fully tested at intervals not exceeding three months.

4.8.14 Black system start-up

(a) *NEMMCO* must advise a *Code Participant* if, in *NEMMCO's* reasonable opinion, there is a *black system* condition which is affecting, or which may affect, that *Code Participant*.

(b) If a *Generator* or *Market Network Service Provider* is bound to provide *system restart* to *NEMMCO* under an *ancillary services agreement*, then the *local black system procedures* for that *Generator* or *Market Network Service Provider* must be consistent with that *ancillary services agreement*.

(c) *NEMMCO* may by notice in writing to the relevant *Generator* or *Market Network Service Provider* require such amendments to the *local black system procedures* for a *Generator* or *Market Network Service Provider* which, in its reasonable opinion, are needed for consistency with:

(1) actual *power system* requirements; or

(2) if the *Generator* or *Market Network Service Provider* is providing *system restart* under an *ancillary services agreement*, the relevant *ancillary services agreement*.

(d) If *NEMMCO* advises a *Generator* or *Market Network Service Provider* of a *black system* condition, and/or if the terms of the relevant *local black system procedures* require the *Generator* or *Market Network Service Provider* to take action, then the *Generator* or *Market Network Service Provider* must comply with the requirements of the *local black system procedures*.

(e) If there is a *black system* condition, then a *Market Customer* must comply with *NEMMCO's* instructions with respect to the timing and magnitude of *load* restoration.

4.8.15 Review of operating incidents

(a) Except where *NEMMCO* is required to carry out a review under clause 3.14.3(c) in respect of an event or circumstance, *NEMMCO* must conduct reviews of significant operating incidents or deviations from normal operating conditions in order to assess the adequacy of the provision and response of *facilities* or services, and the appropriateness of actions taken to restore or maintain *power system security*.

(b) For all cases where *NEMMCO* has been responsible for the *disconnection* of a *Code Participant* under the circumstances described in clause 8.15(a), a report of the review carried out in accordance with this clause 4.8.15 must be provided by *NEMMCO* to the *Code Participant* and *NECA* advising of the circumstances requiring that action. Where the report relates to operating incidents which were of significance to the operation of the *power system*, the report of the review carried out in accordance with this clause 4.8.15 must be made available to *Code Participants* and the public.

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

(d) A *Code Participant* must provide to *NEMMCO* such information relating to the performance of its equipment during and after particular *power system* incidents or operating condition deviations as *NEMMCO* reasonably requires for the purposes of analysing or reporting on those *power system* incidents or operating condition deviations.

(e) *NEMMCO* must provide to a *Code Participant* such information or reports relating to the performance of that *Code Participant's* equipment during *power*

system incidents or operating condition deviations as that *Code Participant* reasonably requests and in relation to which *NEMMCO* is required to conduct a review under this clause 4.8.15.

4.9 Power System Security Related Market Operations

4.9.1 Load forecasting

(a) *NEMMCO* must produce (at the intervals indicated and in accordance with the timetable) an indicative *load* forecast for each *region* for the periods indicated below:

(1) Each *day*, a forecast for the *day* ahead, such forecast divided into half-hourly *load* forecasts for each *trading interval*;

(2) Each *day*, a forecast for 2 to 7 *days* (inclusive) ahead, the forecasts for each *day* divided into half-hourly *load* forecasts for each *trading interval*;

(3) Every week, a forecast for the 24 *months* ahead of the *day* on which the forecast is produced, with a daily profile based on an estimated weekly peak load condition with allowances for weekends and holidays.

(b) These forecasts are to provide an indicative estimate of the total *generation* capacity required to meet the forecast *load* (called "forecast *load (as generated)*"), and an equivalent estimation of the *supply* required to be delivered to the *transmission network* (called "forecast *load (sent out)*").

(c) The following factors must be taken into account in the development of the *load* forecasts, to the extent that such are relevant to the particular forecast:

(1) The annual *load* forecasts and *load* profiles collected by the *Network Service Providers* from all *Code Participants* as required by schedule 5.7, including *load* management expectations and expected sent-out electricity from *embedded generating units*;

(2) Historic *load* data, including *transmission losses* and *power station* in-house use of the *generated* output;

(3) Weather forecasts and the current and historic weather conditions and pattern;

(4) The incidence of major events or activities which are known to *NEMMCO*;

(5) Anticipated pumped storage *loads*;

(6) Official economic activity forecasts from *participating jurisdictions*; and

(7) Other information provided by *Code Participants*.

(d) *NEMMCO* must develop a methodology to create the indicative *load* forecasts.

(e) A 10% probability of exceedence of *load* forecast will be adopted for the purposes of determination of *short term capacity reserve* and *medium term capacity reserve* requirements under the *power system security and reliability standards*.

(f) *NEMMCO* must aggregate the regional forecasts to produce a total *interconnected transmission network* indicative *load* schedule for use in *NEMMCO* processes such as the determination of the required levels of *short term capacity reserves*, *medium term capacity reserves*, the *PASA* assessments and *pre-dispatch schedules*.

(g) The *load* forecasts produced by *NEMMCO* shall be indicative only as *NEMMCO* has no direct influence over *Market Participants* in their decisions about their level of demand and, accordingly, no *Code Participant* is entitled to claim any loss or damage from *NEMMCO* as a result of any difference between *load* forecasts and actual *load*.

4.9.2 Dispatch instructions to Scheduled Generators

(a) To implement *central dispatch* or, where *NEMMCO* has the power to direct or to instruct a *Scheduled Generator* either under the *market rules* or this Chapter 4, for the purpose of giving effect to that direction or instruction, *NEMMCO* may at any time give an instruction to a *Scheduled Generator* in relation to any of its *scheduled generating units*, in accordance with clause 4.9.5 (b), nominating:

(1) whether the facilities for *generation* remote control by *NEMMCO*, if available, are required to be in service; and

(2) the level or schedule of power to be supplied by the *generating unit* over the specified period.

(3) **[Deleted]**

(4) **[Deleted]**

(5) **[Deleted]**

(b) Subject to paragraph (b1), *NEMMCO* may at any time give an instruction to a *Scheduled Generator* in relation to any of its *scheduled generating units* nominating that:

(1) the *generating unit* transformer be set to a nominated tap position (if it has on-load tap changing capability);

(2) the *generating unit's excitation control system voltage* set-point be set to give a nominated *voltage* at its terminals; or

(3) the *generating unit* will be operated to supply or absorb a nominated level of *reactive power* at its terminals.

(b1) Unless otherwise provided under an *ancillary services agreement* or a *connection agreement, NEMMCO* may not give an instruction under paragraph (b) that requires a *generating unit* to supply or absorb *reactive power* at its terminals at a level which is outside the mandatory capability for that *generating unit* determined in accordance with clause S5.2.5.1 of Schedule 5.2.

(c) A *Scheduled Generator* must, with respect to *scheduled generating units* which have an availability offer of greater than 0 MW (whether *synchronised* or not), ensure that appropriate personnel are available at all times to receive and immediately act upon *dispatch instructions* issued under clause 4.9.2 to the *Scheduled Generator* by *NEMMCO*.

4.9.2A Dispatch Instructions to Scheduled Network Service Providers

(a) Where *NEMMCO* has the power to direct or to instruct a *Scheduled Network Service Provider* either under the *market rules* or this Chapter 4, for the purpose of giving effect to that direction or instruction, *NEMMCO* may at any time give an instruction to a *Scheduled Network Service Provider* in relation to any of its *scheduled network services*, in accordance with clause 4.9.5 (b), nominating:

(1) whether the facilities for remote control by *NEMMCO,* if available, are required to be in service; and

(2) the level or schedule of power to be transferred by the *network service* over the specified service.

(b) **[Deleted]**

(c) A *Scheduled Network Service Provider* must, with respect to scheduled *network services* which have an availability offer of greater than 0 MW, ensure that appropriate personnel are available at all times to receive and immediately act upon *dispatch instructions* issued to the *Scheduled Network Service Provider* by *NEMMCO*.

4.9.3 Instructions to other Code Participants

(a) *NEMMCO* may, at any time, give instructions to *Code Participants* to reduce their *load* for electricity consistent with *dispatch bids* made in accordance with Chapter 3 of this *Code*.

(b) **[Deleted – refer 4.9.3B(a)]**

(c) **[Deleted]**

(d) A *Market Customer* must, with respect to *scheduled loads* in relation to which a *dispatch offer* has been submitted for a particular *trading interval*, ensure that appropriate personnel and/or electronic facilities are available at all times to receive and immediately act upon *dispatch instructions* issued to the *Market Customer* by *NEMMCO*.

(e) **[Deleted – refer 4.9.3B(b)]**

4.9.3A Ancillary services instructions

(a) *NEMMCO* may at any time give an instruction to a *Market Participant* which has classified an *ancillary services generating unit* or an *ancillary service load*:

(1) stating that the relevant *generating unit* or *load* has been selected for the provision of a *market ancillary service;*

(2) stating the *market ancillary service* concerned; and

(3) nominating the range to be enabled.

(b) *NEMMCO* may at any time give an instruction to a *Code Participant* with which *NEMMCO* has an *ancillary services agreement* in relation to the provision of *non-market ancillary services* under that *ancillary services agreement* or which *NEMMCO* is otherwise entitled to give under that *ancillary services agreement*.

(c) A *Market Participant* which has:

(1) classified an ancillary service generating unit or ancillary service load; and

(2) submitted an *ancillary service offer* in respect of that *generating unit* or *load*;,

must ensure that appropriate personnel or electronic facilities are available at all times to receive and immediately act upon *dispatch instructions* issued under this clause to the *Market Participant* by *NEMMCO*.

(d) A *Code Participant* with which *NEMMCO* has an *ancillary services agreement* must ensure that appropriate personnel or electronic facilities are available in accordance with that agreement at all times to receive and immediately act upon *dispatch instructions* issued to the *Code Participant* by *NEMMCO*.

4.9.3B Compliance with dispatch instructions

(a) A *dispatch instruction* applies from the time it is given (or any later time specified in the *dispatch instruction*) until the earlier of:

(1) the cessation time specified in the *dispatch instruction* (if any); or

(2) the time when the next *dispatch instruction* applies.

(b) A *Code Participant* must comply with a *dispatch instruction.*

4.9.4 Dispatch related limitations on Scheduled Generators

A *Scheduled Generator* must not, unless in the *Scheduled Generator's* reasonable opinion public safety would otherwise be threatened or there would be a material risk of damaging equipment or the environment:

(a) send out any energy from a *scheduled generating unit*, except:

(1) in accordance with the *self-commitment* procedures specified in clause 4.9.6 up to the *self-dispatch level*; or

(2) in accordance with a *dispatch instruction*; or

(3) as a consequence of operation of the *generating unit's* automatic *frequency response mode* to *power system* conditions; or

(4) in response to remote control signals given by *NEMMCO* or by its agent on its behalf; or

(5) in connection with a test conducted in accordance with the requirements under Chapters 4 and 5 of the *Code*;

(b) adjust the *transformer tap position* or *excitation control system voltage* set-point of a *scheduled generating unit* except:

(1) in accordance with a *dispatch instruction*; or

(2) in response to remote control signals given by *NEMMCO* or its agent; or

(3) if, in the *Scheduled Generator's* reasonable opinion, the adjustment is urgently required to prevent material damage to the *Scheduled Generator's plant* or associated equipment, or in the interests of safety; or

(4) in connection with a test conducted in accordance with the requirements under clause 5.7;

(c) *energise* a *connection point* in relation to a *scheduled generating unit* without prior approval from *NEMMCO*. This approval must be obtained immediately prior to *energisation*;

(d) *synchronise* a *scheduled generating unit* to, or *de-synchronise* a *scheduled generating unit* from, the *power system* without prior approval from *NEMMCO* except *de-synchronisation* as a consequence of the operation of automatic protection equipment or where such action is urgently required to prevent material damage to *plant* or equipment or in the interests of safety;

(e) change the *frequency response mode* of a *scheduled generating unit* without the prior approval of *NEMMCO*; or

(f) remove from service or interfere with the operation of any *power system* stabilising equipment installed on that *generating unit*.

4.9.4A Dispatch related limitations on Scheduled Network Service Providers

A *Scheduled Network Service Provider* must not, unless in the *Scheduled Network Service Provider's* reasonable opinion public safety would otherwise be threatened or there would be a material risk of damaging equipment or the environment:

(a) *energise a connection point* in relation to a *scheduled network service* without prior approval from *NEMMCO*. This approval must be obtained immediately prior to *energisation;* or

(b) synchronise a *scheduled network service* to, or de-synchronise a *scheduled network service* from, the *power system* without prior approval from *NEMMCO* except de-synchronisation as a consequence of the operation of automatic protection equipment or where such action is urgently required to prevent material damage to *plant* or equipment or in the interests of safety.

4.9.5 Form of dispatch instructions

(a) A *dispatch instruction* for a *scheduled generating unit, a dispatch instruction* for a *scheduled network service* and a *dispatch instruction* for a *scheduled load* (including aggregated *generating units, scheduled network services* or *scheduled loads* as described in clause 3.8.3) must include the following:

(1) specific reference to the *scheduled generating unit* (including any aggregated *generating unit*), *scheduled network service* or *scheduled load* or other *facility* to which the *dispatch instruction* applies;

(2) the desired outcome of the *dispatch instruction* such as *active power*, *reactive power*, *transformer* tap or other outcome;

(3) in the case of a *dispatch instruction* under clause 4.9.2, the *ramp rate* (if applicable) which is to be followed by the *generating unit* or a specific target time to reach the outcome specified in the *dispatch instruction*;

(4) the time the *dispatch instruction* is issued; and

(5) if the time at which the *dispatch instruction* is to take effect is different from the time the *dispatch instruction* is issued, the start time.

(a1) A *dispatch instruction* for an *ancillary service* must include:

(1) specific reference to the *generating unit* or *load* to which the *dispatch instruction* applies;

(2) the desired outcome of the *dispatch instruction*;

(3) the time the *dispatch instruction* is issued; and

(4) if the time at which the *dispatch instruction* is to take effect is different from the time the dispatch instruction is issued, the start time.

(b) The *dispatch instruction* may be provided as provided in clause 3.8.21.

4.9.6 Commitment of scheduled generating units

(a) Self commitment

(1) In relation to any *scheduled generating unit*, the *Scheduled Generator* must confirm with *NEMMCO*, the expected *synchronising* time at least one hour before the expected actual *synchronising* time, and update this advice 5 minutes before *synchronising* unless otherwise agreed with *NEMMCO*. *NEMMCO* may require further notification immediately before *synchronisation*.

(2) The *Scheduled Generator* must advise *NEMMCO* when a *generating unit* reaches the *self dispatch level* and must not increase output above that level unless instructed otherwise by *NEMMCO* to increase output, or to place the *generating unit* under remote control to be loaded in accordance with Chapter 3.

(b) ~~Direction~~Instruction by *NEMMCO* to commit a *generating unit* for service

(1) A *dispatch instruction* for a *scheduled generating unit* to commit given by *NEMMCO* in response to a *dispatch* offer must be consistent with the start-up time specified in the latest *dispatch offer* in relation to the *generating unit*.

(2) When *NEMMCO* issues a *dispatch instruction* to a *generating unit* for *commitment*, *NEMMCO* must nominate the time at which the *generating unit* is to be *synchronised*.

(3) After a *dispatch instruction* for *commitment* of a *generating unit* has been issued, the relevant *Scheduled Generator* must promptly advise *NEMMCO* of any inability to meet the nominated time to *synchronise*.

(4) Unless instructed otherwise by *NEMMCO*, at the time a *dispatch instruction* to *commit* takes effect, the relevant *generating unit* must remain on *self dispatch level* until *NEMMCO* issues a further *dispatch instruction*.

4.9.7 De-commitment, or output reduction, by Scheduled Generators

(a) A *Scheduled Generator* must confirm with *NEMMCO* the expected *de-synchronising* time at least one hour before the expected actual *de-synchronising* time, and update this advice 5 minutes before

de-synchronising unless otherwise agreed with *NEMMCO*. *NEMMCO* may require further notification immediately before *de-synchronisation*.

(b) Information to be confirmed with *NEMMCO* to *de-commit* a *generating unit* must include:

(1) the time to commence decreasing the output of the *generating unit*;

(2) the *ramp rate* to decrease the output of the *generating unit*;

(3) the time to *de-synchronise* the *generating unit*; and

(4) the output from which the *generating unit* is to be *de-synchronised*.

4.9.8 General responsibilities of Code Participants

(a) A *Code Participant* must comply with a *dispatch instruction* given to it by *NEMMCO* unless to do so would, in the *Code Participant's* reasonable opinion, be a hazard to public safety or materially risk damaging equipment.

(b) A *Scheduled Generator* must ensure that each of its *scheduled generating units* is at all times able to comply with the latest *generation dispatch offer* under Chapter 3 in respect of that *generating unit*.

(b1) A *Scheduled Network Service Provider* must ensure that each of its *scheduled network services* is at all times able to comply with the latest *network dispatch offer* under Chapter 3 in respect of that *market network service*.

(c) A *Code Participant* must ensure that each of its *facilities* is at all times able to comply with any relevant *dispatch bid* under Chapter 3 in respect of the *facility* (as adjusted by any subsequent restatement of that bid under Chapter 3).

(d) A *Market Participant* which has classified a *generating unit* or *load* as an *ancillary service generating unit* or an *ancillary service load*, as the case may be, must ensure that the *ancillary service generating unit* or *ancillary service load* is at all times able to comply with the latest *ancillary services offer* for the relevant *trading interval*.

4.9.9 Scheduled Generator plant changes

A *Scheduled Generator* must, without delay, notify *NEMMCO* of any event which has changed or is likely to change the operational availability of any of its *scheduled generating units*, whether the relevant *generating unit* is *synchronised* or not, as soon as the *Scheduled Generator* becomes aware of the event.

4.9.9A Scheduled Network Service Provider plant changes

A Scheduled Network Service Provider must, without delay, notify *NEMMCO* of any event which has changed or is likely to change the operational availability of any of its *scheduled network services*, as soon as the *Scheduled Network Service Provider* becomes aware of the event.

4.9.9B Ancillary service plant changes

A Market Participant which has classified a *generating unit* or *load* as an *ancillary service generating unit* or an *ancillary service load* must, without delay, notify *NEMMCO* of any event which has changed or is likely to change the availability of a *market ancillary service*, or the capability of the *generating unit* or *load* to respond in the manner contemplated by the *market ancillary service specification*, as soon as the *Market Participant* becomes aware of the event.

4.10 Power System Operating Procedures

4.10.1 Power system operating procedures

(a) The *power system operating procedures* are:

(1) any instructions which may be issued by *NEMMCO* from time to time covering market operations and relating to the operation of the *power system*; and

(2) any guidelines issued from time to time by *NEMMCO* in relation to *power system security*; and

(3) regional specific *power system operating procedures* covering the operational activities and associated responsibilities of the relevant *Network Service Provider* and any *Code Participants* connected to the relevant *transmission network* and operational activities for operational elements of the *transmission network* which interface with *Scheduled Generators* and other *Code Participants* including, but not limited to, those relating to *sensitive loads*; and

(4) the load shedding procedures; and

(5) any other procedures, instructions or guidelines which *NEMMCO* nominates to be and advises to *Code Participants* as being *power system operating procedures* from time to time.

(b) *NEMMCO* must, compile the regional specific *power system operating procedures* in conjunction with the relevant *Network Service Providers* and the relevant *Jurisdictional Co-ordinators* to the extent required under clause 4.10.1(a)(4).

(c) *NEMMCO* must ensure that the various elements of the *power system operating procedures* are consistent with the *load shedding procedures*.

4.10.2 Transmission network operations

(a) *NEMMCO* must exercise any power granted to it by the *Code* or the *power system operating procedures* to:

(1) approve the manner in which operations are carried out on the *transmission network* by the relevant *Network Service Provider*; or

(2) ~~direct~~instruct the relevant *Network Service Provider* to take any action on the *transmission network*, in accordance with the appropriate *power system operating procedures*.

(b) A *Code Participant* must observe the requirements of the relevant *power system operating procedures*.

(c) *Code Participants* must operate their equipment interfacing with the *transmission network* in accordance with the requirements of Chapter 5 of the *Code*, any applicable connection agreement, *ancillary services agreement*, and the associated *power system operating procedures*.

(d) *Code Participants* must ensure that *transmission network* operations performed on their behalf are undertaken by authorised persons advised in writing to *NEMMCO*.

(e) *NEMMCO* must ensure the regular review and update of the *regional specific power system operating procedures*.

4.10.3 Operating interaction with distribution networks

(a) *NEMMCO* and each *Distribution System Operator* must maintain effective communications concerning the conditions of its *distribution network* and the *transmission network* or other *distribution network* to which that *distribution network* is *connected* and to co-ordinate activities where operations are anticipated to affect other *transmission* or *distribution networks*.

(b) *NEMMCO* must use its reasonable endeavours to give at least 3 *days*' notice to all affected *Distribution System Operators* prior to a *Transmission Network Service Provider* carrying out switching related to a *transmission network* which could reasonably be expected to affect security of *supply* to any *distribution network*.

4.10.4 Switching of a Distributor's high voltage networks

(a) A *Distribution System Operator* must use reasonable endeavours to give *NEMMCO* at least three *days*' prior notice of plans to carry out switching related to the *high voltage* network which could reasonably be expected to materially affect power flows at points of connection to a *transmission network*. The *Distribution System Operator* must also notify *NEMMCO* immediately prior to carrying out any such switching.

(b) A *Distribution System Operator* must provide confirmation to *NEMMCO* of any such switching immediately after it has occurred.

