



20 October 2008

John Tamblyn  
Commissioner  
Australian Energy Market Commission  
PO Box A2449  
Sydney South  
NSW 1235

Dear Dr Tamblyn

**RE: Rule change submission - Futures Offset Arrangements**

d-cyphaTrade thanks the AEMC for inviting our participation in the recent AEMC workshop on Futures Offset Arrangements (FOAs) and for inviting additional submissions to this Rule Change process.

As requested, this submission provides additional information relevant to issues discussed at the AEMC workshop.

This submission includes the following:

- Appendix 1 A high level summary of how new National Electricity Rules supporting FOAs could be accompanied by two separate contractual agreements e.g.
  - (i) a Letter of Futures Offset Support between NEMMCO and the SFE Clearing Participant, and
  - (ii) the existing Futures Clearing Agreement between the SFE Clearing Participant and it's client being an electricity retailer.Note: SFE Clearing Participants do not become NEM Participants and this structure involves no *assignment* of monies. This framework is broadly consistent with the existing arrangements for Credit Support Providers (i.e. entities which currently provide bank guarantees to NEMMCO are not NEM Participants);
- Appendix 2 An alternate set of indicative draft Rules for consideration by the AEMC, which would define and support the Futures Offset Rule Change between NEMMCO and NEM Participants, including;
- Appendix 3 A new schedule (to be incorporated in the Rules) which itemises key contractual inclusions in the standalone legal contract between NEMMCO and a SFE Clearing Participant. i.e. similar to how NEMMCO currently provides suggested templates of contractual terms to be included in letters of bank guarantee written by a Credit Support Provider to NEMMCO;
- Appendix 4 Graphical representation of 3 significant potential risks to NEM generators arising from existing ex-ante reallocations (relevant to either

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or both existing reallocations and proposed reallocation arrangements) which would be entirely or partially eliminated to the extent that FOAs displace the future growth of the NEMMCO reallocation market, if permitted to compete openly in the supply of offsets for retailers. The current risks to NEM generators are illustrated:

(i) The ability for NEM retailers to use off-peak reallocations to arbitrage NEMMCO's prudential arrangements, immediately exposing NEMMCO to a 83% reduction in peak hour guarantee protection (potentially affecting all NEM generators);

(ii) Comparison of residual MCL bank guarantee protection resulting from termination of an ex-ante reallocation (e.g. if NEMMCO was forced to terminate a reallocation due to the default of a party to the reallocation) vs. termination of a FOA (assuming no futures receipts have already occurred at the time of termination), the same historically high pool-priced quarters chosen in other scenarios for the purpose of the Deloitte workshop presentation. Reallocations resulted in substantially less MCL bank guarantee protection;

(iii) The risk to a NEM generator which has sold an in-the-money proposed NEMMCO reallocation swap (e.g. at \$72.05/MWh) which is subsequently terminated by NEMMCO. NEMMCO provides no forward mark-to-market contract replacement compensation to the generator, potentially exposing the generator to substantial financial loss. Futures contracts are marked-to-market daily, preventing substantial mark-to-market credit default risk from accumulating. The current credit crisis should serve as a warning to the pitfalls of an over-the-counter reallocation derivative market which relies on the performance of unsecured counterparty obligations without the safe guard of daily marking-to-market. NEM retailers face similar reallocation risks if their in-the-money hedges are terminated. Note the credit default risk associated with existing ex-ante reallocation hedges involving (in effect) \$0.00/MWh swap contracts is substantially higher than illustrated.

Please feel free to contact me if you wish to discuss any of these topics in further detail via email at [dean.price@d-cypha.com.au](mailto:dean.price@d-cypha.com.au) or phone 02 8211 0615.

Yours Sincerely,

A handwritten signature in black ink that reads "Dean Price".

Dean Price  
**General Manager**

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## Appendix 1

High level summary of the 3 separate contractual/regulatory arrangements relevant to Futures Offsets.

1. Futures Clearing Agreement	2. Letter of Futures Offset Support (FOS)	3. National Electricity Rules
<b>Parties to Agreement</b>		
<ul style="list-style-type: none"> <li>• Clearer/ Retailer</li> </ul>	<ul style="list-style-type: none"> <li>• Clearer /NEMMCO</li> </ul>	<ul style="list-style-type: none"> <li>• Retailer/NEMMCO</li> </ul>
<b>Form of FOA Agreement</b>		
<ul style="list-style-type: none"> <li>• Retailer requests Clearer to submit Letter of Futures Offset to NEMMCO</li> <li>• Clearer permitted to draw money equal to Clearer's Payments to NEMMCO</li> </ul>	<ul style="list-style-type: none"> <li>• Clearer pays NEMMCO when futures price increases above defined Futures Price</li> <li>• Minimum terms for inclusion in a Letter of FOS are specified in a NER table</li> </ul>	<ul style="list-style-type: none"> <li>• NEMMCO calculates MCL reduction to retailer in return for Letter of FOS</li> <li>• Retailer SDA balance to be no less than net futures price rises</li> </ul>
<b>Registering a FOA</b>		
<ul style="list-style-type: none"> <li>• Retailer instructs Clearer to register FOA including:               <ul style="list-style-type: none"> <li>○ Futures Lodgement Price</li> <li>○ Defined volume (MW)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Clearer submits Letter of FOS to NEMMCO including:               <ul style="list-style-type: none"> <li>○ Futures Lodgement Price</li> <li>○ Defined volume (MW)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• NEMMCO informs Retailer of acceptance of Letter of FOS</li> <li>• NEMMCO calculates new MCL based on Futures Lodgement price and FOS volume</li> </ul>
<b>Termination of a FOA</b>		
<ul style="list-style-type: none"> <li>• Retailer instructs Clearer to deregister FOA including:               <ul style="list-style-type: none"> <li>○ Most recent Futures Price</li> <li>○ Defined volume (MW)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Clearer instructs NEMMCO of FOS termination including:               <ul style="list-style-type: none"> <li>○ Most recent Futures Price</li> <li>○ Defined volume (MW)</li> <li>○ Clearer makes any payments owing</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• NEMMCO informs Retailer of deregistration of Futures Offset Arrangement