4.10.5 Switching of reactive power facilities

(a) *NEMMCO* may instruct a *Distribution System Operator* to place reactive facilities belonging to or controlled by that *Distribution System Operator* into

or out of service for the purposes of maintaining *power system security* where prior arrangements concerning these matters have been made between *NEMMCO* and a *Distribution System Operator*.

(b) Without limitation to its obligations under such prior arrangements, a *Distribution System Operator* must use reasonable endeavours to comply with such an instruction given by *NEMMCO* or its authorised agent.

4.10.6 Automatic reclose

(a) A *Network Service Provider* or a *Distribution System Operator* may request *NEMMCO* to disable or enable *automatic reclose equipment* in relation to a particular *transmission* or *distribution network* circuit or a feeder connecting its *distribution network* to a *transmission network* which has *automatic reclose equipment* installed on it.

(b) If a *Distribution System Operator* makes such a request, then *NEMMCO* must use reasonable endeavours to comply with the request as soon as reasonably practical.

NEMMCO is not responsible for the consequences of automatic reclosure in relation to a feeder and the *Distribution System Operator* must indemnify *NEMMCO* against any loss or damage unless the loss or damage is due to the failure by *NEMMCO* to comply with the request within a reasonable period of time.

4.10.7 Inspection of facilities by NEMMCO

NEMMCO may inspect a facility of a *Code Participant* as specified in clause 5.7.1.

4.11 Power System Security Support

4.11.1 Remote control and monitoring devices

(a) All remote control, operational *metering* and monitoring devices and local circuits as described in schedules 5.2, 5.3 and 5.3a, must be installed and maintained in accordance with the standards and protocols determined and advised by *NEMMCO* (for use in the *control centres*) for each:

(1) *scheduled generating unit connected* to the *transmission* or *distribution network*; and

(2) *substation* connected to the *network*.

(b) The provider of any *ancillary services* must arrange the installation and maintenance of all *remote control equipment* and *remote monitoring equipment* in accordance with the standards and protocols determined by *NEMMCO* for use in the relevant *control centre*.

(c) The controls and monitoring devices must include the provision for indication of *active power* and *reactive power* output, and to signal the status and any associated alarm condition relevant to achieving adequate control of the *transmission network*, and the *generating plant* active and reactive output.

4.11.2 Operational control and indication communication facilities

(a) Each *Network Service Provider* must provide and maintain, in accordance with the standards referred to in clause 4.11.2(c), the necessary primary and, where nominated by *NEMMCO*, back-up communications facilities for control, operational metering and indication from the relevant local sites to the appropriate interfacing termination as nominated by *NEMMCO*.

(b) *NEMMCO* must provide and maintain the communication facilities between *state control centres* and the *NEMMCO co-ordinating centre*.

(c) *NEMMCO* must develop, and may amend, standards in consultation with *Network Service Providers* in accordance with the *Code consultation procedures* which must be met by *Network Service Providers* in providing and maintaining the facilities referred to in clause 4.11.2 (a).

(d) Until the standards contemplated by clause 4.11.2 (c) are issued by *NEMMCO*, each *Network Service Provider* must maintain the primary and back-up communications facilities referred to in clause 4.11.2(a) that were in place at *market start* so as to achieve substantially the same performance and functionality as they did over the 12 months prior to *market start*. In this clause *"market start"* means *market commencement* in respect of the *spot market*.

4.11.3 Power system voice/data operational communication facilities

(a) *Network Service Providers*, *System Operators*, *Distribution System Operators*, *Generators* and *Market Participants* must advise *NEMMCO* of each nominated person for the purposes of giving or receiving *operational communications* in relation to each of its *facilities*. The persons so nominated must be those responsible for undertaking the operation of the relevant equipment of the relevant *Code Participant*.

(b) Contact personnel details which must be forwarded to *NEMMCO* include:

(1) title of contact personnel;

(2) the telephone numbers of those personnel;

(3) the telephone numbers of other available communication systems in relation to the relevant *facility*;

(4) a facsimile number for the relevant *facility*; and

(5) an electronic mail address for the relevant *facility*.

(c) Each *Code Participant* must provide, for each nominated person, two independent telephone communication systems fully compatible with the equipment installed at the appropriate *control centre* nominated by *NEMMCO*.

(d) Each *Code Participant* must maintain both telephone communication systems in good repair and must investigate faults within 4 hours, or as otherwise agreed with *NEMMCO*, of a fault being identified and must repair or procure the repair of faults promptly.

(e) Each *Code Participant* must establish and maintain a form of electronic mail facility as approved by *NEMMCO* for communication purposes (such approval may not be unreasonably withheld).

(f) *NEMMCO* must advise all *Code Participants* of nominated persons for the purposes of giving or receiving *operational communications*.

(g) Contact personnel details to be provided by *NEMMCO* include title, telephone numbers, a facsimile number and an electronic mail address for the contact person.

4.11.4 Records of power system operational communication

(a) *NEMMCO* and the *System Operators* must record each telephone *operational communication* in the form of log book entries or by another auditable method which provides a permanent record as soon as practicable after making or receiving the *operational communication*.

(b) Records of *operational communications* must include the time and content of each communication and must identify the parties to each communication.

(c) Voice recordings of telephone *operational communications* may be undertaken by *NEMMCO* and the *System Operator*. *NEMMCO* and the *System Operators* must ensure that when a telephone conversation is being recorded under this clause, the persons having the conversation receive an audible indication that the conversation is being recorded. Voice recordings may be used as an alternative to written logs.

(d) *NEMMCO* and the *System Operators* must retain all *operational communications* records including voice recordings for a minimum of 7 years.

(e) In the event of a dispute involving an *operational communication*, the records of that *operational communication* maintained by, or on behalf of, *NEMMCO* will constitute prima facie evidence of the contents of the *operational communication*.

(f) Any recordings made in accordance with this clause 4.11.4 must be made in accordance with the provisions of all applicable privacy laws.

4.11.5 Agent communications

(a) A *Code Participant* may appoint an agent (called a "*Code Participant Agent*") to coordinate operations of one or more of its facilities on its behalf, but only with the prior written consent of *NEMMCO*.

(b) A *Code Participant* which has appointed a *Code Participant Agent* may replace that *Code Participant Agent* but only with the prior written advice to *NEMMCO*.

(c) *NEMMCO* may only withhold its consent to the appointment of a *Code Participant Agent* under clause 4.11.5 (a), if it reasonably believes that the relevant person is not suitably qualified or experienced to operate the relevant facility at the interface with a *transmission network*.

(d) For the purposes of the *Code*, acts or omissions of a *Code Participant Agent* are deemed to be acts or omissions of the relevant *Code Participant*.

(e) *NEMMCO* and its representatives (including authorised agents) may:

(1) rely upon any communications given by a *Code Participant Agent* as being given by the relevant *Code Participant*; and

(2) rely upon any communications given to a *Code Participant Agent* as having been given to the relevant *Code Participant*.

(f) *NEMMCO* and *System Operators* are not required to consider whether any instruction has been given to a *Code Participant Agent* by the relevant *Code Participant* or the terms of those instructions.

4.12 Nomenclature Standards

(a) A *Network Service Provider* must use the *nomenclature standards* for transmission equipment and apparatus as agreed with *NEMMCO* or failing agreement, as determined by *NEMMCO*.

(b) A *Code Participant* must use reasonable endeavours to ensure that its *representatives* comply with the *nomenclature standards* in any *operational communications* with *NEMMCO*.

(c) A *Code Participant* must ensure that name plates on its equipment relevant to operations at any point within the *power system* conform to the requirements set out in the *nomenclature standards*.

(d) A *Code Participant* must use reasonable endeavours to ensure that nameplates on its equipment relevant to operations within the *power system* are maintained to ensure easy and accurate identification of equipment.

(e) A *Code Participant* must ensure that technical drawings and documentation provided to *NEMMCO* comply with the *nomenclature standards*.

(e) *NEMMCO* may, by notice in writing, request a *Code Participant* to change the existing numbering or nomenclature of *transmission* equipment and apparatus of the *Code Participant* for purposes of uniformity, and the *Code Participant* must comply with such a request provided that if the existing numbering or nomenclature conforms with the *nomenclature standards*, *NEMMCO* must pay all reasonable costs incurred in complying with the request.

5. Network Connection

5.2.4 Obligations of customers

(a) Each *Customer* must ensure that all *facilities* which are owned, operated or controlled by it and are associated with a *connection point* at all times comply with applicable requirements and conditions of *connection* for *Customers:*

(1) as set out in schedule 5.3; and

(2) in accordance with any *connection agreement* with a *Network Service Provider*,

and if there is an inconsistency between schedule 5.3 and such a *connection agreement*:

(3) if compliance with the relevant provision of the *connection agreement* would adversely affect the quality or security of *network service* to other *Network Users,* schedule 5.3 is to prevail;

(4) otherwise, the *connection agreement* is to prevail.

(b) A *Customer* must:

(1) submit an *application to connect* in respect of new or altered equipment owned, operated or controlled by the *Customer* and enter into a *connection agreement* with a *Network Service Provider* in accordance with clause 5.3 prior to that equipment being *connected* to the *network* of that *Network Service Provider* or altered (as the case may be);

(2) comply with the reasonable requirements of the relevant *Network Service Provider* in respect of design requirements of equipment proposed to be *connected* in accordance with clause 5.4 and schedule 5.3;

(3) provide *load* forecast information to the relevant *Network Service Provider* in accordance with clause 5.6;

(4) permit and participate in inspection and testing of *facilities* and equipment in accordance with clause 5.7;

(5) permit and participate in commissioning of *facilities* and equipment which is to be *connected* to a *network* for the first time in accordance with clause 5.8;

(6) operate its *facilities* and equipment in accordance with any *direction* under clause 4.8.9~~or *ancillary services direction*~~[1] given by *NEMMCO*; and

(7) give notice of any intended voluntary *disconnection* in accordance with clause 5.9.

(h) Within 2 years of *market commencement*, *NECA* must develop *Code* provisions in accordance with clause 8.3 to address the financial risk to a *Market Network Service Provider* arising when any part of its *network* which is solely used for the provision of *market network* services needs to be *augmented* to support an *augmentation* to the *national grid* approved in an annual planning review under clause 5.6.5.

(i) Until the *Code* is amended to include the provisions developed in accordance with clause 5.2.3(h), this Chapter 5 is neither intended to, nor is it to be read or construed as having the effect of requiring a *Network Service Provider* to permit *connection* to or to *augment* any parts of its *network* which are solely used for the provision of *market network services*[2]

5.2.5 Obligations of generators

(a) A *Generator* must comply at all times with applicable requirements and conditions of *connection* for *generating units:*

(1) as set out in schedule 5.2; and

(2) in accordance with any *connection agreement* with a *Network Service Provider*,

and if there is an inconsistency between schedule 5.2 and such a *connection agreement*:

(3) if compliance with the relevant provision of the *connection agreement* would adversely affect the quality or security of *network service* to other *Network Users,* schedule 5.2 is to prevail;

(4) otherwise, the *connection agreement* is to prevail.

(b) Each *Generator* must:

(1) submit an *application to connect* in respect of new or altered equipment owned, operated or controlled by it and enter into a *connection agreement* with a *Network Service Provider* in accordance with clause 5.3 prior to that equipment being connected to the *network* of that *Network Service Provider* or altered (as the case may be);

~~1 Ancillary Services~~

2 Transmission and distribution pricing review

(2) comply with the reasonable requirements of the relevant *Network Service Provider* in respect of design requirements of equipment proposed to be *connected* to the *network* of that *Network Service Provider* in accordance with clause 5.4 and schedule 5.2;

(3) provide *generation* forecast information to the relevant *Network Service Provider* in accordance with clause 5.6;

(4) permit and participate in inspection and testing of *facilities* and equipment in accordance with clause 5.7;

(5) permit and participate in commissioning of *facilities* and equipment which is to be *connected* to a *network* for the first time in accordance with clause 5.8;

(6) operate *facilities* and equipment in accordance with any *direction* under clause 4.8.9 or clause 4.8.9 instruction~~or *ancillary services* direction[3]~~ given by *NEMMCO*; and

(7) give notice of intended voluntary *disconnection* in accordance with clause 5.9.

~~3 Ancillary Services~~

Derogations (Chapter 8)

Part 5DELETED

~~Generator Compensation Derogation Granted to NEMMCO~~

~~Clause 4.8.9 of the *Code* applies to *NEMMCO* as modified and varied by paragraphs 1 and 2 below, which derogations cease on the dates set out in paragraph 3 below:~~

~~1. Postponement of Payment of Generator Compensation~~

~~(a) Clause 4.8.9(h) of the *Code* is modified and varied as follows:~~

~~*"NEMMCO* must no later than the expiration of 1 month after the date on which the *Code* is amended to provide a mechanism for *NEMMCO* to fund compensation payable under clause 4.8.9(f):~~

~~(1) determine a methodology for compensating *Generators* under clause 4.8.9(f) (the *"Generator direction compensation methodology"*);~~

~~(2) in determining the Generator direction compensation methodology, compare and contrast the methodologies for the calculation of compensation in clauses 3.11.2(c), 4.5.2(b) and 4.8.5(c), publish the results of such comparison and discuss those results during the course of the *Code consultation procedures* conducted in determining the draft Generator direction compensation methodology referred to below; and~~

~~(3) once it has determined the Generator direction compensation methodology in accordance with sub paragraph (1) above, publish the rationale underlying its determination,~~

~~The Generator direction compensation methodology and the underlying rationale must both first have been prepared and *published* in draft in accordance with the *Code consultation procedures* (except that the report published at the conclusion of those procedures is a draft report only and does not constitute a determination of the methodology) by no later than 1 July 1999. *NEMMCO* must seek further comments from *Code Participants* on the draft report once the ACCC has authorised the *Code* as amended to include a mechanism for *NEMMCO* to fund compensation payable under clause 4.8.9(f) and must consider any comments received within 5 *days* after seeking them before determining the *Generator direction compensation methodology*.~~

~~(b) Clause 4.8.9(i) is amended as follows:~~

"*NEMMCO* shall not be required to pay compensation to any *Generator* which becomes entitled to compensation under clause 4.8.9(f) prior to any methodology being determined under clause 4.8.9(h) until after:

(1) such a methodology has been determined; and

(2) 1 month has expired after the date on which the *Code* is amended to provide a mechanism for *NEMMCO* to fund compensation payable under clause 4.8.9(f)."[2]

2. Further Review of Generator Compensation under the Code

The following new sub-clauses are inserted at the end of clause 4.8.9:

"(j) Subject to clause 4.8.9(m), *NECA* and *NEMMCO* must conduct a joint review (the "*Joint Market Direction Review*") by 29 February 2000 of all *Code* provisions relating to directions which can be made by *NEMMCO* in relation to:

(1) *power system security*, including the current distinction between *power system security* and *reliability* directions; and

(2) *ancillary services*;

(referred to collectively as "Market Directions").

(k) *NECA* and *NEMMCO* must conduct the Joint Market Direction Review in accordance with the *Code consultation procedures*.

(l) The Joint Market Direction Review is to:

(1) examine the *Code* provisions for Market Directions with a view to developing a consistent framework for such directions;

(2) propose arrangements for:

(i) issuing of Market Directions;

(ii) determination of the *market* price during periods when participants in the *market* are acting under a Market Direction;

(iii) payment for parties arising from a Market Direction; and

(iv) funding the payments referred to in sub clause (iii); and

(3) examine and propose arrangements for such other matters as *NEMMCO* and *NECA* consider appropriate.

(m) The Joint Market Direction Review will not examine *NEMMCO's* power to enter into contracts for *reserve* under clause 3.12.

3. Cessation of Derogation

This derogation applies:

(a) in relation to paragraph 1 above, until the earlier of:

(1) the expiration of 2 months after the date on which the *Code* is amended to provide a mechanism for *NEMMCO* to fund compensation payable under clause 4.8.9(f); and

(2) 31 January 2000; and

(b) in relation to paragraph 2 above, 31 March 2000.

Chapter 10. GLOSSARY

additional direction claims

Has the meaning given in clause 3.12.11(e1)

affected participant's additional claim

Has the meaning given in clause 3.12.11(c)(1)(ii)

Affected Participant

Scheduled Generators or and *Scheduled Network Service Providers* that have had their *dispatched* quantity affected by a *direction* or *dispatch* of *plant* under a *reserve contract* which were not the subject of that *direction* or were not provided under a *reserve contract* or an *eligible person* entitled to receive an amount from *NEMMCO* pursuant to clause 3.15.1(b)(1) where there has been a change in flow of a *directional interconnector* for which the *eligible person* holds units, as a result of the *direction* or dispatch of *plant* under a reserve contract.

clause 4.8.9 instruction

Has the meaning given in clause 4.8.9(a1)(2).

compensation recovery amount

Has the meaning given in clause 3.15.8(a).

Directed Participant

A *Scheduled Generator*, *Market Non-Scheduled Generator*, *Scheduled Network Service Provider* or *Market Customer* the subject of a *direction*.

direction

~~A direction issued by *NEMMCO* to any *Code Participant* to do any act or thing which NEMMCO considers necessary to maintain or re-establish the *power system security* in accordance with clause 4.8.9 or clause 8.5.9 or to maintain or re-establish the *power system* in a *reliable operation state* in accordance with clause 4.8.5.~~

Has the meaning given in clause 4.8.9(a1)(1).

~~directions~~ intervention settlement timetable

Has the meaning given in clause 3.12.10(b).

dispatch

The act of initiating or enabling all or part of the response offered or bid in respect of a *schedules generating unit*, *scheduled load*, *scheduled network service* or an *ancillary service generating unit* or an *ancillary service load* in accordance with clause 3.8, or, a *direction* or operation of capacity the subject of a *reserve contract* as appropriate.

market customer's additional claim

Has the meaning given in clause 3.12.11(c)(2)(i).

Referred Affected Participant

An *Affected Participant* who has a claim referred to an independent expert pursuant to clauses 3.12.11(g) or 3.12.11(h).

Referred Directed Participant

A *Directed Participant* who has a claim referred to an independent expert pursuant to clause 3.15.7B(d) or 3.15.7B(e).

Referred Market Customer

A *Market Customer* who has a claim referred to an independent expert pursuant to clauses 3.12.11(g) or 3.12.11(h).

regional benefit directions procedures

Has the meaning given in clause 3.15.8(b2)

scheduled plant

In respect of *Code Participant*, a *market generating unit*, a *scheduled network service* or a *scheduled load* classified by or in respect to that *Code Participant* under Chapter 2.

[Note: "direction" is referred to in definitions of "self-dispatch level" and "directed price trading interval" and cross references will need to be amended].

Enertrade

15 June 2001 Ref.

Mr Greg Thorpe
National Electricity Code Administrator
Level 5, 41 Currie Street
ADELAIDE SA 5000

Dear Mr Thorpe

Review of Directions in the National Electricity Market

I am writing in response to the Code Change Panel's paper on the review of directions in the National Electricity Market.

Enertrade is concerned about a key element of the proposed compensation arrangements. The draft Code changes provide that a fair payment price for a directed participant is the price exceeded not more than ten percent of the time over the twelve months immediately before the day of the direction. We consider this arrangement, in many cases, to be unlikely to deliver a fair outcome to directed participants. Consequently in those cases, potential new entrants - whether generators or network service providers - are unlikely to receive a truly accurate price signal, which is one of the goals of the revised directions arrangements.

We do note that the changes also provide for claims for additional compensation if a participant considers the fair payment price insufficient to cover its revenue loss or additional direct costs arising from the direction. These claims are to be referred to an independent expert if NEMMCO and the participant cannot reach a settlement. However, Enertrade's north Queensland plant is directed on quite frequently and we anticipate resorting regularly to claims for additional compensation. We therefore submit it would be more efficient to reconsider the basis for determining the fair payment price.

A pay-as-bid arrangement is attractive in principle, but we concede it poses practical difficulties for NEMMCO, NECA and participants. In light of this point, Enertrade suggests that a sound arrangement would be to set a negotiated standing price more reflective of the price that would arise if effective competition for the type of service being provided existed in the sub region. We contend that this is the long run average marginal cost of the directed plant, given the expected load factor of operation. Not only would a price so derived be fairer to the directed participant, it would send a more accurate price signal to potential new entrants. Participants who are directed-on rarely

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could have the option of choosing to be compensated in line with the Panel's current proposals.

To avoid concerns about commercial confidentiality, a price reflective of a plant's long run marginal cost could be constructed readily by reference to the benchmark costs of like plant and the cost of the fuel used by the plant at the time of the direction. If negotiation was unsuccessful, independent experts could be engaged to estimate the price. There are many reputable engineering consultants capable of making this calculation.

Enertrade would welcome the opportunity to discuss this proposal with you.

Yours sincerely

Malcolm Whalley
ENERGY RISK MANAGER

Enquiries: Don Woodrow, Manager Regulation
Telephone (07) 3228 7048
Facsimile (07) 3228 8100

Enron Australia Pty. Ltd.

Level 21
9 Castlereagh Street
Sydney NSW 2000
Australia
Tel: 61 (02) 9229 2300
Fax: 61 (02) 9229 2350

14 June 2001

Greg Thorpe
National Electricity Code Administrator
Level 5, 41 Currie Street
Adelaide SA 5000
e-mail: gthorpe@neca.com.au

Dear Mr Thorpe,

Review of Directions in the National Electricity Market

Enron Australia Energy Pty Ltd (Enron Australia) welcomes the opportunity to comment on the changes proposed to the National Electricity Code ("the Code") as part of the review of directions in the National Electricity Market.

Generally, Enron Australia supports the direction taken by NEMMCO and NECA in this review. However, it is our contention that the proposed Code changes provide for inequitable treatment of market participants and therefore must be amended. Our concern is based around two factors:

- The non-inclusion of Traders in the definition of Affected Parties; and
- The ability of Affected Parties to include their hedge positions in an appeal against the amount paid in the event of a direction.

Including Traders in the definition of Affected Parties will ensure that all owners of Settlements Residue Auction (SRA) units are treated equitably in the event of a direction. The value of a SRA unit is linked to the volume (and losses) transported across an interconnector, as well as the price differential. While the use of "what-if" pricing adequately deals with the pricing issues, there is the potential for the flow across an interconnector to change as a result of a direction being issued. This was considered in Section 4.3 of the Independent Expert's report on the intervention pricing during 7-8 February 2001. As the Code changes currently stand, Generators and MNSPs can claim against this change in value in the SRA units, but this same ability is denied to Traders. Including Traders in the definition of Affected Parties will correct this inequity.

The Independent Expert's report also highlighted the difficulties in including hedge positions in the calculation of payments. Section 4.6 of the Independent Expert's report discusses the potential for inequitable treatment possible based solely on the corporate structure. Enron Australia notes that there are many other potential risks of including hedging arrangements in the assessment of payments. Hedges take many forms and are not always between market participants. For example, a generator may hedge its exposure to the electricity price through the use of weather derivatives or coal contracts. It is likely that NEMMCO and its Independent Expert will only ever know a subset of the secondary market (hedge) contracts in existence at the time of a direction. This has the potential to result in inequitable treatment of participants.

Enron Australia position is that all secondary market (hedge) contracts should be excluded from consideration in the assessment of payments in the event of a direction. This is consistent with the inclusion of Traders within the Affective Parties definition, and will limit the potential liability of direction to participants in the primary market (Market Customers, Generators, MNSPs and Traders).

We recommend that NECA incorporate these suggestions in the proposed Code changes so as to ensure fair and equitable treatment of all participants. Please call me (02 9229 2402) should you have any questions.

Yours faithfully,

[via e-mail]

Greg Denton
General Manager – Commercial Development

REP

7 JUNE 2001

Mr Greg Thorpe
Level 6
41 Currie Street
Adelaide 8000

Dear Mr Thorpe

REVIEW OF DIRECTIONS IN THE NATIONAL ELECTRICITY MARKET

I refer to the consultation on this matter.

We value the opportunity to provide input into this matter but believe that the issue is substantial enough to warrant a special meeting on directions. At such a meeting, the proposals that are being put forward by the Code Change Panel can be discussed by interested participants. Eraring Energy would be keen to participate in any such meeting.

Our main comments on the proposal are as follows:

1. We agree that the proposal to remove the distinction between a reliability and a security direction is valuable in that it removes the ambiguity faced by the market operator in satisfactorily managing the system.

2. We agree that in the context of a direction, 'what-if' pricing should be adopted to establish the compensation paid to a directed participant. However, the application of 'what-if' pricing would need to be applied in a manner which reflected the market objectives under Clause 1.3 (6) of the Code that:

   " the provisions regulating trading of electricity in the market should not treat intrastate trading more favourably or less favourably than interstate trading of electricity."

   It would be our view that to effect this arrangement, any 'what-if' pricing arrangement should ensure that the potential for interconnection between the States is maximise before and regional directions are given.

This would require that a specific ancillary service be created to maximise the transfers between the States and that this ancillary service should take predominance in the scheduling of generators for energy dispatch. For example, if a region was likely to be subject to a direction to maintain system reliability or security, then SPD should be altered to ensure that energy transfers across the interconnector are maximised through the scheduling of reactive power or energy provided by gatekeeper generators. This would be designed to ensure that interconnectors are fully available up to their maximum sustained rating before any direction to a regional generator was given. Such a process would result in Settlements Residue Auction units being firmer than they are now.

This may very well require the review of the current ancillary service arrangements and quickly reviewing whether we can put in place an appropriate market for reactive and other services.

One issue that needs to be addressed is the publication in real time of the amount of ancillary services that is under contract with NEMMCO and the actual level of ancillary services being provided to the market.

3. Eraring Energy firmly supports the proposal that NEMMCO is not required to pay compensation to a generator or MNSP where NEMMCO reasonably determines that an intentional or reckless actor omission by that generator or MNSP created or significantly contributed to the circumstances which resulted in the issue of the direction. Consideration also needs to be given to the role of TNSPs which through their operation cause directions to be given as a result of outages of transmission elements.

Yours faithfully

GERRY GROVE-WHITE
MANAGING DIRECTOR

HAZELWOOD
POWER

29 June 2001

Mr Greg Thorpe
NECA
Level 5, 41 Currie Street
Adelaide SA 5000

Via e-mail: gthorpe@neca.com.au

Dear Greg

COMMENTS TO CODE CHANGE PANEL
REVIEW OF DIRECTION IN THE NATIONAL ELECTRICITY MARKET

Hazelwood Power (HP) appreciates the opportunity to comment on this review.

Many of the proposals in this review are applauded. In particular, the consolidation of the previously separate powers of direction removes from NEMMCO the necessity to make a choice, with ill-defined parameters, between these different bases. The removal of this unsatisfactory arrangement will provide greater certainty to participants, and lift an unreasonable obligation from NEMMCO.

The proposal for market pricing during the currency of a market direction is also supported. HP agrees that the preservation of market signals is important and needs to be achieved despite the difficulties that flow from having a market price that is not aligned with the physical dispatch. The arrangements for compensation of effected parties deal with many, but not all of these difficulties.

The primary concern that HP has in relation to this review lies in the compensation to directed parties.

COMPENSATION TO DIRECTED PARTIES

Hazelwood Power has reviewed the comments on this issue by Snowy Hydro Trading Pty Ltd, and supports them. We have some additional comments in relation to this issue, which support their conclusion, but on a different basis,

The proposal on compensation for a directed participant assumes, incorrectly in our view, that the issue that should be considered is the value of energy.

We believe that this is incorrect because if fails to recognise the critical issue of risk.

The energy market is based on, and priced on, the supply of energy where the risk of damage to the producer's plant is minimal. But in the circumstances of a direction the risk to the directed producer will generally be significant. The proposed compensation for directed parties, being based on historical energy prices, fails to take any account of this risk to those parties.

We believe that it is essential that the compensation for directed parties should recognise the risk/reward trade-off to the directed party, and in particular the risks of plant damage that is not immediately apparent or easily quantifiable.

The opportunity to direct a generator will arise generally when a decision has been made to withdraw a generating unit from the market. The basis for such withdrawal will normally be a comparison of the risks to the plant from continued operation, as against the rewards expected from continued operation. It is proper that this assessment should be in the hands of the market participant, since both the risk and reward pertain to them.

We propose as a principle that if the market operator is given the right to direct, thus over-riding the participant assessment of risk/reward, it should not be able to impose the risk without the participant receiving a reward appropriate to the risk incurred.

It might be thought that this objection could be overcome by the market operator, on behalf of customers, providing the directed participant with an indemnity against damage due to submitting to a direction. The existing Code, and the new proposal, each allow for such an indemnity in part, by allowing claims for loss of revenue and direct costs due to a direction. However, while this is a necessary step in our view, we see it as insufficient, because of serious practical problems.

The first problem is that the resultant damage may remain latent for a significant period, creating a risk that damage due to a direction will not be recognised or compensated.

A further problem relates to the possibility of operation under a direction acting to aggravate an existing plant defect. The allocation of costs between the direction and the pre-existing defect would be extremely difficult, exposing the participant to under-compensation.

In summary, our view is –

- A direction may impose a risk on a participant that would not be accepted for the reward offered by the market,
- This risk cannot be effectively transferred to the beneficiaries of the direction because of the issues of latent damage, or aggravation of existing damage,
- Therefore, as a minimum, the compensation to the directed party should exceed the market reward that would have eventuated, had the participant accepted the risk.

A suitable price, which will generally exceed the potential market reward, is readily available in the prices set for each of the *intervention price dispatch intervals*. While this price may still be too low to adequately compensate for the risk imposed, it is at least higher than the level at which the participant judged the risk to be inadequately rewarded.

In the case where the risk of damage is realised through actual damage with established causation in relation to the direction, the partial indemnity that is implicit in the Code would apply. In this case, if the cost of the damage is significant it will over-ride the energy payment in the compensation, rendering the energy price irrelevant.

We therefore propose that, as a minimum, the directed party should be compensated at the market price that is appropriate under the rules for an *intervention price dispatch interval*.

In addition to this issue of a fair price for the acceptance of risk, consideration should also be given to the ability of companies to conform to market directions. If, as appears likely under the proposal, the compensation for the acceptance of risk was grossly inadequate, and the transfer of risk to the beneficiaries is uncertain, then the directors of a company may conclude that conforming to a market direction would be incompatible with their responsibility to shareholders.

COMPENSATION TO AFFECTED PARTIES

The proposed changes to the compensation of affected participants are procedural and are generally supported.

There is, however, one matter of detail that has failed to work as intended and should be reviewed. This is the inclusion in 3.12.11 (d) (1) of consideration of hedge contracts in the determination of compensation due.

The report by the independent expert appointed in relation to the direction on 7 and 8 February 2001 includes the following paragraph.

> Clause 3.12.11(d) of the Code clearly envisages hedge contracts being held by the scheduled generators. However, the corporate position of the scheduled generator may now be that it is a subsidiary of a parent company with the parent company holding all hedge contracts. Under such circumstances, those hedge contracts are not eligible for adjustment under the Code with the result that the parent company might either receive a windfall spot market compensation or not be liable for a hedge position compensation depending both upon the nature of the intervention and of the nature of the hedge contracts.

HP is concerned that this finding indicates that the intention of the Code is not being achieved in practice. It appears that the compensation provided to participants that are in similar situations, apart from their corporate structure, is radically different where participants have different corporate structures.

It appears that the existence of hedge contracts would not normally affect the compensation calculation, since the market prices during a direction should equal the price that would have applied without the direction.

However, if hedging contracts are to be considered at all, it should be done in a way that is equitable to all participants regardless of corporate structure.

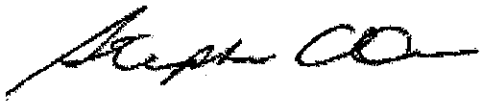
Two broad strategies may be considered on this issue –

- Retain the intent of the current Code provisions, but attempt to achieve a more equitable outcome in the face of varying corporate structures and other differences, or
- Remove the consideration of hedging contracts from the Code entirely, and allow pass-through of compensation amounts to be managed entirely by the terms of individual hedging contracts (and hence driven by market forces).

HP's expectation is that the latter approach will prove more reliable in implementation. Further, it removes this reference in the Code to the financial markets which is arguably anomalous in a Code that is specifically intended to avoid prescription outside the spot market it defines.

If you have any questions in relation to these comments, please call me on 03 9617 [8300], or Ken Secomb on 03 9617 8321.

Yours faithfully



Stephen Orr
Director, Sales and Marketing

15 June 2001

Mr Greg Thorpe
NECA
Level 5, 41 Currie St
Adelaide SA 4000

Dear Greg

Re: Review of Directions in the National Electricity Market

Thank you for the opportunity to comment on this matter. Integral Energy agrees in principle with the main conclusions and recommendation of the joint review of directions by NECA and NEMMCO.

There are however some observations we have made that warrant further industry consideration. The first is in regard to the 'Fair Payment Price'. It is our view that this price should be applied through the pool price on a real time basis, with no retrospective adjustment. We believe the pool price is the true way in which energy is costed in the market. To use any other method would obscure the transparency of the market and undermine true reflection of the cost of energy at that point in time. It is critical that the proposed scope of transparency be extended to accommodate this approach.

Secondly, under full retail contestability, the requirement for back-dated payments will not be commercially sustainable for retailers. For instance, if in six months time a new cost was imposed on the market, what would happen if a retailer had since gone out of business? How would their share of cost be distributed across the market?

We are happy to elaborate further and if you have any questions, please contact me on 02 9853 6904 or by email: corone@integral.com.au.

Yours sincerely

Ro Coroneos
Regulatory Compliance Manager
Corporate Development

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Greg

please find attached Integral Energy's submission in response to the above matter. Our response is brief, but we are happy to elaborate further if required. We have a couple of other issues we think should also be considered such as:

1. that an independent audit be routinely conducted for directions interventions where the dollar value impact to the market is greater than $500,000. This will further reinforce integrity and risk management accountability in the directions process.

2. that there is a vacuum in the current scope of liability when executing directions - it does not contemplate the impacts on retailers and large end use customers who could be forced to load shed (for example) without being able to control the possible adverse financial / operational consequences.

Regards

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Regulatory Compliance Manager
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Macquarie Generation

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Greg Thorpe
Associate Director
National Electricity Code of Australia
Level 5, 41 Currie Street
ADELAIDE SA 5000

Dear Greg

REVIEW OF DIRECTIONS IN THE NATIONAL ELECTRICITY MARKET

Macquarie Generation appreciates the opportunity to comment on NECA's proposed code changes to market direction provisions in the National Electricity Market.

Currently Macquarie Generation is investigating the outcomes of the *direction* initiated by NEMMCO on 7 and 8 February this year. While NEMMCO has not published all outstanding data at this stage and thus some of the details remain unclear, the information that we have received appears to indicate that some participants have received windfall gains at the expense of others. In particular, Macquarie Generation submits that the inappropriate treatment of Settlement Residue Auction proceeds resulted in some participants receiving a greater level of compensation than would be consistent with their level of contract exposure.

This outcome is inconsistent with the *amended* section 3.12.11(a) of the Code, which states:

> Affected participants are entitled to receive from NEMMCO...an amount that will put the participant in the position that the affected Participant would have been in...had the direction not been issued...

However, what the events of 7 and 8 February underscore is NECA's own concerns that intervention pricing is an 'inherently complex' process with potentially 'high transactions costs'. It is significant that the market intervention by NEMMCO itself created significant market failure elsewhere in the system

It is important to recognise that market failures are only a *prima facie* and not a conclusive case for regulatory intervention. The reason is that either the regulatory solution may be no more successful in correcting the inefficiencies than the market, or that the efficiency gains of the regulation are outweighed by the increased transaction costs or misallocations in other sectors of the economy. The noble prize winning economist Ronald Coase put it well:

> 'The problem is to devise practical arrangements which will correct defects in one part of the system without causing more serious harm in other parts...In devising and choosing between social arrangements we should have regard for the total effect'.

While NECA is to be commended for attempting to correct market failure with a regulatory solution that minimises the distortion to market signals, Macquarie Generation is of the opinion that the direct costs and transaction costs of this solution are significant, and include:

- The complexity of calculating intervention prices;
- The incentive to manipulate circumstances to draw directions;
- Determining appropriate level of 'fair market value' and the distorting effects of compensation that is too high or too low;
- The potential for disputes;
- The excessive number of resulting reports;
- The requirement for independent experts; and
- Determining appropriate cost recovery mechanisms.

Macquarie Generation submits that these costs to the market as a whole exceed the benefits that pricing intervention (*What-if* pricing) and its associated compensatory mechanisms can deliver. We therefore propose that this principle be abandoned in favour of 'Out-turn' pricing (leaving the spot price unadjusted).

Thus where a direction is issued, the affected party should receive the pool price on the day. Although many would argue that on the face of it this would distort the scarcity price signal pertaining at the time (although the scarcity arises out of market failure not a supply shortage), a number of benefits would eventuate:

First - intervention pricing itself distorts the market as the price is determined retrospectively. There is a mismatch between the common clearing price on the day and the price signal ultimately received by participants affected by the direction, by which time it is too late for participants to change their behaviour.

However, *Out-turn* pricing, while not perfect, allows all participants to adjust their behaviour immediately, in real time. This subsequently has less uncontrollable effects on participants as they can immediately rebid their capacity into higher price bands if desired. Indeed participants with experience will implicitly learn to anticipate directions and respond accordingly. This has the effect of generating a dynamic, full equilibrium solution which is inherently more favourable than a static, partial equilibrium, solution as implied by *ex post* adjustment required under price intervention.

Second - the operation of the market in real time ensures that hedging arrangements are minimally distorted (ie in relation to settlement timing) and the absence of compensatory arrangements negates the potential for windfall gains and disputes.

Third - the *Out-turn* price reduces the incentive for Generators to withhold capacity at critical times to draw directions, thus minimising the potential for further market failure and minimising the use of section 4.8.9(g) of the Code.

Finally - avoiding the need for compensatory mechanism in turn avoids the complex question of who should ultimately pay for such compensation, particularly as customers, those who bear the costs, are not the only beneficiaries.

To conclude, the benefits of disposing of the current market intervention pricing provisions and its associated compensatory mechanisms, arise from the reduced transactions costs and misallocations created elsewhere in the system. In this context,

the 'least distortionary' solution is to avoid solving market failure with the even higher costs of regulatory failure. This would further be more consistent with the free-market principles that led to the inception of the NEM in the first place.

Please do not hesitate to contact me on 02 4968 7441 if you have any queries with respect to the issues raised in this submission.

Yours sincerely

29/06/01.

Luke Welfare
REGULATIONS OFFICER

15 June 2001

Mr Greg Thorpe
NECA
PO Box 2575
ADELAIDE SA 5001
FAX 08 8213 6300

Dear Greg

RE **Joint Directions Review**
NEMMCO submission on Code Change Proposals

In view of the joint nature of the Directions Review, and the co-operative environment in which the resulting Code Change proposals were developed, NEMMCO has limited comment to submit in respect of the Code Change Panel's (CCP) consultation. In anticipation that any further changes to the current Code drafting will also be carried out jointly, NEMMCO's formal comment is limited to the following areas:

- Operation of the existing clause 4.8.9(g);
- Experience arising from the Reliability direction issued on 7-8 February 2001; and
- A small number of comments of a more detailed nature.

Operation of the Existing Clause 4.8.9(g)

As noted in the CCP cover note, Clause 4.8.9(g) of the existing Code provides that NEMMCO is not required pay compensation to a generator or Market Network Service provider (MNSP) where NEMMCO reasonably determines that an intentional or reckless act or omission of that participant created or significantly contributed to the circumstances which resulted in the issue of the direction.

The CCP cover note also indicates that the existing clause is retained in the new Code drafting, although it does not appear to have actually been included.

As noted in the CCP covernote, NEMMCO has concerns with the workability of this clause. While the intent of the clause is apparent, and NEMMCO fully supports that intent to prevent manipulation of the compensation provisions, the clause must be effective if it is to deliver a benefit to the market, otherwise, it creates expectations that cannot materialise.

NEMMCO's concerns with this clause were discussed at length with NECA prior to commencement of the CCP consultation process, including input from legal sources. I believe that both NEMMCO and NECA had agreed that the clause is unworkable in its current form. It is therefore not appropriate that the clause remain in its current form.

The concerns previously raised are now submitted as part of this formal consultation process. The issues essentially fall into three areas as follows:

- The terms "intentional" and "reckless" go well beyond any technical or commercial assessment of a participant's action. Rather, they relate to the state of mind of the participant, and require the decision maker to look beyond the behaviour of the party to their intent. Examples of case law supporting this interpretation have been provided to NECA previously;

- The decision maker in cases such as this must have the necessary investigative powers to be able to ascertain the participant's reasons for taking actions or omitting to take actions that created or significantly contributed to the circumstances. While NEMMCO has some investigative powers in relation to specific technical and commercial issues, it is not clear where powers of investigation to support this provision exist;

- As NEMMCO is required to exercise direction powers under the Code and the National Electricity Law, it is intimately involved in the event. For this reason, it may be more appropriate for a party not directly involved in the event, to be making determinations regarding appropriate behaviour.

For the above reasons, NEMMCO is of the view that the existing clause 4.8.9(g) relates more closely to a regulatory responsibility and to potential market manipulation. NEMMCO fully supports the intent of the clause, however, an appropriately independent body should be given adequate powers of investigation to give the clause effect. It is NEMMCO's view that either NECA or the ACCC should be the party responsible for making such an assessment.

Reliability Direction: 7-8 February 2001

NEMMCO endorses the position taken in the CCP report in respect of seeking to identify additional issues that should be addressed in this package of Code changes, where those issues arise from the major reliability direction that was issued on 7-8 February 2001. Clearly, due to the significant nature of that direction, there are a number of lessons that can be extracted from an examination of the Code provisions that applied to it and whilst some of those issues have been identified, others may also emerge as the commercial aspects of the settlement unfold.

At this stage, NEMMCO recommends to the CCP that consideration be given to the following additional points as a minimum in this package of Code changes, and NEMMCO would be happy to progress them jointly with NECA in a similar vein to the earlier stages of this review:

- Interaction of "what-if" pricing with the Settlements Residue Auction (SRA) process. The issue here is that the SRA process is settled on the basis of a combination of "what-if" prices and actual power system interconnector flows. Thus, the price differential between regions may be inconsistent with interconnector flows. Options for addressing this issue should be identified and considered;

- Potential need for an interim settlement where payment amounts are large. Cases may arise where a participant faces cash flow problems due to

contract obligations that become due, prior to assessment and settlement of compensation arising from the direction. Such cases, may warrant consideration of a form of interim settlement arrangement prior to full assessment of the direction, which could take up to 150 business days.

In addition to the above two issues, NEMMCO notes that the Independent Expert engaged by NEMMCO to assess the compensation adjustments arising from the events of 7-8 February has submitted a series of items to NECA and NEMMCO, which arose as issues in its deliberations and which it considers worthy of being addressed. NEMMCO recommends that NECA and the CCP consider that material to be input to the Code change consultation process, and give each of those items close consideration prior to taking the Code changes forward. NEMMCO would be happy to assist in that process.

More Detailed Points

The following points are of a more detailed nature, and relate mainly to the drafting of the Code changes. It is anticipated that there may be some other areas in addition to the ones noted here, where improvements to clarity could be made, and it is anticipated that those can be discussed as the Code changes develop further.

- Clause 3.9.3(b) may need to be modified to clarify whether the consultation on "what-if" pricing is to be carried out before the Code changes take effect. If that is the case, transition provisions may be required in the Code.

- Clauses 3.12.11(a)(1) and 3.12.11(d) appear to exclude ancillary service providers from being affected participants. This may need to be considered in view of the pending ancillary service code changes.

- Clause 3.12.11(d) – it may be appropriate to clarify whether SRA arrangements are to be included as hedge contracts under this clause;

- Clause 3.12.11(e1)(2) – mention of parties dispatched under a reserve contract does not appear to be appropriate in this clause;

- Clause 3.15.8 – the references to ancillary services and energy may need to be clarified in the various subclauses of this clause;

- Clause 3.15.8(b2) – some transition measures may need to be included to cover the period up to when this consultation is carried out, or to allow the consultation to be carried out prior to the new provisions taking effect.

I look forward to NEMMCO and NECA staff working through the remainder of this review to ensure effective implementation of its outcomes.

Regards

Brian Spalding
General Manager Power Exchange

29 June 2001

Mr Greg Thorpe
Associate Director
National Electricity Code Administrator Limited
Level 5
41 Currie Street
ADELAIDE SA 5000

Our ref: R-01-111

By e-mail: gthorpe@neca.com.au

Dear Mr Thorpe,

CODE CHANGE PANEL - REVIEW OF DIRECTIONS IN THE NATIONAL ELECTRICITY MARKET

We refer to the request for submissions on the draft Code changes – "*Review of Directions in the National Electricity Market*" ('Code Changes').

We thank you for the opportunity to provide comment and we ask that you accept this letter and the attached document as the National Retailers' Forum ('NRF') submission on the Code Changes and supporting material. The NRF is an independent organisation whose members operate as Retailers of electricity throughout the National Electricity Market.

The following NRF members jointly support this submission:

1. ActewAGL
2. Advance Energy
3. AGL
4. Australian Inland Energy and Water
5. Energy Australia
6. Ergon Energy
7. Energex Retail Pty Ltd
8. Great Southern Energy
9. Integral Energy
10. Origin Energy
11. Pulse Energy

Please feel free to contact me on (07) 3228 8116 as the NRF Coordinator on this matter should you have any queries.

Yours faithfully,

Darren Barlow
Manager Regulation
Strategic Business Development Group

NATIONAL RETAILERS FORUM

SUBMISSION ON DRAFT CODE CHANGES – REVIEW OF DIRECTIONS IN THE NATIONAL ELECTRICITY MARKET

1.0 INTRODUCTION

We refer to the request for *submissions on the draft Code changes – "Review of Directions in the National Electricity Market"* ('Code Changes').

We thank you for the opportunity to provide comment and we ask that you accept this document as the National Retailers' Forum ('NRF') submission on the Code Changes and supporting material. The NRF is an independent organisation whose members operate as Retailers of electricity throughout the National Electricity Market.

Part 2 of this submission addresses our general concerns with the directions process, Part 3 provides our specific comments on clause 4.8.9(g) while Part 4 provides specific comments on the proposed Code amendments.

The NRF will, of course, give consideration to further comment as part of any subsequent consultation process.

2.0 GENERAL COMMENT

While the NRF generally supports the proposed amendments, the review that has been undertaken is largely process driven. That is, it is concerned with a simplification and strengthening of the existing directions process without any detailed analysis of the financial impost to which this process leaves Market Participants exposed.

In particular, the revised regime requires examination in the context of market events such as that occurring on 7 and 8 February 2001. Does such a high financial market impost upon retailers and end users constitute a fair, efficient and acceptable outcome?

We believe that an analysis is urgently required that both considers this issue and the extent to which it is believed the current proposals will address these concerns.

In considering the changes proposed, we have a number of concerns that we believe may, if not addressed, significantly reduce the utility of the amendments. In particular, we comment that:

- The proposed compensation provisions are inequitable and unfairly discriminate against retailers. The Code changes provide that only Affected Participants, Directed Participants and Market Customers (in respect of scheduled loads only) may apply to NEMMCO for compensation. Therefore, unless a retailer is claiming in respect of a scheduled load, they will not be able to claim any compensation from NEMMCO following a direction being issued, irrespective of the loss suffered by it.

  However, even if retailers were able to claim full compensation from NEMMCO, retailers would still be unfairly disadvantaged because NEMMCO recovers the total cost of the direction from retailers according to their market share. Retailers are then only able to recover these costs from contestable customers. This bias unfairly places a significant portion of the burden of the recovery of the direction on one sector of the market.

  We recommend that all Market Customers, whether in respect of scheduled loads or not, be eligible to claim compensation.

- We do not consider that the proposal that basic payments to Directed Participants for energy or ancillary market services at the 90th percentile price is a fair payment price.

  We believe that this figure is too high, and would result in participants being unfairly and unreasonably compensated for the direction. We submit that the payment should be fixed at between the 50th and 60th percentiles, which we consider would be a closer representation of the average price and minimise the gaming of directions. While the 90th percentile is justified on the basis that "*directed parties would be paid the price that was exceeded in the market only 10 per cent of the time*", the fact is that these participants would be paid a price that significantly exceeded the median. We do not consider that the 90th percentile is a fair and reasonable price for compensation purposes, and believe this percentile would not encourage generators to present plant to avoid the need to be directed as they would gain a windfall from the compensation arising from the direction. Compensation at this percentile would not act as a disincentive to prevent actions giving rise to a direction.

  The price payable to Directed Participants should be closer to the average price for the service, and we consider that this is supported by the "additional compensation" provisions. These would allow a party to claim an additional payment if they believed their costs were not covered by the fair payment price. Given that there is this mechanism for aggrieved parties to claim additional compensation, and that the initial payment is essentially an automatic payment, we believe that the initial, ordinary price paid should be more reflective of the average price for that service.

- We question whether any 'independent expert' retained by NEMMCO can be considered to be truly 'independent', given that any party that is able to satisfy the criteria to be appointed as such as an expert will be likely to have had prior or existing contracts with at least one Market Participant.

  We would therefore recommend that the expert appointed by NECA in the event of participant disagreement with NEMMCO's original choice also be subject to participant "veto" using the same process provided for NEMMCO's original nomination.

- While we support the additional reporting requirements placed upon NEMMCO, and consider that they have the potential to significantly increase transparency in the directions process, we are concerned that, in practice, the information provided by NEMMCO may not be as accurate or useful as envisaged. It is unclear whether there are any enforcement provisions that will ensure not only that NEMMCO complies with its obligations but that the information published is sufficiently comprehensive to be useful, rather than a publication designed to merely satisfy its obligations.

- We note that clause 3.12.10(a) allows NEMMCO either 100 or 150 business days in which to fulfil its obligations under the Code in relation to directions. Given the seriousness of the issuing of directions, and the importance of clarifying market irregularities, we recommend that this period of time be reduced to 50 and 70 business days respectively. The proposed delay in a resolution of the investigation will have a substantial negative impact upon settlements unless this period is

reduced. Quite simply, either 100 or 150 business days is simply too long a period for the matter to be unresolved.

3.0 COMMENTS ON CLAUSE 4.8.9(g)

We note NECA's request for special comment on the existing clause 4.8.9(g), which provides that NEMMCO is not required to compensate generators or market network service providers ('MNSP') where NEMMCO reasonably determines that an intentional or reckless act or omission by that party created or significantly contributed to the issue of the direction.

We note that, in the request for comments, NECA indicated that "*the draft changes essentially retain the existing clause as clause 4.8.9(n)*". Unfortunately it does not appear that the proposed clause 4.8.9(n) has been incorporated into the Code changes, with clause 4.8.9(m) the last clause in clause 4.8.9.

The guide to amendments at the beginning of chapter 4.8.9 states, contrary to the above statement, that "*former clause 4.8.9(f) and (g) has been moved to clause 3.15.7(a) and (b1) respectively*". However, clause 3.15.7(b1) does not appear in the Code changes.

Given that we have not been able to view the proposed amendments to existing clause 4.8.9(g), it is difficult for us to comment on any proposed amendments.

However, if the omission (without replacement) of the clause was deliberate, we would not support such an amendment. The removal of this clause, without suitable replacement, would allow unacceptable market manipulation by these participants in a manner that would be inconsistent with the principle of 'fair' compensation for Affected Participants.

We note that it was proposed to insert an amendment similar to the English and Welsh licence conditions, which would require that a participant shall not knowingly or recklessly act in a manner that is likely to prejudice either the safe, economic and efficient operation by a transmission company of its transmission system or the economic and efficient balancing by a transmission company of its transmission system. We are concerned that any proposed amendment of this nature would:

- Remove NEMMCO's role as the party determining whether the relevant participant's conduct contributed to the circumstances leading to the direction. Presumably if an amendment similar to the licence conditions was inserted, responsibility for policing breaches of the provision would fall to NECA in its role as Code administrator. We are concerned that any scheme whereby one overseeing body determines compensation independently of another overseeing body investigating that participant's conduct may lead to confusion among participants generally and a perception that NEMMCO is unwilling to 'punish' market manipulation of this type.

- Remove the direct nexus between the participant's conduct and a prohibition on compensation, thereby potentially leading to the manipulation being 'missed' when NEMMCO determines any compensation payable.

We would support an amendment to 4.8.9(g) that would require NEMMCO to refer the matter to an independent expert if it has prima facie reason to believe a generator or MNSP created or significantly contributed to the circumstances giving rise to the direction. If such a requirement is inserted, we would recommend that NEMMCO not be given the discretion to refer the matter, but instead be required to refer it once it is prima facie satisfied that the generator or MNSP created or significantly contributed to the circumstances giving rise to the direction.

We also agree that NEMMCO's final decision to withhold compensation be reviewable, but not NEMMCO's initial decision that prima facie evidence exists that enabled the independent expert to be retained. This distinction would prevent a participant seeking to have any report the independent expert may prepare after being retained by NEMMCO excluded from consideration by the reviewing body on the grounds that there was not in fact any prima facie evidence to allow NEMMCO to appoint an independent expert, and so any report is invalid and should not be reviewed by the reviewing body.

4.0 DRAFT CODE AMENDMENTS

In relation to the suggested Code amendments, we make the following suggestions and comments:

- Clause 3.9.3(a2)

  We consider that NEMMCO's obligation to complete the matters referred to in this clause should be its best endeavours, not merely its reasonable endeavours. We would also suggest that this amendment be made to clauses 3.12.10(a), 4.8.6(c)(1), 4.8.9(a2) and 4.8.9(k).

- Clause 3.9.3(b)

  This clause provides that the methodology prepared by NEMMCO to determine dispatch prices and ancillary service prices must, *where reasonably practicable*, have regard to the principles set out in this clause. We query why the '*where reasonably practicable*' exemption is necessary? The publication of the methodology is an important mechanism for ensuring Market Participants are able to keep NEMMCO accountable for its actions. If NEMMCO's obligations under the Code are unnecessarily watered down, then all Market Participants may lose confidence in NEMMCO's ability to fairly and impartiality manage the market.

- Clause 3.12.10(a)

  We recommend that, for the reasons outlined earlier, that the reference to "*100*" and "*150*" business days be amended to "*50*" and "*70*" days respectively.

  We also repeat our earlier comment that NEMMCO should be required to use its best endeavours to complete the tasks listed in this clause. Given the reliance that all parties will place upon the directions settlement timetable, we consider that NEMMCO should use all its resources to ensure that the timetable is complied with.

- Clause 3.12.10(b)

  Given the emphasis placed upon compliance with the timeframes set down in the *directions settlement timetable* throughout the Code changes, we consider it important that NEMMCO be placed under an obligation to not merely publish the *directions settlement timetable*, but to publish the timetable within a required period. We submit that a 14 day period from the end of the direction is appropriate.

- Clause 3.12.11(a1)

  This clause establishes the minimum threshold of $5,000, as the minimum amount of compensation sought by an Affected Participant or Market Customer for a direction, below which NEMMCO must not pay any compensation.

  We support a minimum threshold to avoid the compensation process being deluged by small, inconsequential claims for compensation and ensure that only legitimate claims are processed. However, we consider that a $5,000 threshold is too low to achieve that aim and does reflect the desired materiality of the threshold. We recommend that the threshold be raised to a minimum of $50,000, which we consider to be a more material amount and would also encourage maximum participation in the market and minimise the gaming of directions.

- Clause 3.12.11(b)

  The sentence "*All matters to be set out in a report pursuant to this clause 3.12.11(b) is not confidential information*" is unclear and poorly worded. It is unclear whether the intent of the Code change is that the report, and all information contained within the report, is not to be treated as *confidential information*, irrespective of whether the information in the report would otherwise be considered to be *confidential information*, or whether NEMMCO must not include any material in the report that could be considered to be *confidential information*.

  While the latter interpretation is the interpretation that has been adopted in 2 similar clauses, proposed clauses 3.12.11A(c)(5) and 3.15.7A(c)(5), we do not consider that such an interpretation should be adopted here. Given the aim of the revised direction process is to ensure transparency, we consider that the effectiveness of the reforms would be undermined by Market Participants being able to hide behind this confidentiality clause.

  Accordingly we recommend that the clause be amended to read "*Neither the report, or any material contained in the report, is to be considered confidential information*".

- Clause 3.12.11(c)(1)(i)

  We query the utility of this proposed clause. The clause would allow an Affected Participant to submit to NEMMCO that the amount that NEMMCO has calculated that would compensate the participant is more than the amount that the participant themselves believe would compensate them for the direction.

  We do not consider that an *Affected Participant* would ever disclose to NEMMCO that the amount NEMMCO proposes to pay to the participant is too high.

It appears that this clause has been proposed as a form of quality assurance that would seek to prevent NEMMCO paying too much in compensation. We do not consider that the Affected Participant is the appropriate party to perform this task. We would hope that NEMMCO has exercised due caution in preparing the report, and that NEMMCO would never be in a situation where it is proposing to compensate an amount more than is necessary.

Our comments similarly apply to clause 3.12.11(c)(2)(ii).

- Clauses 3.12.11(c)(1) and 3.12.11(c)(2)

  These 2 clauses appear to have similar affects, with subclause (1) dealing with submissions for payment by Affected Participants and subclause (2) with submissions for payment by Market Customers. However, the drafting of the 2 clauses is quite different. We are concerned that the Code is made unnecessarily complex and difficult to read if inconsistencies such as this are not remedied.

  Not only is subclause (1) substantially longer than subclause (2), different words are used to convey the same meaning, such as "lesser" and "is less", and the order of the subparagraphs have been unnecessarily reversed in each subclause (ie. Subparagraph (1)(ii) deals with the situation where the Affected Participant claims more than the amount calculated by NEMMCO while that issue is deal with in subclause (2) in subparagraph (i)). This inconsistent drafting is quite unnecessary and does nothing to aid in the interpretation or administration of the Code.

  Given that the clauses have substantially the same effect we consider that the wording for the two clauses should be nearly identical, with appropriate differences reflecting that one clause deals with Affected Participants and the other with Market Customers. In fact, it would be a comparatively simple matter to combine the 2 subclauses, which would further aid the 'readability' of the Code.

- Clause 3.12.11(d)(1)

  We recommend that this clause be deleted. This clause provides that an Affected Participant may take into account any hedge contract to which they are a party when calculating their claim for compensation.

  We consider that the compensation scheme should be restricted to physical market losses, and that the separate financial market should not be covered. It is simply inappropriate for NEMMCO to compensate financial market losses. The Code itself deals only with the physical market, and it is questionable whether any attempt to compensate for financial market losses would be ultra vires. Furthermore, we question the practicality of compensating for financial market losses, given that it is likely that all participants would have their financial position affected by a direction and the Code contemplates only sections of the market being able to claim compensation.

- Clause 3.12.11(h)

  We are concerned at the inconsistency between this clause and clause 3.12.11(f).

Clause 3.12.11(f) provides that where NEMMCO determines the compensation payable is less than $100,000 in total or $20,000 for any 1 participant, NEMMCO may pay the amount it has calculated without referring the matter to an independent expert.

However, clause 3.12.11(h) provides that where the amount so determined is equal to or greater than $100,000 in total and $20,000 for any 1 participant, NEMMCO must refer the matter to an independent expert.

What is intended in the situation where the compensation is greater than $100,000 in total but less than $20,000 for any 1 participant? NEMMCO is not required to refer the matter to an independent expert under (h), but cannot pay the money as envisaged by (g) as the compensation is more than $100,000 in total. Similarly, what is to happen where 1 participant has a claim for $99,000, being less than the $100,000 threshold in total?

To avoid any inconsistency and confusion, we recommend that this clause be amended so that if NEMMCO determines that the claims are equal to or greater than $100,000 in total or $20,000 for any 1 participant, NEMMCO must refer the claim to an independent expert.

This would be consistent with the principle that substantial amounts (ie. greater than $100,000 in total or $20,000 individually) should be reviewed by a 3rd party (the independent expert) to confirm the accuracy and validity of the calculated amount.

- Clause 3.12.11A(a1)

  Under this clause, NEMMCO's nominee as independent expert can be vetoed by the Referred Affected Participants, Referred Market Customers and Referred Directed Participants if more than 25% of those parties object in writing to the proposed appointment. Given the important role that the independent expert has in the compensation process, and the need for all parties to be satisfied with the process leading up to the determination of the compensation payable, we recommend that this veto be available to any single relevant participant.

- Clause 3.12.11A(a2)

  This clause applies if a relevant party has objected to NEMMCO's nomination as independent expert. It provides that NECA may nominate the expert if there has been such an objection. However, unlike for the NEMMCO nomination, there is no objection process for parties to object to NECA's nomination.

  We would recommend that an objection process similar to clause 3.12.11A(a1) be inserted for parties to object to NECA's nomination as expert.

- Clause 3.12.11A(b1)

  We recommend that this clause be amended. The current wording would allow claims arising out of a single direction or dispatch or reserve plant to be dealt with by different experts in different processes. Given the problems that Market Participants would face in settlement if different claims were dealt with by different experts (and resolved at different times), we recommend that this clause be

amended so that claims arising out the same event should be dealt with by the same expert as part of the same process. This would be achieved by deleting "*To the extent reasonably practicable*" from the proposed clause.

- Clauses 3.12.11A(c)(1)(ii) and (iii)

  We reiterate our concern about inconsistent drafting. Both clauses require the independent expert to deliver a copy of their draft assessment to the relevant participants and to NEMMCO. However, in subparagraph (ii), the wording is "*deliver to each customer...and to NEMMCO a draft assessment*" while in subparagraph (iii) the wording is "*deliver to each...participant a draft assessment...with a copy to NEMMCO*". While not affecting the operation of the Code, the current wording of these proposed clauses is unnecessarily inconsistent.

  To avoid any inconsistency, we recommend that the clauses be amended so that the wording of the 2 clauses is consistent. Alternatively, we suggest that the 2 clauses be combined into 1 clause.

- Clauses 3.12.11A(c)

  Clauses 3.12.11A(c)(1)(ii) and (iii) state that the independent expert must "*deliver*" to NEMMCO and each participant a copy of the draft assessment. The next 2 clauses, clauses 3.12.11A(c)(2) and (3), then list tasks that the expert must undertake after *publishing* the assessment. However, on a strict interpretation of the proposed clauses, the expert is under no obligation to perform the tasks mentioned in clauses 3.12.11A(c)(2) and (3) as those tasks can only be performed after the assessment is published. However, the expert is not required to *publish* the assessment, only *deliver* it to the relevant parties. Furthermore, the expert's actions would technically be in breach of the Code if they were to undertake those tasks, as they would not have *published* the report, only *delivered* it, and the tasks can only be performed after the report is *published*.

  To avoid any misunderstanding regarding the expert's obligations, we recommend that clauses 3.12.11A(c)(1)(ii) and (iii) be amended to require the independent expert to publish the draft assessment. We do not consider that a requirement to publish the draft assessment will lead to any loss of confidentiality, which we imagine was the only reason why it was proposed that the expert deliver the report.

- Clause 3.12.11A(c)(5)

  This clause provides that the independent expert's report must not disclose confidential information. We question this clause given the need for transparency in the determination of claims. This clause may allow all participants to mask their actions and the actual effect of the direction on them. We recommend that this clause be deleted.

- Clause 3.12.11A(c)(6)

  This clause provides that the independent expert may request further information from a relevant party, and if that party has not provided that information within the period set out in the request for further information, the expert may make such assumptions as they think appropriate. No guidance has been given as to the

period of time the participant has to respond to the expert's request. To ensure procedural fairness for participants, we recommend that a minimum period of time be mandated. We would suggest 10 business days.

- Clause 3.12.11A(c)(7)

  Under this clause, the independent expert retained by NEMMCO must provide NEMMCO with their final tax invoice at the time of publication of their final report. However, we cannot differentiate between the effect of this clause and clause 3.12.11A(c)(4)(iii), which also requires the expert to provide NEMMCO with their final tax invoice when they publish their final report. Accordingly we suggest that this clause be deleted.

- Clause 3.12.11A(d)

  This clause proposes that the independent expert's final report and assessment is final and binding. Given the potential impact that such a report or determination may have upon a participant, we recommend that the final report and determination not be final and binding, but that it may be disputed by a relevant party if a dispute is lodged by that party within 7 days of the publication of the report and assessment.

- Clause 3.13.6A

  This clause lists the matters that NEMMCO's report, following a direction, must address. It is based upon the need for NEMMCO to both justify why it issued the direction and to illustrate the processes that it followed in making the decision to issue the direction.

  Subparagraphs (5) and (6) would appear to have been drafted so that NEMMCO does not have to provide information concerning certain actions if NEMMCO was not required to perform those actions. This is a sensible approach and we support the concept.

  However, the current drafting of these 2 subparagraphs does not achieve this aim. Through the use of the words "where appropriate" and "if appropriate", NEMMCO is not required to provide the information in those subparagraphs if it does not think it is appropriate, even if the events described in those clauses have occurred.

  To rectify this problem, we would suggest that these words be replaced by the term "if applicable". This would ensure that, if the events outlined in those clauses did occur, then NEMMCO is required to provide the information required.

- Clause 3.15.7(a1)

  While we agree with this clause, which details how the interest on any compensation payable is calculated, we recommend that it should be expressly stated that the interest should be capped at a maximum of 150 days from the date on which payment was required to be made. This would prevent participants either unnecessarily prolonging disputes or not acting positively to settle the matter because they are benefiting financially, through the accrual of interest, from the

matter not being resolved. Capping the period within which interest is accrued at 150 days would encourage all parties to resolve the matter as soon as possible.

- Clause 3.15.7A

  This clause provides that NEMMCO must appoint an independent expert to determine the fair payment price for services other than energy and ancillary services if there is reasonable time for the expert to complete such a determination. However, unlike the appointment process for energy or ancillary services, there is no objection process for relevant participants to object to the appointment of an expert that they do not consider, for whatever reason, appropriate.

  We recommend that a similar objection process that exists in the Code provisions for energy or ancillary services be inserted into this clause.

- Clause 3.15.7A(c)(1)

  This clause refers to the calculation of the fair payment price for the purposes of "clause 3.15.7(A)". It appears that the reference to the clause should be amended to clause 3.15.7A.

- Clause 3.15.7A(c)(4)

  We again note the inconsistency of various clauses throughout the Code changes that have the same effect but are drafted in differing ways that contribute to the difficulties parties encounter when reviewing the Code. This clause requires an independent expert to submit their final invoice when publishing their final report. It states:

  "(4) The independent expert must deliver to NEMMCO a final tax invoice for the services rendered by the independent expert at the time the independent expert publishes the final report".

  Clause 3.12.11A(c)(7) has a similar (in effect only) clause. That clause states:

  "(7) The independent expert must provide NEMMCO with his or her final tax invoice for services rendered at the time of publication of the final report".

  Given that we have previously recommended that clause 3.12.11A(c)(7) be deleted the inconsistency will be resolved. However, if this clause is not deleted, we would recommend that stylistic amendments be made to 1 clause to ensure consistency between the 2 clauses.

- Clause 3.15.7A(c)(5)

  This clause provides that the independent expert's report must not disclose confidential information or the identity of Directed Participants. We question this clause as it is currently worded given the need for transparency in the determination of claims. This clause may allow all participants to mask their actions and the actual effect of the direction on them. We recommend that this clause be amended

so that the only information not disclosed by the independent expert in their report is the identity of the Directed Participants.

- Clause 4.8.5(a)

  We submit that the words "to the extent reasonably practicable" should be deleted from this clause. It is only through the information contained in subparagraphs (1) and (2) that Market Participants can be satisfied that NEMMCO's actions in making a declaration under clause 4.8.4 were justified. We consider that the removal of these words would strengthen public accountability of NEMMCO's actions.

- Clause 4.8.5(b)

  The affect of this change would be to allow NEMMCO to waive its obligations to follow the Code if it has made a declaration under clause 4.8.4. We are not satisfied that the amendment is necessary, given that Code obligations should only not be complied with by NEMMCO if exceptional circumstances exist. We do not see any reason why NEMMCO should not always be required to follow the processes set out in clauses 4.8.5A and 4.8.5B. We therefore recommend that "use its reasonable endeavours" be deleted.

- Clause 4.8.5A(b)

  This clause requires NEMMCO to, after it has published a clause 4.8.5A(a) notice, estimate the latest time at which it would need to intervene to issue a direction or dispatch reserves. Clause 4.8.5A(e) then requires NEMMCO to publish this estimate. In order to make the Code as user-friendly as possible, we would suggest that the 2 clauses be merged. This could easily be achieved by inserting "*and publish*" after "*estimate*".

- Clause 4.8.5B(c)

  There is a conflict over what information, which was provided to NEMMCO to allow it to estimate the latest time for intervention, can be used for. This clause only allows any information provided to be used for the sole purpose of making the estimation. However, clause 4.8.5B(g) states that the information must be treated as confidential information and can only be used for the sole purpose of deciding to whom NEMMCO should issue directions. While related, the 2 purposes are quite distinct and there appears to be a significant risk of conflict should these clauses not be amended.

- Clause 4.8.5A(d)

  Consistent with our suggestions that NEMMCO should be required to use its' best endeavours when undertaking certain tasks, we recommend that the relevant Market Participant must use their best endeavours to both comply with NEMMCO's request and to provide the requested information in the time specified.

  Given the general agreement among industry participants that directions should only occur as a last resort, we consider it important that the relevant Market Participants be required to use all their appropriate resources and facilities to assist NEMMCO in avoiding the necessity for such action.

- Clause 4.8.5B

  We query why this clause has been drafted as paragraph (a), given that there is no paragraph (b) in the clause.

- Clause 4.8.6(a)

  We consider that this clause could be improved by linking the latest time for intervention back to the estimation of the latest time for intervention as determined in clause 4.8.5A, rather than the current link to reserve contracts expiring.

- Clause 4.8.6(d)

  We note that this clause provides that interim procedures for the dispatch of reserves will apply for the first 6 months of operation of the Code changes. However, NEMMCO is under no obligation under the proposed amendments to consult on these proposed guidelines. Given the importance of the issue, we would recommend that NEMMCO be required to consult (using Code Consultation procedures), if only in a limited capacity, on these interim procedures before they become operational or are amended.

- Clause 4.8.9(b)(3)

  We consider that the obligation upon NEMMCO to take into account any guidelines issued by the Reliability Panel should be mandatory, not discretionary as proposed.

- Clause 4.8.9(c)

  This clause would allow a Code Participant to not comply with a direction or clause 4.8.9 instruction if the participant reasonably believes that doing so would "*materially risk damaging equipment*". This term is not defined.

  We are concerned, given that is the Code Participant who determines whether compliance would materially risk damaging equipment, that the vagueness of the term, and lack of any guidance as to what such a material risk of damage would be, may allow participants to rely upon this provision as an excuse for non-compliance when it is questionable whether in fact there was such a material risk.

  We would recommend that either this term be defined or it be expanded to clarify when such a risk exists. However, when the term is defined or expanded, we suggest that any such definition should be technologically neutral so as to not unfairly discriminate against retailers.

- Clauses 4.8.9(c) and (c1)

  We are concerned at the inconsistency between these 2 subparagraphs. Subparagraph (c) states that a Code Participant must use their *reasonable* endeavours to comply with a direction unless certain circumstances exist, while subparagraph (c1) states that a Code Participant must use their *best* endeavours to comply with that direction within the specified timeframe.

As a Code Participant must use their best endeavours to comply with the direction within the specified timeframe, aren't they also necessarily using their best endeavours to comply with the direction generally, and not only their reasonable endeavours as specified in subparagraph (c)? We are concerned at the possibility of a conflict between these 2 provisions if they are not appropriately amended.

We would recommend that subparagraph (c1) be deleted, and (c) be amended by replacing "*reasonable endeavours*" with "*best endeavours*" and inserting "*within the timeframe specified by NEMMCO*" after the words "*clause 4.8.9 instruction*".

- Clause 4.8.9(d)

  This clause requires a Code Participant to immediately notify NEMMCO of its inability to comply with a direction or instruction. However, we are concerned that this clause does not go far enough in forcing participants to advise NEMMCO of their intentions not to comply. As a direction may contain a timeframe for compliance, a direction may not have to be complied with immediately. However, the current wording of the clause means that the participant does not have to inform NEMMCO until it is unable to comply with the direction, and not also when it intends not to comply but the deadline for compliance has not yet been reached.

  We would therefore recommend that the clause be amended to include the words ", *or its intention not to comply,*" after "*inability to comply*".

  We consider such an amendment necessary to ensure that NEMMCO is given as much notice as possible of any non-compliance with a direction, to allow it to take the appropriate steps with as little negative impact upon the market as possible.

- Chapter 10, definition "Affected Participant"

  The current definition defines Affected Participant as "*Scheduled Generators and Scheduled Network Service Providers*". Given the difficulty in being both a scheduled generator and a scheduled network service provider, we would suggest that the definition be amended to "*Scheduled Generators or Scheduled Network Service Providers*".

- The proposed amendments generally

  Finally, we take the opportunity to note that the drafting of the proposed amendments is generally unduly legalistic, is inconsistent, is not 'user-friendly' and is inconsistent with modern plain-English principles. We are concerned that drafting of this standard will unnecessarily complicate participant's interpretation of the Code, increase uncertainty and result in forced interpretations of the Code.

5.0 CONCLUSION

Of the review undertaken, the NRF generally supports the proposals for reviewing the process of issuing directions and providing compensation to parties that suffer losses as a result of the changes to the electricity market as a result. In particular, we support the increased reporting obligations upon NEMMCO, the concept that affected parties should receive fair compensation and that NEMMCO's directions powers are clarified and consolidated.

However, there are a number of significant flaws in the proposals. The most significant of these is that retailers are unfairly discriminated against by, in most instances, not being eligible for compensation.

Other areas of concern include that the compensation payable to parties is too high, and may reward participant's misconduct in some instances, and that there does not appear to be any mechanism to prevent compensation payments being made to a party whose conduct caused, or significantly contributed towards, the direction.

Unless these concerns are addressed and remedied, we consider that the proposals will be little more than decorative amendments that will do little to regulate participant behaviour.

The NRF would welcome the opportunity to discuss these issues in greater detail and seeks the opportunity to be involved in any subsequent consultation process.

Comments to Code Change Panel:

Review of Directions in the National Electricity Market

15th June *2001*

SNOWY HYDRO
TRADING PTY LIMITED

Introduction

Snowy Hydro Trading Pty Ltd (SHTPL) welcomes the opportunity to respond to the Code Change Panel's proposed code changes in relation to Directions in the National Electricity Market (NEM).

The proposed Code changes address the objectives and procedural aspects of the new Directions regime, and suggest a set of principles that guide the determination of compensation to directed and other affected parties. SHTPL endorses the Panel's proposals on objectives and procedure, but has reservations about some of the proposed compensation principles.

SHTPL supports the Panel's objectives

SHTPL supports the Panel's conclusions as to the objectives of the proposed new Directions regime. In particular, we agree with the Panel's conclusions that:

Directions should only be used as a last resort and by definition this would be at a time of system stress

- Directions should be employed only as a last resort and in the event that normal market mechanisms have failed, or are not in place, to achieve a secure satisfactory or reliable operating state or in response to statutory obligations , e.g. in relation to public safety;
- The existing arrangements for separate directions for breach of security, reliability and statutory obligations should be consolidated into a single common arrangement. This will allow the overall regime to be simplified and reduce the level of discretion required to be exercised by NEMMCO;
- The Code should establish clear principles for the use of the new single power of direction and require NEMMCO to develop detailed operating procedures for the exercise of that power.
- There should be increased transparency both prior to a direction and in the subsequent reporting and evaluation process.
- No compensation for a generator that wilfully causes to the need for a direction

In SHTPL's view, these objectives are substantially met by the proposed changes to the Code.

However, as discussed in a previous submission[1], we remain of the view that as a matter of principle, the power of direction should be removed from the Code altogether as it distorts true market outcomes and encourages the market to fail, no matter how well designed the provisions. Thus, our support for the significant parts of the proposed new Directions regime should not be read as an endorsement of the power of direction *per*

[1] SHTPL (20 December 1999): *Submission by Snowy Hydro to Joint Market Directions Review Consultation.*

se, but rather, that we consider the proposed regime to represent a significant improvement over the status quo, and a step worth taking in the transition to an efficiently functioning de-regulated electricity market.

Procedural Aspects

SHTPL supports the settlements timetable set out in the proposed clause 3.12.10. This is a considerable improvement over the current regime which imposes significant uncertainty on market participants. We consider that 100 business days is sufficient time for NEMMCO to make the necessary determinations, and that 150 days should be sufficient time to resolve issues of greater financial magnitude which require the appointment of an independent expert.

We note that the wording of clause 3.12.11(c)(1) and (2) could be improved somewhat: as it stands, that clause states that an affected participant (respectively market customer) may make a submission claiming that the amount calculated by NEMMCO is greater than, less than, or equal to the correct amount. This implies that such a submission is optional and at the discretion of the participant. However, clause 3.12.11(c1) states that if a participant does not deliver such a submission, it shall cease to have an entitlement to compensation under 3.12.11, which, in practice, means that making a submission is compulsory. It appears to us that what is intended here is that an affected participant or a market customer either: confirms in writing their acceptance of the amount calculated by NEMMCO, or makes a submission as to why that amount should be different.

In relation to clause 3.12.11(d), it is not clear why the word "must" has been replaced with the word "may" in the sentence preceding the list of issues to be taken into account when determining compensation. The list of issues to be taken into account that is set out in that clause appears to highly relevant and should remain compulsory. For example, the presence or absence of hedge contracts may have a very significant impact on the financial position of a party affected by a direction, and thus, NEMMCO should not have the discretion to consider or ignore such information.

The Code's provisions have in our view been enhanced by the clear statement of the conditions under which an independent expert must be appointed by NEMMCO to determine compensation. Again, this removes a considerable degree of

[2] NECA website, Code change panel, Review of directions in the National Electricity Market
[3] NECA website, "Code change panel, Review of directions in the National Electricity Market, Explanatory note."
[4] NECA Code Change Panel, *Review of Directions in the National Electricity Market: Explanatory Note* p.2.
[5] Cited in *Sri Raja Vyricherla Narayana GajaptirajuBahadur Garu v Revenue Divisional Officer, Vizagapatam,* Privy Council decision , *1939 All England Law Reports 317.*
[6] NECA website Code Change Panel, Review of directions in the national electricity market explanatorynote.

uncertainty and it streamlines the process.

We also endorse the clear statement of the obligations imposed on the independent expert, and note in particular the requirement for the independent expert to call for submissions from all affected parties, in contrast to the current arrangements which were somewhat deficient in this regard.

A further procedural aspect in which the proposed Code changes provide a significant improvement in SHTPL's view is the transparency of the reporting regime imposed on NEMMCO and NECA. These provisions are important to ensure the accountability of the MSO and will increase the likelihood that the outcome of any compensation determinations find acceptance in the market.

In conclusion, subject to some minor concerns noted above, SHTPL endorses the procedural aspects of the proposed new Directions regime.

Principles for Payments to Participants

SHTPL is however concerned about a number of issues that have the potential to decrease market efficiency and future investment in the NEM. In its present form, SHTPL considers the new Code wording as sub optimal. The key issue here is the basis on which compensation for directed parties ought to be calculated.

SHTPL has consistently argued that the compensation methodology must be clearly and logically derived from the same economic principles which underlie the design of the electricity market itself. Key elements of our position were summarised as follows in the 19 May 2000 NECA/NEMMCO *Final Report: Power System Directions in the National Electricity Market*, p.26:

> *"Snowy Hydro advocate that while ... directions remain in the Code, then irrespective of the categories of direction, payment to the directed party should be based on the market value of the service. According to Snowy, market value should be determined by considering both opportunity cost and value at risk to the directed participant. Snowy argued that incremental cost payment is not acceptable and is inequitable to the directed participant, distorts the market and perversely encourages the Market and System Operator to issue directions on serious but generally arbitrary grounds. Snowy stated that market value payment does not disadvantage (or overcompensate) directed participants, but it does minimise market distortion and correctly encourages appropriate market outcomes."*

The subsequent documentation leading up to the proposed new Code clauses 3.15.7 and 3.15.7A does not appear to establish any logical and principled basis for the compensation methodologies set out in those clauses. An important first step would be to set out in clear, unambiguous terms the interpretation which market participants, independent experts, and outside analysts ought to attach to terms such as "fair", "equity", "market value", and "distortions", all of which require careful definition if a clear set of operational procedures for calculating compensation are to be developed.

Secondly, there need to be clear logical linkages from the principles of the NEM to the compensation procedures specified in the Code.

Thirdly, where independent experts are to be relied on to determine the quantum of compensation, the criteria and guidelines provided to such experts need to be sufficiently unambiguous to enable directed parties to predict in advance, with reasonable certainty, the range within which fair compensation can be expected to lie.

In SHTPL's view, consistency with the core principles of the NEM requires that payments to participants need to satisfy at least the following four (4) basic economic considerations. We believe these four basic economic principles must be satisfied for the compensation to be consistent with the fundamental energy market design. The four basic economic considerations are:

Four (4) basic economic considerations must be considered for deriving a payment methodology to directed Participants

Cost: The SRMC Criterion

At a minimum, the payment must compensate for out-of-pocket costs incurred, inclusive of opportunity costs of any foregone energy sales. In economic terms, this corresponds to the short-run economic value of the service or the Short Run Marginal Cost. Payment of compensation below this level would amount to direct expropriation.

Contract Compatibility

To be consistent with expectations reasonably held by parties operating under the governance arrangements prescribed by the Code, compensation should be at a level that ensures that existing contract pricing arrangements or prevailing market arrangements are not undercut by directed services. That is, NEMMCO, and market customers through NEMMCO, ought not to pay less for any service secured under direction than they would have had to pay to the supplier concerned had they sought to purchase the service under normal trading conditions.

For example, where ancillary services are acquired by direction, compensation must be consistent with any Ancillary Services Agreement in force between NEMMCO and the directed party that was in place at the time of the event.

Willingness-to-pay, capped by VoLL

The NEM is designed fundamentally around the concepts of a variable willingness-to-pay (WTP) of consumers and willingness-to-accept (WTA) of suppliers, expressed in fluctuating prices: during periods of low demand and/or excess supply, WTP and WTA are low and so are prices for energy and ancillary services. Conversely during periods of high demand and/or low reserve levels, WTP and WTA are high and so are the corresponding energy and ancillary service prices. In accordance with the general NEM aim of utilising market price signalling mechanisms to achieve allocation of society's scarce resources, to the end of providing a safe and secure supply of electricity to Australian consumers, compensation should reflect at all times (and so signal to market participants) the current WTP and WTA.

WTP and WTA reflect the value market participants assign from time to time to the urgency and importance of the supply of energy and ancillary services; it is therefore imperative that the value of urgency is fully recognised in the payment principles for Directions.

Situations which justify the use of "System Security Directions", by definition, are characterised by the prospect of serious loss if the alternatives eventuate

Situations which justify the use of "System Security Directions" by NEMMCO are, by definition, characterised by the prospect of serious loss if the alternatives eventuate. The relevant comparisons, for purposes of valuation of a directed service delivered under those conditions, would be with values observed in the market during periods of shortage. If compensation of the directed party in a system-security contingency is not pitched at a level that reflects the seriousness of the potential consequences, then electricity users, through the agency of NEMMCO, would be able to free-ride on the directed supplier.

The NEM market design makes provision, via the VoLL price cap, for preventing the very large price spikes that could result from holdup of consumers to extract their full willingness-to-pay at times when generation falls short of demand. This cap arguably should carry over to the determination of compensation for directions, except in the unlikely case where it results in a lower valuation than the SRMC criterion and/or the contract compatibility criterion.

Incentive Compatibility

Because compensation paid for each event sets a precedent and serves to signal to market participants the value that can be expected to be attached to similar directed services in the future, compensation must be at a level that provides correct

incentives to all participants in positioning their operations in relation to future contingencies. In particular:

- It would be undesirable for compensation to be so high as to induce inefficient and unwarranted investment by multiple parties in backup facilities that are highly unlikely to be required.
- It would be equally undesirable for compensation to be so high as to incentivise market participants to "game" the market so as to be in a position to claim compensation under direction, for example by withdrawing capacity at times of system stress.
- At the same time, compensation ought not to be so low that NEMMCO is incentivised to resort to direction as the preferred alternative to normal commercial arrangements for underwriting system security and reliability.
- Nor should compensation be so low that it provides incentives for market customers manipulate the market in the hope of precipitating direction (or, along the same lines, to lobby for unrealistically tight reliability standards in order to increase the likelihood of direction), in order to avoid facing price spikes at times of supply shortfall.

Much of the documentation that has emerged during the consultation process has acknowledged, directly or indirectly, the four criteria discussed above. It is disappointing, therefore, that at the end of the process the proposed new provisions put forward by the Code Change Panel seem divorced both from economic principles of market value and from the ostensible objectives of the NEM.

Analysis of proposed code changes relating to payment methodologies

The new Code clauses divide payment principles for Directions into two groups:

- Payments of "energy or market ancillary services" which are to be paid at the 90th percentile price over the past twelve months for that service (clause 3.15.7); and
- Payments for other services, which are to have compensation determined by an independent expert using benchmarks from other markets and prevailing contracts [clause 3.15.7A(c)(1)(i)] but subject to four "principles" which effectively negate the basic economic concept of fair market value [clause 3.15.7A(c)(1)(ii)].

Neither of these procedures for determining compensation has been canvassed during the consultation period, nor is there any justification for either of them in the documents issued

during the process by the Code Change Panel, NEMMCO or NECA. Both procedures are flawed from the standpoint of economic efficiency and violate one or more of the economic criteria set out above.

The sections which follow discuss the two compensation methodologies in detail.

Payments for Energy and Ancillary Services Directions

NECA has quoted that "directions should be employed only as a last resort and in the event that normal market mechanisms have failed, to achieve a secure satisfactory or reliable operating state or in response to statutory obligations[2]". SHTPL fully supports this view.

Hence by definition, a direction will only be applied at a time of system stress. (eg. A tight supply/demand shortage). However, the compensation to a directed party as proposed is totally contrary and non-reflective of the fact that there is system stress.

The "market value" benchmark proposed by the Code Change Panel in its "Explanatory Note", and embodied in the draft Code clause 3.15.7, is that "the basic payment to a directed party for energy or market ancillary services should be at the 90th percentile price over the last twelve months for that service. As a result, directed parties would be paid the price that was exceeded in the market only 10 percent of the time". This in SHTPL's opinion is totally inappropriate and does not reflect the market value of the service[3]."

SHTPL submits that this benchmark makes no economic sense in terms of market objectives or efficient resource allocation. The benchmark appears to have been arbitrarily chosen to meet irrelevant criteria. It has the perverse incentive effect, as already noted, of pricing the most valuable services a market participant can provide - emergency response at times of critical shortage - below the levels at which the market itself clears during situations of moderate-to-serious shortage (the marginal 10% of the price-duration curve).

Preliminary analysis supports SHTPL view that the 90th percentile price does adequately compensate the directed participant based on market value

Preliminary analysis of this proposal shows some disturbing observations. Using one year worth of NSW regional reference price data by half hour from the 1/6/00 to 31/5/01, the 90% percentile price for energy was approximately $59/MWh. Clearly compensation to a directed party based on the 90% percentile energy price would NOT be an efficient market outcome. This is primarily because:

- The price would not be reflective of the scarcity in supply situation
- This would discourage investment in plant that provide this sort of service

- Could lead to perverse incentives for service providers NOT to provide the service at the time of system stress.

It seems totally contrary to the design of the market that signals supply shortages at $5000/MWh that a similar stress event will signal 1/100th of VOLL to a directed participant.

Compensation for directed parties which involves Market Ancillary Services using the 90% percentile price will also yield inappropriate results

Similar analysis of the AGC Raise 5 minute prices for the tight supply demand period between the 1/12/00 to 28/2/01 shows that the 90% percentile price was approximately $5/MW. Given that in this same period there were approximately 100 tight supply demand incidents where the AGC Raise price for the marginal provider was between $100/MW to $3950/MW the proposed use of the 90% percentile price would NOT provide an efficient market signal for the service.

The arguments for this approach offered by the Code Change Panel reflect, in SHTPL's view, a fundamental misunderstanding of the nature of the events which may legitimately attract direction and subsequent compensation. The relevant passage reads[4]:

> *"The choice of 90 per cent is a judgement about a fair means to express scarcity or low reserves, but not necessarily shortage, leading to load shedding or insecure operating conditions. The twelve-month cycle smooths out periods of extreme high or low values and is simple and deterministic."*

In our view there is no justification for pre-emptively imposing any such judgement about the degree of shortage to which direction is the appropriate response. Furthermore, there is no economic rationale for the removal of high and low values which are the key incentive signals provided to market participants by the pricing process. (We note, as an aside, that the proposed formula does **not** in fact, as claimed above, smooth out periods of extreme high or low values; it simply takes one **arbitrary** price point on the highly skewed price duration curve).

The "simple and deterministic" imposition of a regulatory price cap based on historical data, and at a level well below the moderate-to-serious scarcity values commonly observed in the market, is a procedure drawn from a regulatory philosophy divorced from the de-regulated market vision which underlies the NEM. The effect is to deny, in advance, any premium value for services which are provided under emergency conditions when system reliability or security are at stake.

This proposed formula asserts that during market contingencies of severe shortage which are unable to be resolved by normal market mechanisms, and which are resolved by direction, the suppliers of directed services are to

be denied the scarcity rents which they would legitimately have been able to claim if the market mechanism had been left to run its course. This violates three of our four key economic criteria: contract compatibility (insofar as directed suppliers may have contract prices for dispatch or ennoblement which lie in the top 10% of the price-duration curve); incentive compatibility (insofar as it incentivises NEMMCO and consumers to resort to direction as a cheaper alternative to the regular energy and ancillary services markets); and willingness-to-pay (insofar as the proposed formula will withhold recognition of the true value to NEMMCO and electricity consumers of having rapid-response capability available to provide crucial service components under direction at short notice).

The 90th percentile price contradicts the standard economic principle that market price ought to reflect scarcity and that increasing scarcity ought to correlate with higher price.

The formula contradicts the standard economic principle that market price ought to reflect scarcity (excess demand for the service or facility) and that increasing scarcity ought to correlate with higher price. Circumstances requiring NEMMCO to resort to direction must, by definition, involve critical scarcity of at least some component of the electricity supply bundle, and the underlying principles of the market require that such scarcity should be expected to drive a price spike as the means of incentivising market participants

(a) to divert resources from alternative uses to meet the short-run need, and
(b) in the long run to maintain or install the necessary capacity to cover similar contingencies in the future.

The expectation that no premium value will be attached to services that are immediately available in emergency situations would establish perverse incentives and would expose electricity consumers to the risk of future system failures which could have been avoided had economic incentives been aligned with the long-run requirements of system security.

At the same time, the suggested formula would set up strong incentives for opportunistic behaviour by consumers. At times when looming supply shortages threaten to drive the market price up, consumer actions which succeed in triggering a system direction could have the effect of bringing the realised price down to the 90th percentile benchmark, effectively transferring wealth from suppliers to consumers and thus blunting market incentives to be available for direction.

In summary, it is a violation of the most basic economic principles to impose a low regulatory price cap in the face of severe shortage contingencies when the market is suspended. SHTPL is not aware of any sound economic argument for adopting this proposed principle, and can find no support for it in the documentation issued to date by NECA and NEMMCO. If any cap is to be imposed on compensation, that cap ought to be at parity with the ceiling on business-as-usual market prices, which is VoLL.

The "next best alternative" for NEMMCO may be load shedding, in which case VOLL applies. Clearly compensation to directed parties using the 90% percentile price is not appropriate and not cost reflective of the next best alternative.

SHTPL strongly advocates that the Code Change Panel remove this proposal from the Code Changes and replace it with alternative methodologies which address the concerns raised in this submission.

Other Services Compensation

The Code Change Panel's proposed new principles for determining compensation are set out in the new 3.1 5.7A(C)(1)(ii), as follows:

A. "The disinclination of Scheduled Generators, Market Non-Scheduled Generators, Scheduled Network Service Providers or Market Customers to provide the service the subject of the direction must be disregarded."

B. "The urgency of the need for the service the subject of the direction must be disregarded."

C. "The fair payment price is not the fair payment price to the Directed Participant"

D. "The fair payment price is the fair payment price to the market."

To an outside observer coming to the Code with no prior knowledge or preconceptions these principles would be confusing. The first three appear to reject out of hand the economic principles on which the National Electricity Market design is based. The meaning of the fourth is completely unclear, and reference to the Code definition of "the market" provides no enlightenment as to exactly what the principle implies for the independent expert's determination.

The pricing principles are framed around three negative principles

It is extremely unusual for a set of pricing principles to be framed in this way, with three negative principles (no allowance for "disinclination", no allowance for "urgency", and no allowance for "fair value to the vendor") and only one positive principle which provides no effective guidance to the independent expert supposedly applying the principles.

The four proposed principles do not derive in any obvious way from the May *2000 Final Report*, nor from the November 1999 *Issues and Principles* paper. There is equally no obvious link with the *Explanatory Note* produced by the Code Change Panel to accompany the draft changes.

SHTPL notes, however, a resemblance in the wording of the proposed Code principles to some legal precedents cited by NEMMCO in recent correspondence relating to compensation

for system security directions. In that correspondence, NEMMCO relied upon court judgements in cases relating to compulsory acquisition of land by government agencies. We note the passage in the *Explanatory Note* p.1 to the effect that "calculation of fair price is required in many commercial situations. One of these is compulsory acquisition of property." We note also the statement in the same document, p.2, that "principles to guide the independent expert's determination of fair payment price are listed in clause 3.15.7A(c)(1) and are drawn from advice about relevant principles in other situations."

In relation to Principles A and B above, the following passages in the Indian Land Acquisition Act 1894[5] sections 23 and 24 seem indicative of the origin of the wording:

> 23(1) In determining the amount of compensation to be awarded for land acquired under this Act, the court shall take into consideration, first, the market value of the land as at the date of the publication of the declaration.... ; secondly, the damage sustained by the persons interested, by reason of the taking of any standing crops or trees which may be on the land at the time of the collector's taking possession thereof; thirdly the damage (if any) sustained by the person interested, at the time of the collector's taking possession of the land, by reason of severing such land from his other land; fourthly the damage (if any) sustained by the person interested, at the time of the collector's taking possession of the land, by reason of the acquisition injuriously affecting his other property, moveable or immoveable, in any other manner, or his earnings.
>
> 24. But the court shall not take into consideration, **first, the degree of urgency which has led to the acquisition; secondly, any disinclination of the person interested to part with the land acquired**; ... fifthly, any increase to the value of the land acquired likely to accrue from the use to which it will be put when acquired. [Emphasis added]

From land acquisition case law in 1930s India to compensation for direction in the NEM is a long step which ought not to be taken without proper consultation and discussion. No documentation issued by the Code Change Panel establishes the relevance of that particular branch of legal principle to the compensation issue, nor is any justification given for selectively taking the negative principles and abandoning the positive ones in the passage cited above.

SHTPL's correspondence with NEMMCO suggests that Principle C in the draft Code clause 3.15.7A(c)(1)(ii) may also have been drawn from a careless (mis)reading of the *Raja* judgement, which in fact establishes no such principle. On the contrary, *Raja* accepts that value to the vendor is the correct benchmark, subject only to the proviso that such value be properly established by reference to objective evidence as distinct from "sentimental value" (see p.321 of *Raja*). A copy of the Raja judgement is provided as an attachment to this submission to enable readers to confirm that the proposed Code principles, insofar as they are justified by reference to *Raja*, are neither fully representative of the principles that were relevant in that case, nor correctly interpreted.

The *Raja* judgement, and other legal precedents relating to compulsory land acquisition including the *Spencer* case in Australia make clear that the primary aim in compensating for land seizure is to protect the vendor's position to the full extent that can be justified by reference to potential uses of the land other than that for which it has been taken, specifically making allowance for any unusual or unique features that confer premium value on the land. In the context of electricity market directions, this principle would establish both that "fair value to the supplier" is the correct stance to adopt, and that the particular characteristics that render a directed participant the preferred supplier under conditions of market stress ought to command a **premium value** relative to the prices established in less constrained market situations.

SHTPL does not accept that the compulsory acquisition of land by government bodies provides an appropriate reference for determining the market value of services acquired under direction by NEMMCO.

However, leaving aside the issue of the correct interpretation of case law, SHTPL does not accept that the compulsory acquisition of land by government bodies provides an appropriate or useful *a priori* point of reference for determining the market value of services acquired under direction by NEMMCO. It is not clear at all why legal cases that deal with the compulsory acquisition of land are relevant to an ex post valuation of energy and ancillary services in a modern electricity market: the one is concerned with the valuation of a stock of assets, while the other is concerned with the fluctuating value of a flow of services. Whether or not the policy principles underlying the statutes and case law relating to property acquisition are relevant in the present context remains to be demonstrated. As we noted above, none of the documents produced in the course of the current consultation has provided any debate about this issue.

The inappropriateness of the proposed Code principles is further apparent if they are taken at face value and we consider how they would affect the position of market participants if applied. Consider first the requirement for the independent expert to disregard any "disinclination ... to provide the service". At one level this might seem entirely reasonable: Because the direction process is the essential safety net for the market in situations where normal market

processes have failed to meet criteria for secure and reliable supply, it is reasonable for compliance to be mandatory, not a matter of choice for directed participants. Correspondingly, directed parties have no right to claim financial compensation simply as a reward for compliance itself. Pure opportunism by participants is unequivocally to be discouraged, and the compensation rules should give no comfort to any participants seeking to "holdup" NEMMCO by unreasonably refusing to comply with directions.

"Disinclination" might, however, also be interpreted to apply to cases where refusal to comply with a direction is justifiable. Such situations are explicitly contemplated in the proposed new Code clauses 4.8.9(c)-(e), which place only a "reasonable endeavours" obligation on directed participants, accompanied by a strong accountability requirement that any failure to comply must be fully justified with reasons supported by factual evidence.

Consider a situation where a participant has a choice whether to comply with a direction, given that it could legitimately refuse to comply on grounds recognised by clause 4.8.9(e) – for example that there is a "material risk of damaging its equipment". The proposed Code principle 3.15.7A(ii)(A) would appear to rule out any offer or expectation of financial compensation for compliance in such cases.

The incentive effects of this, from the point of view of attaining market efficiency, are clearly perverse. A market participant whose "disinclination" is well founded on one of the grounds specified in clause 4.8.9(c) will be incentivised, when faced with a direction, to refuse to comply, thereby avoiding the uncompensated risk of damage to equipment, contravention of a law, or hazard to public safety. It would be more consistent with market principles for compensation to be available in such cases to incentivise optimal risk-taking rather than blanket risk aversion.

To meet this problem, either the wording of the proposed principle would need to be tightened up to ensure a narrow reading of "disinclination" that would confine the principle to situations of purely opportunistic behaviour; or the principle itself would need to be reformulated to ensure that the prospect of compensation can be held out by NEMMCO as an *inducement* to participants to incur risks "for the greater good", where such risks clearly and demonstrably arise from compliance with the direction.

Consider next the principle that urgency is to be disregarded in determining compensation. This offends common sense and, in doing so, directly contradicts the logic of the de-regulated electricity market. The expectation that no premium value is to be attached to scarce capabilities to respond to emergency situations would establish perverse incentives which would expose electricity consumers to the risk of future system

failures which could have been avoided had incentives been aligned with the long-run requirements of system security.

It violates the most basic economic principles to impose a regulatory cap which makes the price of a key service *drop* during the most severe shortage contingencies when the market is suspended.

Turning to the principle that "the fair payment price to the Directed Participant" is not to be determined as the fair payment for compensation purposes, the independent expert would encounter great difficulty in applying this principle without contradicting the requirement in clause 3.15.7A(c)(1)(i) to take account of common practice in other markets and prevailing contractual arrangements for the relevant service. Denying to the supplier of a service the recovery of a fair price is not normal practice and hence is not consistent with standard benchmarking.

Taken at face value, the proposed principle simply says that there is no requirement for compensation to be fair to the directed participant, from which outside observers could legitimately draw the inference that compensation which is manifestly unfair on the usual commonsense interpretation of "fairness" is to be legitimised by the Code. This would render null and void the third "effectiveness criterion" set out in *Final Report: Power System Directions in the National Electricity Market* (May 2000) p.6, namely that "directed participants should be entitled to fair compensation".

Turning finally to the principle that "the fair payment price is the fair payment price to the market", this is extremely difficult to interpret in any concrete sense. As it stands, the proposed draft principle would simply carry over into the revised Code a series of unresolved (and possibly unresolvable) confusions and disagreements over the application of the "market value" concept.

It is Snowy Hydro's strong submission that obscurely-worded, poorly grounded compensation principles are a hindrance rather than a help in achieving the primary objectives of the electricity market, namely the secure and reliable provision of electricity to consumers at the lowest possible long-run cost in terms of allocation of scarce resources.

Code changes must be initiated as soon a s possible to rectify repeated use of Directions

SHTPL welcomes the Code Change Panel's proposals to increase transparency by providing three levels of reports. The third report is a requirement for NECA, "to analyse directions and report annually on whether there is a case for amendment for the Code.[6]"

SHTPL advocates that where there is a case to amend the Code, ie. when it is apparent that there are repeated directions for the same reasons the NECA should proceed to these Code

change as soon as possible and not wait to its annual review to initiate a Code Change.

When there is no mechanism to recover costs for a direction then the cost must be charged to Participants on an energy ($/MWh) basis.

The Code Change Panel stated that "Where no normal market mechanism exists for the directed service, costs will be allocated in the same manner as the fixed element of the Participant fees". The fixed component of the Participant fees currently charges generators on a $/MW basis. To charge capacity rich generators in an "energy" only market significantly distorts the cost recovery. SHTPL advocates that when there are no mechanisms to recover costs of a direction then the charge to Participants must be on a $/MWh basis which is consistent with an energy market design with no explicit payment for capacity.

During a direction SRA holders should be compensated for the difference in the "what if" and physical interconnector flows

The reliability direction on the 7th and 8th of February highlighted a number of observations relating to the holders of Settlement Residue Auction (SRA) units. Bidders for the SRA units essentially use the SRA to hedge interregional trading risk. What-if pricing results in the inconsistency between pricing and dispatch. Under what-if pricing, the pricing signals are maintained but physical interconnector flows may be significantly reduced from the what-if interconnector flows.

This has the effect of devaluing the SRA units and hence create a hedge which is not as effective. This in turn deters inter-regional trading which is a key objective of micro-economic electricity reform.

SHTPL recommends that in order to promote efficient inter-regional trading all SRA holders are compensated under a direction for the difference in the "what-if" and physical interconnector flows.

Conclusion

While SHTPL supports the Code Change Panel's objectives for tighter control on NEMMCo's power to direct, increased transparency, and a single common arrangement, we have consistently argued for a compensation methodology must be derived from the same economic principles which underlie the design of the electricity market.

SHTPL believes that Directions are a last resort and as such compensation to directed parties must reflect the consequences of no direction.

SHTPL strongly recommends that the current proposal to use the 90th percentile price be removed.

SHTPL is strongly against the proposal to use the 90th percentile price as a basis for compensation to directed parties. Such a methodology:

- Does not adequately compensate a service provider of supplying a scarce resource in a system stress event
- Does not provide efficient pricing signals for scarce

resources

- Will lead to a degradation of sustainable supply of the service which will be to the detriment of end customers because system security, supply reliability, and supply quality will be affected.
- Would discourage investment in plant that provide such services under direction.
- Could lead to perverse incentives for service providers NOT to provide the service at the time of system stress.

SHTPL strongly advocates that the Code Change Panel removes this proposal from the Code Changes and replace their proposal with alternative methodologies which address the concerns raised in this submission.

Alternative payment methodologies must provide the appropriate pricing signal and reflect the market value of supplying a scarce resource at the time of system stress.

SHTPL has espoused four key criteria in assessing the suitability of a payment methodology. These criteria being:

- Cost: The SRMC criterion
- Contract compatibility
- Willing to pay, capped to VOLL
- Incentive compatibility

SHTPL believes there needs to be further consultation and debate on an appropriate compensation methodology

Furthermore, there has been no consultation to date on a compensation methodology. We believe there needs to be further consultation and debate on an appropriate methodology that is consistent with the NEM principles and provides an efficient market outcome.

SHTPL has done significant research in this area. We would welcome further discussion with NECA/NEMMCo and the Code Change Panel to advance the current market compensation methodologies relating to Directions.

If you have any enquires on this submission please contact Mr Kevin Ly, Manager Strategy & Market Development on (02) 9244 3862.

was authoritatively expounded in this court by LINDLEY, L.J., in *Edmunds* v. *Wallingford* (5), at p. 814, and again by VAUGHAN WILLIAMS, L.J., in *Bonner* v. *Tottenham & Edmonton Permanent Investment Building Society* (6), and the general principle is now quite beyond controversy. We were, however, invited by counsel for the defendant to hold that the principle ought not to be applied save in cases in which the parties as between whom contribution or indemnity is claimed are each liable to be sued in an action at law or suit in equity by the third party. However, it was pointed out by VAUGHAN WILLIAMS, L.J., in *Bonner* v. *Tottenham & Edmonton Permanent Investment Building Society* (6), at p. 174, that, whatever might have been the case at law, in equity the principle had to be regarded as covering cases in which there was community of interest in the subject-matter to which the burden was attached which had been enforced against the plaintiff alone, coupled with the benefit to the defendant, even though there was no common liability to be sued. In the present case, there is obviously community of interest between the plaintiffs and the defendant in the subject-matter to which the burden is attached—namely, the two plots, which are subject to the common burden of being liable to process of distress for the whole of £5 14*s.* 11½*d.* The defendant is liable to be sued for the £3 14*s.* 11½*d.*, and, although the plaintiffs *ex hypothesi* cannot be sued for this sum by the landlord, they have in fact been forced to pay the sum by threat of the process of distress to which they were admittedly liable. It was suggested that the decision of CHITTY, J., in *Johnson* v. *Wild* (7) supported the contention put forward by the defendant's counsel, but, the crucial difference is that in that case the defendant, being a sub-lessee, could not be sued for the sum which the plaintiff, an assignee of part of the land in lease, had been forced to pay. In the present case, the defendant could have been sued by the landlord, and is liable to the landlord for the sum which the plaintiffs have, under stress of legal compulsion, been forced to pay. It was for a precisely corresponding reason that the defendants in *Bonner* v. *Tottenham & Edmonton Permanent Investment Building Society* (6) escaped liability to the plaintiff in that action. It seems to be entirely in accordance with principle that the defendant in such an action as the present should not be liable to be sued for any sum for which the landlord could not have sued him. It by no means follows, however, that, though the plaintiffs have been forced to pay the sum, they are debarred from suing for it because the sum in question, though they could be forced to pay it by legal process, was not a sum for which the landlord could sue them. Their equity arises from the fact that they have effectually, and under legal process, been made to pay. It may not be immaterial to recall that at law (see *Exall* v. *Partridge* (8)) the plaintiff whose goods had been seized in distraint but who was under no liability to pay the rent was entitled to indemnity against the persons who might have been sued for the rent by the landlord. It was essential to the defendant's

liability that they should be persons who could have been sued by the landlord, but of course the plaintiff, *ex hypothesi*, was under no liability to the landlord, though, under stress of legal process, he had been forced to pay him. The truth is that, while, in such cases as the present, the defendant must be a person who can be sued by the third party, the plaintiff is entitled to sue for contribution or recoupment if he has paid the demand under stress of legal process, though he is not liable to be directly sued. Accordingly, we are of opinion that the plaintiffs are entitled to recover against the defendant the latter's proportion of rent paid by the plaintiffs under stress of their liability to distress. There is no dispute as to the figures. The appeal will be allowed and judgment entered for the plaintiffs for £4 3*s.* 4*d.*, with costs in the county court on the C scale. The defendant must pay the costs of the appeal. The judge certified under C.C.R., Ord. 47, rr. 12, 21, and these certificates will stand and regard will be had to them in taxing the plaintiffs' costs below.

Judgment for the plaintiffs for £4 3s. 4d., with costs.

Solicitors: *Bentleys, Stokes & Lowless*, agents for *Birtwells*, Burnley (for the appellants); *John B. Purchase & Clark*, agents for *Roberts, Riley & Anderson*, Burnley (for the respondent).

[*Reported by* C. ST.J. NICHOLSON, ESQ., *Barrister-at-Law.*]

SRI RAJA VYRICHERLA NARAYANA GAJAPATIRAJU BAHADUR GARU *v.* REVENUE DIVISIONAL OFFICER, VIZAGAPATAM.

[PRIVY COUNCIL (Lord Macmillan, Lord Romer and Sir George Rankin), **November 14, 15, 17, 18, 21, 22, 1938, February 23, 1939.**]

Privy Council—Madras—Compulsory purchase—Compensation—Assessment—Acquiring authority only possible purchaser—Potentiality—Water supply—Indian Land Acquisition Act, 1894, ss. 23, 24.

The Vizagapatam harbour, the construction of which was begun in 1920, was formed by making excavations in swampy land situated to the south-west of the town and by dredging a deep-water channel in the creek to the south of the town which led from the swampy land to the Bay of Bengal. The appellant was the owner of property known as Lova Gardens on the south of the land acquired by the harbour authority, the gardens being formed by a valley running from high ground on the south-west to low ground on the north-east adjoining the land of the harbour authority on the south of the creek. The upper portion of this valley consisted of a shallow basin in the hills, which formed the catchment area of a spring of water yielding an average of 50,000 gallons of drinking water per day and situated at a height of 150 ft. above sea-level. The development of the harbour site for industrial purposes required a gravity water supply, and for this purpose a scheme was carried out under the provisions of the Indian Land Acquisition Act, 1894, involving the compulsory acquisition from the appellant of the shallow basin forming the catchment area of the spring, the site of the spring itself, and a narrow strip of land below the spring. The question was the basis of the assessment of compensation upon such compulsory acquisition and

in particular the value to be placed upon the particular potentiality of the land—namely, the water supply :—

HELD : (i) in the circumstances of the present case, where the acquiring authority was the only possible purchaser, an arbitrator must ascertain to the best of his ability the price which would be paid by a willing purchaser to a willing vendor, having regard to the particular potentiality of the land, in the same way as he would where there was a number of purchasers. The value was not limited to the value of the land without the potentiality.

(ii) the land must be valued, not at the sum it would be worth after acquisition, but at its value before acquisition.

[EDITORIAL NOTE. It is agreed that the principles of assessment to be applied under the Indian Land Acquisition Act, 1894, are the same as those to be applied under the Land Clauses Act, 1845, without having regard to the operation of the Acquisition of Land (Assessment of Compensation) Act, 1919. The position, therefore, is governed by the English authorities on this matter. The short point is the effect upon the principles of such assessment where the only possible purchaser of the land is the acquiring authority, and this aspect of the matter is fully dealt with in the judgment of their Lordships.

AS TO PRINCIPLES OF ASSESSMENT, see HALSBURY, Hailsham Edn., Vol. 6, pp. 45-48, paras. 43-45 ; and FOR CASES, see DIGEST, Vol. 11, pp. 125-131, Nos. 158-188.]

Cases referred to :

(1) *Glass* v. *Inland Revenue*, [1915] S.C. 449.

(2) *Inland Revenue Comrs.* v. *Clay, Inland Revenue Comrs.* v. *Buchanan*, [1914] 3 K.B. 466 ; 39 Digest 226, *63* ; 83 L.J.K.B. 1425 ; 111 L.T. 484.

(3) *Re Gough & Aspatria, Silloth & District Joint Water Board*, [1904] 1 K.B. 417 ; 11 Digest 127, *168* ; 73 L.J.K.B. 228 ; 90 L.T. 43.

(4) *Re Lucas & Chesterfield Gas & Water Board*, [1909] 1 K.B. 16 ; 11 Digest 127, *169* ; 77 L.J.K.B. 1009 ; 99 L.T. 767 ; *on appeal from* [1908] 1 K.B. 571.

(5) *Cedar Rapids Manufacturing & Power Co.* v. *Lacoste*, [1914] A.C. 569 ; 11 Digest 130, *187* ; 83 L.J.P.C. 162 ; 110 L.T. 873.

(6) *Fraser* v. *Fraserville City*, [1917] A.C. 187 ; 11 Digest 124, case *s* ; 86 L.J.P.C. 91.

(7) *Sidney* v. *North Eastern Ry. Co.*, [1914] 3 K.B. 629 ; 11 Digest 128, *171* ; 83 L.J.K.B. 1640 ; 111 L.T. 677 ; *subsequent proceedings*, [1916] 2 K.B. 760.

APPEAL from a judgment of the High Court at Madras (WADSWORTH and STODART, JJ.), dated May 4, 1937, allowing the respondent's appeal from a judgment of the Subordinate Judge of Vizagapatam. The facts of the case are fully set out in the judgment of their Lordships delivered by LORD ROMER.

Lionel Cohen, K.C., P. V. Subba Row and *Y. V. R. Rao* for the appellant.

H. U. Willink, K.C., W. Wallach and *W. W. K. Page* for the respondent.

LORD ROMER : This appeal is concerned with the question of what is the proper sum to be awarded to the appellant by way of compensation in respect of the compulsory acquisition by the Vizagapatam harbour authority of certain land of his adjoining the harbour, the respondent being the representative of such authority for the purposes of this appeal. The circumstances in which the land was acquired are as follow. The

Vizagapatam harbour, the construction of which appears to have been begun in 1920, was formed by making excavations in swampy land situate to the south-west of the town of Vizagapatam and by dredging a deep-water channel in the creek to the south of that town which led from the swampy land into the Bay of Bengal. On the south of the land acquired by the harbour authority for the purpose of these works is situated the property of the appellant, known as Lova Gardens. These gardens are formed by a valley which runs down from high ground on the south-west to low ground on the north-east adjoining the land of the harbour authority on the south of the above-mentioned creek. The upper portion of this valley consists of a shallow basin in the hills which forms the catchment area of a spring of water that emerges from the ground at the north-east end of the basin. This spring, which appears to yield even in the dry season an average flow of 50,000 gallons of excellent drinking water per day, is situated at a height of 150 ft. above sea-level. Until a part of it was diverted by the harbour authority, as narrated hereafter, the whole of the water from this spring ran down the valley to the lower end of Lova Gardens and from thence discharged itself into the creek. By the early part of 1926, the construction of the harbour had made considerable progress, and it was hoped that it would be ready for opening by the end of 1929. With that end in view, a portion of the harbour site had been allocated by the harbour authority for the purpose of being used by oil companies and other industrial concerns. The entire south side of the harbour had indeed been allocated for industrial purposes, but the harbour land was very malarious, and so, too, was much of the land to the south of the harbour, including the lower part of Lova Gardens, a circumstance that gave rise to some anxiety in the minds of the harbour authority. They accordingly consulted Mr. Senior White, who is an expert upon the subject, and upon May 1, 1926, that gentleman, after making an anti-malarial survey of the area, embodied the results of his survey in a report. This report disclosed a serious state of affairs in the villages situated in the area, of which there appear to have been at that time no less than 32, nine of which were on the south side of the creek. These villages, or many of them, seem to have been dependent upon wells for their water supply, and these wells formed breeding-grounds for the malaria-bearing mosquitoes. It is plain from the report that persons carrying on business at the harbour would run a serious risk of contracting malaria as matters then stood, and this would greatly hamper the development of the harbour site for industrial purposes. Further, as Mr. White pointed out, there was the possibility of shipping at the quays becoming infected, and the mere possibility, which had already been suggested in the Indian press, was detrimental to the interest of the port. It appears from a letter written by Mr. Rattenbury, the deputy engineer-in-chief to the harbour authority, dated July 14, 1926, that, in these circumstances, Mr. White was "very keen on closing the wells along the south side," and this, the letter adds, could be done if a gravity water

supply were provided instead. Such a supply could be furnished by the spring at the upper end of Lova Gardens, and accordingly the harbour authority conceived the idea of using the water from the spring for the purpose of freeing the harbour from malaria. Apart altogether from the assistance that this supply of water would give to the prevention of malaria, however, there was much to justify its acquisition on its own merits, as was pointed out in a letter of Oct. 2, 1926, written by one of the harbour officials, for the water could be made available as a supply to the oil companies and other industrial concerns that might be established in the southern part of the harbour area. The method of utilising the water for these purposes which was ultimately adopted was this. The water was to be diverted from the lower part of the valley, to which reference has been made, and led from a short distance below the spring directly to the harbour area by means of a tunnel to be made through the hilly land to the north-west of the valley. This scheme, which was in due course carried out, and is now in operation, involved the acquisition from the appellant of the shallow basin forming the catchment area of the spring, the site of the spring itself, and a narrow strip of land below the spring. In due course, the necessary steps were taken for the compulsory acquisition of this land under the provisions of the Land Acquisition Act, 1894, the notification under sect. 4 (1) of the Act being given on Feb. 13, 1928. The public purpose for which the land was needed was stated in the notification to be the execution of anti-malarial works, the total area to be acquired from the appellant being 108.9 acres. Of this acreage, the catchment area, including the site of the spring referred to as 2-1D and 2-1E, accounted for 105.92 acres, and the land below the spring referred to as 2-1B (0.53 acres), 2-1C (0.48 acres) and 2-3B (1.97 acres) accounted for the rest.

After the giving of the notification, the procedure laid down in sects. 6, 7 and 8 of the Act having been followed, the collector took the steps prescribed by sects. 9, 10 and 11 to determine the compensation which ought to be allowed to the appellant for his land. It is provided by sect. 15 of the Act that in so doing the collector shall be guided by the provisions contained in sects. 23 and 24, and it will be convenient before continuing this narrative to turn to these provisions. So far as material to the present purpose, they are as follow:

23. (1) In determining the amount of compensation to be awarded for land acquired under this Act, the court shall take into consideration, first, the market-value of the land at the date of the publication of the declaration relating thereto under sect. 6; secondly, the damage sustained by the person interested, by reason of the taking of any standing crops or trees which may be on the land at the time of the collector's taking possession thereof; thirdly, the damage (if any) sustained by the person interested, at the time of the collector's taking possession of the land, by reason of severing such land from his other land; fourthly, the damage (if any) sustained by the person interested, at the time of the collector's taking possession of the land, by reason of the acquisition injuriously affecting his other property, moveable or immoveable, in any other manner, or his earnings.

24. But the court shall not take into consideration, first, the degree of urgency which has led to the acquisition; secondly, any disinclination of the person interested to part with the land acquired; . . . fifthly, any increase to the value of the land acquired likely to accrue from the use to which it will be put when acquired.

The general principles for determining compensation which are specified in these sections differ in no material respect from those upon which compensation was awarded in this country under the Lands Clauses Act, 1845, before the coming into operation of the Acquisition of Land (Assessment of Compensation) Act, 1919. As was said by WADSWORTH, J., when giving judgment in the High Court in the present case:

It is well settled that English decisions under the Lands Clauses Act, 1845, lay down principles which are equally applicable to proceedings under the Indian Act.

The compensation must be determined, therefore, by reference to the price which a willing vendor might reasonably expect to obtain from a willing purchaser. The disinclination of the vendor to part with his land and the urgent necessity of the purchaser to buy must alike be disregarded. Neither must be considered as acting under compulsion. This is implied in the common saying that the value of the land is not to be estimated at its value to the purchaser. This does not mean, however, that the fact that some particular purchaser might desire the land more than others is to be disregarded. The wish of a particular purchaser, though not his compulsion, may always be taken into consideration for what it is worth. However, the question of what it may be worth—that is to say, to what extent it should affect the compensation to be awarded—is one which will be dealt with later in this judgment. It may also be observed in passing that it is often said that it is the value of the land to the vendor that has to be estimated. This, however, is not in strictness accurate. The land, for instance, may have for the vendor, a sentimental value far in excess of its market value. The compensation must not be increased, however, by reason of any such consideration. The vendor is to be treated as a vendor willing to sell at the market price, to use the words of sect. 23 of the Indian Act. It is perhaps desirable in this connection to say something about this expression "the market price." There is not in general any market for land, in the sense in which one speaks of a market for shares, or a market for sugar, or any like commodity. The value of any such article at any particular time can readily be ascertained by ascertaining the prices being obtained for similar articles in the market. In the case of land, its value in general can also be measured by a consideration of the prices that have been obtained in the past for land of similar quality and in similar positions, and this is what must be meant in general by the market value in sect. 23. Sometimes, it happens, however, that the land to be valued possesses some unusual, and it may be, unique, features as regards its position or its potentialities. In such a case, the arbitrator, in determining its value, will have no market value to guide him, and he will have to ascertain as best he may from the materials before him what a willing vendor might reasonably expect to obtain from a willing purchaser for the land in that particular position and with those particular potentialities, for it has been established by numerous authorities that the land is not to be valued merely by reference to the use to which it is being put at the time at which its value has to be determined (that time under

the Indian Act being the date of the notification under sect. 4 (1)), but also by reference to the uses to which it is reasonably capable of being put in the future. No authority, indeed, is required for this proposition. It is a self-evident one. No one can suppose, in the case of land which is certain, or even likely, to be used in the immediate or reasonably near future for building purposes, but which at the valuation date is waste land, or is being used for agricultural purposes, that the owner, however willing a vendor, will be content to sell the land for its value as waste or agricultural land, as the case may be. It is plain that in ascertaining its value the possibility of its being used for building purposes would have to be taken into account. It is equally plain, however, that the land must not be valued as though it had already been built upon, a proposition that is embodied in sect. 24 (5) of the Act and is sometimes expressed by saying that it is the possibilities of the land, and not its realised possibilities, that must be taken into consideration.

But how is the increase accruing to the value of the land by reason of its potentialities or possibilities to be measured? In the case instanced above of land possessing the possibility of being used for building purposes, the arbitrator (which expression in this judgment includes any person who has to determine the value) would probably have before him evidence of the prices paid in the neighbourhood for land immediately required for such purposes. He would then have to deduct from the value so ascertained such a sum as he would think proper by reason of the degree of possibility that the land might never be so required, or might not be so required for a considerable time. In the case, however, of land possessing potentialities of such an unusual nature that the arbitrator has not similar cases to guide him, the value of the land must be ascertained in some other way. In such a case, moreover, there will, in all probability, be only a very limited number of persons capable of turning the potentialities of the land to account. If the owner of the land is the only person who can do so, the value to him must be ascertained by reference to what profit he might thereby have been able to derive from the land in the future. Take as an example the case of an owner of vacant land that adjoins his factory. The land possesses the potentiality of being profitably used for an extension of the factory, but the owner is the only person who can turn that potentiality to account. In valuing the land, however, as between him and a willing purchaser, the value to him of the potentiality would necessarily have to be included. The same consideration will apply to cases where the owner is not the only person, but is merely one of the persons, able to turn the potentiality to account. The value to him of the potentiality will not be less than the profit that would accrue to him by making use of it had he retained it in his own possession. Take the case, however, where the owner is himself unable to turn the potentiality to account, whether by promotion of a company or otherwise. In such a case, there may be several other persons who would be able to do so, or there may be only one. If there are more than one,

it is recognised by all the authorities which have been cited to their Lordships, and seems to be consistent with common sense, that the owner is entitled to be paid the value to him of the potentiality, though the ascertainment of its value may in many cases be a matter of considerable difficulty.

It has been suggested that, in order to ascertain it, the arbitrator is to hold an imaginary auction, but with all respect to those who have made the suggestion, their Lordships are unable to see how this is going to help the arbitrator. At such imaginary auction, all possible purchasers must, no doubt, be imagined as attending. They will include, therefore, persons who are in no way interested in the land's potentialities, and such persons will bid no higher price than the value of similar land without its potentialities. This value in this judgment is referred to as the *poramboke* value. They will also include, however, what may be called the purchasers of the potentialities. There may also be present some speculative buyers who will be willing to bid more than the *poramboke* value upon the chance of being able to resell to a purchaser of the potentiality at a profit. It would seem, however, logically, that such purchasers should be disregarded, for the object of the imaginary auction is to discover what a purchaser of the potentiality will be willing to pay for it, and this cannot depend upon the presence at the auction of persons willing to pay less, unless it be that such ultimate purchaser is to be considered willing to pay whatever fantastic price he may be forced up to by competition, and no one suggests this. Proceeding, therefore, with the imaginary auction at which are present two classes of buyers—namely, the *poramboke* buyers and the potentiality buyers—the former will disappear from the bidding as soon as the *poramboke* value has been reached, and the bidding will thereafter be confined to the potentiality buyers. At what figure, however, will this bidding stop? As already pointed out, it cannot be imagined as going on until the ultimate purchaser has been driven up to a fantastic price by the competition, for he is *ex hypothesi* a willing purchaser, and not one who is forced by circumstances to buy. Nor can the bidding be imagined to stop at the first advance on the *poramboke* value, for the vendor is a willing vendor, and not one compelled by circumstances to sell his potentiality for anything he can get. The arbitrator will, therefore, continue the imaginary bidding until a bid is reached which, in the arbitrator's estimate, represents the true value of the potentiality to the vendor. The auction will, therefore, have been an entire waste of the arbitrator's imagination. If the value of the potentiality be Rs.x, the imaginary auction will have taken place to ascertain the value of x from the imaginary bidding, and all that can be said is that the bidding will stop at Rs.x. The truth of the matter is that the value of the potentiality must be ascertained by the arbitrator on such materials as are available to him, and without indulging in feats of the imagination.

Their Lordships would not have thought it necessary to deal with this question of the imaginary auction at such length were it not for the fact

that in argument before them the respondent's counsel endeavoured to show, by reference to such an auction, that, when there was only one possible purchaser of the potentiality, the value of it to the vendor was nil. That is to say, the value of the land with the potentiality was substantially nothing in excess of its value without it. This argument, it may be observed, commended itself to LORD CULLEN in the Scottish case of *Glass* v. *Inland Revenue* (1), referred to below, but was rejected by the majority of the court.

Upon the question of the value of the potentiality where there is only one possible purchaser, there are some authorities to which their Lordships will have to refer. However, dealing with the matter apart from authority, it would seem that the value should be the sum which the arbitrator estimates that a willing purchaser will pay, and not what a purchaser will pay under compulsion. It was contended on behalf of the respondent that, at an auction where there is only one possible purchaser of the potentiality, the bidding will rise above the *poramboke* value only sufficiently to enable the land to be knocked down to that purchaser. However, if the potentiality is of value to the vendor if there happen to be two or more possible purchasers, it is difficult to see why he should be willing to part with it for nothing merely because there is only one purchaser. To compel him to do so is to treat him as a vendor parting with his land under compulsion, and not as a willing vendor. The fact is that the only possible purchaser of a potentiality is usually quite willing to pay for it. An instance of this is to be found in *Inland Revenue Commissioners* v. *Clay* (2). That was a case under the Finance (1909-1910) Act, 1910, s. 25 (1), and is not perhaps strictly relevant to the present case. The facts of it, however, are worth recalling. There was a house of which the value to anyone except certain trustees was no more than £750. These trustees were the owners of a nurses' home which adjoined the house, and they were desirous of extending their premises. They accordingly purchased the house for £1,000, the owner thus receiving £250 for the potentiality his house possessed by reason of its position adjoining the nurses' home. It was held by the Court of Appeal that £1,000 was the value of the house to a willing seller. LORD COZENS-HARDY, M.R., said, at p. 472 :

> To say that a small farm in the middle of a wealthy landowner's estate is to be valued without reference to the fact that he will probably be willing to pay a large price, but solely with reference to its ordinary agricultural value, seems to me absurd.

Had the house in that case been acquired compulsorily by a railway company, or a local authority under the provisions of the Lands Clauses Consolidation Act, 1845, before its purchase by the trustees, the house ought, in their Lordships' opinion, and for the reasons already given, to have been valued at £1,000, and not merely at £750.

A case in many respects similar to *Clay's* case (2) is that of *Glass* v. *Inland Revenue* (1). That also was a case arising under the Finance (1909-1910) Act, 1910, and was one where land of an agricultural value of

£3,379 had been sold in 1911 to certain water commissioners for £5,000, they being the only possible purchasers of the land for other than agricultural purposes. It was held that in valuing the land as on Apr. 30, 1909, the possibility that the commissioners might give more than the agricultural value for the land must be taken into consideration. In the words of LORD JOHNSTON, at p. 465, it was necessary, in order to fix the value of the land on Apr. 30, 1909, to ascertain :

> . . . what is to be attributed to the probability of the water commissioners, in the circumstances, desiring to acquire the property, and what figure, in a friendly negotiation, they would be prepared to pay for it.

However this may be, it is said that the matter assumes a totally different complexion when the only possible purchaser is the one who has obtained the compulsory powers of purchase, and that this has been established by authorities that should be followed by this Board. Of these authorities, the first one to which reference need be made is *Re Gough & Aspatria, Silloth & District Joint Water Board* (3). In that case, it was not proved that the acquiring authority was the only possible purchaser, and it may be that all that the Court of Appeal decided was that it was not incumbent upon the claimant for compensation to specify that any particular body of persons were possible purchasers, though the judgment of LORD ALVERSTONE, L.C.J., seems quite consistent with the view that the potentiality must be valued even if the acquiring authority be its only possible purchaser. However, it is contended that SIR RICHARD HENN COLLINS, M.R., expressed the contrary view. After referring to the particular adaptability of the land that was in question, and to the fact that it ought to find a place in the estimate of the amount of compensation, he said, at p. 423 :

> That view is supported by authority and long practice; but underlying it is the question, which is one of fact for the arbitrator, whether there is a possible market for the site, and in determining that the statutory purchase is not to be considered.

However, SIR RICHARD HENN COLLINS, M.R., said that the purchase, not the purchaser, was to be left out of consideration. Any enhanced value attaching to the land by reason of the fact that it has been compulsorily acquired for the purpose of the acquiring authority must always be disregarded, and SIR RICHARD HENN COLLINS, M.R., meant no more than that. *Re Lucas & Chesterfield Gas & Water Board* (4) must, however, be considered in greater detail, for it is on certain *dicta* of FLETCHER MOULTON, L.J., in that case that the respondent chiefly relies. The land which had been compulsorily acquired in that case had potentialities for which the acquiring authority was not the only possible purchaser. The point now being considered did not, therefore, arise for decision. In the court below, however, BRAY, J., had said, at p. 579 :

> I come back to the question whether the fact that no buyer for reservoir purposes can be found, except a buyer who has obtained parliamentary powers, prevents the special value of the land being marketable. In my opinion the answer I ought to give to that question is "No."

In the Court of Appeal, VAUGHAN WILLIAMS, L.J., said, at p. 25 :

> I agree with BRAY, J., that the fact that no buyer for reservoir purposes can be

found except a buyer who has obtained parliamentary powers does not prevent the special value being marketable. . .

He stated that one of his reasons for so agreeing was that the fact that the board (who were the acquiring authority) might themselves become possible purchasers, who would give a special price for the land, ought to be considered. FLETCHER MOULTON, L.J., however, said that the decided cases to his mind laid down the principle that, when the special value exists only for the particular purchaser who has obtained powers of compulsory purchase, it cannot be taken into consideration in fixing the price, because to do otherwise would be to allow the existence of the scheme to enhance the value of the land to be purchased under it. He added that, where there were other possible purchasers, there would be competition among them, and this fact would enhance the market price. He did not specify the authorities which laid down the principle in question, and their Lordships are not aware of any that would justify it. It must, of course, be conceded that the existence of the scheme must not be allowed to enhance the price, if by "scheme" is meant the fact that compulsory powers of acquisition have been obtained for the purpose of carrying into effect a particular scheme for the profitable use of the potentiality. The valuation must always be made as though no such powers had been acquired, and the only use that can be made of the scheme is as evidence that the acquiring authority can properly be regarded as possible purchasers. Their Lordships have some difficulty, however, in seeing why the taking into consideration of the fact that the special value exists for those purchasers only should be said to be allowing the existence of the scheme to enhance the value of the lands. The only difference which the scheme has made is that the acquiring authority, who before the scheme were possible purchasers only, have become purchasers who are under a pressing need to acquire the land, and that is a circumstance that is never allowed to enhance the value. If, on the other hand, by "the scheme" FLETCHER MOULTON, L.J., meant the intention formed by the acquiring authority of exploiting the potentiality of the land, his statement can only mean that the value of the land is not to be enhanced by the fact that they are possible purchasers. The result of this would be that, even in a case where there are two or more possible purchasers, their existence must not be allowed to enhance the value, for each purchaser must be deemed to have a scheme in the sense supposed, and the enhancement of value due to their competition which FLETCHER MOULTON, L.J., envisages will in fact be due to the "schemes." In these circumstances, their Lordships are not prepared to follow the *dictum* of FLETCHER MOULTON, L.J., in the *Lucas* case (4), and prefer the opinion there expressed by VAUGHAN WILLIAMS, L.J. It is said, however, that the *dictum* of FLETCHER MOULTON, L.J., has already received the approval of this Board on more than one occasion. In no case to which their Lordships' attention has been called, however, was the question of the effect of there being only one possible purchaser

of the land being considered by the Board, and any approval of the statement of the law by FLETCHER MOULTON, L.J., must be regarded merely as an approval of such statement so far as it affected the particular question then before the Board. It is sufficient in this connection to refer to two of such cases. In *Cedar Rapids Manufacturing & Power Co.* v. *Lacoste* (5), LORD DUNEDIN, in delivering the judgment of the Board, said, at p. 576:

> The law of Canada as regards the principles upon which compensation for land taken is to be awarded is the same as the law of England, and it has been explained in numerous cases, nowhere with greater precision than in the case of *Re Lucas & Chesterfield Gas & Water Board* (4), where VAUGHAN WILLIAMS and FLETCHER MOULTON, L.JJ., deal with the whole subject exhaustively and accurately.

As has already been pointed out, the opinions of VAUGHAN WILLIAMS and FLETCHER MOULTON, L.JJ., upon the question now being considered were diametrically opposed to one another. The other case is *Fraser* v. *Fraserville City* (6), where LORD BUCKMASTER, in delivering the judgment of the Board, said, at p. 194:

> The principles which regulate the fixing of compensation of lands compulsorily acquired have been the subject of many decisions, and among the most recent are those of *Re Lucas & Chesterfield Gas & Water Board* (4), *Cedar Rapids Manufacturing & Power Co.* v. *Lacoste* (5), and *Sidney* v. *North Eastern Ry. Co.* (7). The principles of those cases are carefully and correctly considered in the judgments the subject of appeal, and the substance of them is this: that the value to be ascertained is the value to the seller of the property in its actual condition at the time of expropriation with all its existing advantages and with all its possibilities, excluding any advantage due to the carrying out of the scheme for which the property is compulsorily acquired, the question of what is the scheme being a question of fact for the arbitrator in each case.

It will be observed that LORD BUCKMASTER makes no reference whatsoever to the present question, but in one of the cases to which he referred —namely, *Sidney* v. *North Eastern Ry. Co.* (7)—ROWLATT, J., is thought to have said much the same as had been said by FLETCHER MOULTON, L.J. In that case, certain land possessed the potentiality of being used for the purposes of a railway. That potentiality was capable of being turned to account by a railway company which had obtained compulsory powers of acquiring it and by the proprietor of an adjoining colliery. In assessing the compensation to be paid by the railway company for the land, the arbitrator took into account the possibility that, but for its acquisition by the railway company, the colliery proprietor might have purchased it, but he did not take into consideration the possibility that the company might in friendly negotiation have been willing to pay more for it than the colliery proprietor. In their Lordships' opinion, he was wrong in this. The Divisional Court, however, on a case stated, upheld the decision of the arbitrator. In the course of his judgment, ROWLATT, J., said, at p. 637:

> Now, if and so long as there are several competitors including the actual taker who may be regarded as possibly in the market for purposes such as those of the scheme, the possibility of their offering for the land is an element of value in no respect differing from that afforded by the possibility of offers for it for other purposes. As such it is admissible as truly market value to the owner and not merely value to the taker. But when the price is reached at which all other competition must be taken to fail to what can any further value be attributed? The point has been reached when the owner is offered more than the land is worth to him for his

own purposes and all that any one else would offer him except one person, the promoter, who is now, though he was not before, freed from competition. Apart from compulsory powers, the owner need not sell to that one and that one would need to make higher and yet higher offers. In respect of what would he make them? There can only be one answer—in respect of the value to him for his scheme. And he is only driven to make such offers because of the unwillingness of the owner to sell without obtaining for himself a share in that value. Nothing representing this can be allowed.

If and so far as this means that the value to be ascertained is the price that would be paid by a willing purchaser to a willing vendor, and not the price that would be paid by a driven purchaser to an unwilling vendor, their Lordships agree. So far, however, as it means that the possibility of the promoter as a willing purchaser being willing to pay more than other competitors, or, in cases where he is the only purchaser of the potentiality, more than the value of the land without the potentiality, is to be disregarded, their Lordships venture respectfully to differ from Rowlatt, J. For these reasons, their Lordships have come to the conclusion that, even where the only possible purchaser of the land's potentiality is the authority which has obtained the compulsory powers, the arbitrator, in awarding compensation, must ascertain to the best of his ability the price which would be paid by a willing purchaser to a willing vendor of the land with its potentiality in the same way that he would ascertain it in a case where there are several possible purchasers, and that he is no more confined to awarding the land's *poramboke* value in the former case than he is in the latter.

It is now necessary to take up once more the narrative of the events that have led up to this appeal. On Jan. 5, 1929, the appellant filed his claim for compensation. It was certainly not lacking in courage, but it was lacking, strangely enough, in any suggestion that the land had a potential value as a source from which water might be supplied to persons or corporations outside Lova Gardens. He did, however, allege that Lova Gardens had a valuable potentiality as a building site, and that such potentiality would be destroyed if he were deprived of the spring. He accordingly claimed Rs. 2,50,000 in this respect, calling it "damages sustained by severance," though in strictness it should have been called damages sustained by reason of the acquisition injuriously affecting his other property. He also claimed Rs. 1,200 per acre in respect of the land and Rs. 16,050 as the value of the masonry structures, roads, and trees on the land, the total claim amounting to Rs. 3,96,730.

On Jan. 18, 1929, the land acquisition officer made his award. He allowed in all a sum of Rs. 17,745.1.3, including the 15 per cent. addition prescribed by sect. 23 (2) of the Act. It appears from the grounds of award bearing the same date that he thought nothing of the potentiality of Lova Gardens as a building site, and the existence of any such potentiality has now disappeared from the case, and need not be referred to again. He valued the land at Rs. 50 per acre, with the exception of the land numbered 2-3B, which he valued at Rs. 300 per acre. As to the claim in respect of "damages sustained by severance," he thought that

the rest of the appellant's land was probably better off without the water from the spring than with it. The lower part of the gardens, which was marshy and malarious, had too much water as it was. In any case, he considered that the appellant would be amply compensated for the loss of the spring water by the Rs. 5,000 that he awarded under this head. The appellant's claim of Rs. 2,50,000 was, he said, preposterous. He also awarded a sum of Rs. 4,493 in respect of trees and buildings. The appellant thereupon required that the matter should be referred to the court for determination under sect. 18 of the Act, and in due course it came on for hearing before the subordinate judge of Vizagapatam. It was then claimed on the appellant's behalf that, but for its acquisition, the spring could have been used by him as a source of water supply either to the harbour authority or to the oil companies and others residing or carrying on business in the harbour area, and the appellant claimed to be compensated upon this footing. After a lengthy hearing before him, in the course of which many questions of law and fact not now in issue were discussed, the judge made his award. He found as a fact, and the fact cannot be disputed, that the water of the spring was on Feb. 13, 1928, capable of being used as a source of water supply to persons outside the plaintiff's land. He also found that the only possible buyers of the water at that date were the harbour authority itself and the oil companies and labour camps which might be established as a result of the development of the harbour, and stated that this fact would be taken into consideration in fixing the amount of compensation. After considering the authorities on the subject, however, he came to the conclusion as a matter of law that the value to a vendor of a potentiality of his land can be assessed even though there are no other possible purchasers beyond the acquiring authority. Other principles of law stated by him for his guidance in making his award were that it was the contingent possibility of the user that had to be taken as the basis of valuation, and not the realised possibility, and that the use to which the acquiring authority had actually put the property could be taken as a strong piece of evidence to show that the property acquired could be put to such use by the owner at the date of acquisition. Applying these principles, he found that the value of the land acquired, including the spring, was Rs. 1,05,000, which, with the addition of the 15 per cent. under sect. 23 (2) of the Act, amounted to Rs. 1,20,750. The Rs. 17,745.1.3 awarded by the land acquisition officer had been paid to the appellant and received by him under protest, and, deducting this sum from the Rs. 1,20,750, there remained Rs. 1,03,004.14.9 due to the appellant. This sum he decreed in favour of the appellant, with certain interest. The valuation of Rs. 1,05,000 was arrived at in this way. Evidence had been given before the judge by two witnesses on behalf of the appellant as to what would be a proper charge for water supplied to the harbour area from the spring, and they estimated the charge at Rs. 1.8.0 per 1,000 gallons. The judge, however, said that, taking into consideration the conclusions

arrived at by him, which were presumably the conclusions of law and findings of fact referred to above, he thought that it would be reasonable and proper to fix the value of the acquired property—the water source—on the date of the acquisition on the basis of R. 1 per 1,000 gallons. Taking the normal supply of water at 50,000 gallons per day, this gave as the gross annual value of the water the sum of Rs. 18,250. He estimated that maintenance charges, depreciation of machinery, and interest on the capital outlay would come to Rs. 12,273, but, taking these items at the round figure of Rs. 13,000, the net annual income from the spring would be Rs. 5,250. This he capitalised at 20 years' purchase, and so arrived at the sum of Rs. 1,05,000. Having regard, amongst other things, to the extravagant claims put forward by the appellant in the first instance, he awarded him no costs.

From this decision an appeal was taken by the present respondent to the High Court at Madras, the appellant lodging a memorandum of cross-objections to the valuation of the subordinate judge which need not be specified. The appeal was heard by WADSWORTH and STODART, JJ., and judgment allowing the appeal was delivered on May 4, 1937. The reasons for this decision given by WADSWORTH, J., in whose judgment STODART, J., concurred, may be summarised in the following way. The scheme for utilisation of the water and the carrying out of anti-malarial operations in the valley—that is, the Lova Gardens—was not really an independent scheme. It was linked up with a bigger scheme for getting rid of breeding-places of mosquitoes all round the southern side of the harbour, so as to make the whole of that area fit for development. At the time when this scheme was promulgated, the whole of that area was undeveloped. It was full of malaria, and was incapable of any profitable use apart from the success of the anti-malarial campaign of which this acquisition was part. It was not conceivable that the present appellant himself would ever have been able to develop a water supply scheme, carrying out the necessary anti-malarial works and thereby encouraging business concerns to occupy the harbour land and buy water from him. The conclusion, therefore, must be that the special adaptability of the land for the supply of drinking water had no value apart from the scheme for which the acquisition was made. The harbour authority, therefore, was, at the date of the notification, the only reasonably possible purchaser for the drinking water supply on the appellant's land, and, this being so, the subordinate judge had erred in awarding compensation for the special adaptability of the land to supply drinking water to persons outside the appellant's land. After referring to the authorities, and in particular to the *dictum* of FLETCHER MOULTON, L.J., in the *Lucas* case (4), he said :

> There can be little doubt that this exposition of the law when applied to the facts of the present case as we have found them would justify the conclusion that no value can be awarded to the special adaptability of this land for supplying drinking water to the harbour alone, if it can be shown that the land cannot have any value as a source of drinking water to anyone else.

By the harbour the judge meant, of course, the harbour authority.

STODART, J., who, as already stated, concurred in the judgment of WADSWORTH, J., added :

> It is not contended that any other public authority or private undertaker except the harbour authority would ever have come forward to develop this area and make it habitable. Thus the value of the . . . spring as a source of drinking water . . . arose entirely from the anti-malarial scheme carried out by the harbour authority and depended on the success of that scheme. To my mind, sect. 24 (5) of the Land Acquisition Act is completely applicable to the facts of this case.

The appeal was accordingly allowed with costs there and below, and the award of the land acquisition officer was restored *in toto*. The memorandum of cross-objections was dismissed with costs. From that judgment, the necessary leave having been obtained, the appellant now appeals to His Majesty in Council.

Their Lordships agree with the High Court that on Feb. 13, 1928, the only really possible purchaser of the special adaptability of the appellant's land as a water supply was the harbour authority. The position at that time was that the harbour was so far advanced that its opening in a few years was in contemplation. It was expected that, when that had taken place, oil companies and other industrial concerns, with their attendant labour camps, would be attracted to the harbour area, and they would all require to be supplied with water. It is plain that neither the appellant nor any purchaser from him would encounter any engineering difficulties in conducting the water from the spring to the southern boundary of the harbour area. Nor would they encounter any engineering difficulty in conducting the water from that boundary to the premises of the oil companies and other concerns. They would, however, have had to obtain the consent of the harbour authority to lay the necessary pipes in the harbour area itself, and the possibility of such consent being refused would have to be taken into consideration in estimating the value to the appellant of the special adaptability of his land, though the risk of such consent being refused was not a serious one, assuming that there was no other source from which the water could be profitably supplied by the harbour authority itself. There was, however, on Feb. 13, 1928, a much more serious matter to be taken into consideration. As already pointed out, the harbour area was at that date a highly malarious place, little calculated to prove attractive as a site for any industrial concern. Unless, therefore, this state of affairs were remedied, there would be no customers for the appellant's water, and the value to him of the special adaptability was nil. It is true that there was a practical certainty of the harbour authority taking steps to render the site as free as possible from malaria, for, if they did not, the harbour would not be used to any great extent, even as a port of call. In order to carry out the necessary anti-malarial works, however, it was essential for the harbour authority to obtain a supply of drinking water from some source other than the wells in the area, which were largely responsible for the malarious condition of the area and were going to be closed. On Feb. 13, 1928, the appellant would,

therefore, have been in this dilemma. If the only other source of water were the appellant's spring, the harbour authority would be the only possible purchaser. If, on the other hand, the authority could obtain water from other sources sufficient both for the anti-malarial work and for the supply of the traders in the harbour area, the appellant would almost certainly be refused permission to carry his competing supply over the authority's land. In point of fact, there was at one time an alternative scheme on foot for obtaining water, known as the Meghadrigedda scheme. The scheme was to be for the benefit of the municipality of Vizagapatam, the Bengal Nagpur Railway, and the harbour. The scheme aimed at a supply of 1,000,000 gallons per day, of which the harbour was to have 150,000 gallons per day. The scheme has not been proceeded with, but it is impossible to say what would have been done about it had the spring in Lova Gardens not been acquired. In these circumstances, the possibility of the appellant's water being made available for the harbour by anyone other than the harbour authority was altogether negligible, and the only enhancement in the value to the appellant of his land by reason of its special adaptability as a water supply was the sum that the harbour authority, as a willing purchaser, would have been willing to give in excess of the land's *poramboke* value. Their Lordships have given their reasons for thinking, contrary to the view taken by the High Court, that such sum must be taken into consideration in fixing the compensation payable to the appellant, and that such sum is not to be treated as being a negligible one merely because the harbour authority was the only possible purchaser.

It remains to deal with sect. 24 (5) of the Land Acquisition Act. That subsection, as applied to the present case, means no more than that, in valuing the appellant's land on Feb. 13, 1928, it must be valued as it then stood, and not as it would stand when the land had been acquired and the water on it used for ridding the harbour area of malaria. The harbour authority would otherwise be made to pay for the water twice over. The subsection does not mean, however, that the possibility that a particular purchaser of land will give a higher price for it by reason of its possessing a special adaptability must be disregarded merely because the land will be more valuable in his hands when he exploits that adaptability than it would be if left in the hands of the vendor who was unable to exploit it. In *Clay's* case (2), for instance, the house, after being added to the nurses' home, was no doubt more valuable than it was before. That indeed, was the reason why the trustees of the home paid £250 more than any other purchaser would have paid. The house in that case was held to be of the value of £1,000, not because that was its value after being put to the use for which it was acquired, but because that was the price which the willing purchaser was prepared to pay for its acquisition. In the present case, the land must be valued, not at the sum which it would be worth after it had been acquired by the harbour authority and used for anti-malarial purposes, but at the sum which the

authority "in a friendly negotiation" (to use the words of Lord Johnston) would be willing to pay on Feb. 13, 1928, in order to acquire it for those purposes.

Returning to the award made in the present case by the subordinate judge, it is to be observed that, in valuing the land with its special adaptability as being worth Rs. 1,05,000 to the appellant, he did so on the footing that the appellant would himself have been in a position to supply the water to the harbour but for the compulsory acquisition by the harbour authority. He would also seem to have so valued it upon the footing that the spring could have been made an income-earning concern on Feb. 13, 1928. He would otherwise have made a substantial discount from the Rs. 1,05,000. It is plain, therefore, that, in view of the facts that the water could not be exploited by the appellant himself and that it would necessarily be some years before the water would become a profit-earning asset in their hands, the harbour authority, however willing purchasers they might be, would not have agreed to pay anything like that sum. In these circumstances, the matter should in strictness be referred back to the subordinate judge to revise his award. Both the parties to this appeal, however, have asked their Lordships, with a view to saving expense, to state what should be the proper amount of the award, and this their Lordships have consented to do. Giving the matter the best consideration they can, their Lordships are of opinion that the total price which the harbour authority would have been willing to pay on Feb. 13, 1928, for the land acquired is the sum of Rs. 40,000, and this sum, with the additional 15 per cent., amounts to Rs. 46,000. In their Lordships' judgment, the order of the High Court of May 4, 1937, should be discharged, except in so far as it dismissed the present appellant's memorandum of objections with costs. The amount decreed by the subordinate judge in favour of the appellant should be reduced from Rs. 103,004.14.9 to Rs. 28,254.14.9, with interest as stated in his award. His order as to costs must stand. The respondent must pay the appellant's costs before the High Court and his costs of this appeal. Their Lordships will humbly advise His Majesty accordingly.

Appeal allowed with costs.

Solicitors: *T. L. Wilson & Co.* (for the appellant); *The Solicitor, India Office* (for the respondent).

[*Reported by* T. A. Dillon, Esq., *Barrister-at-Law.*]

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20/2/02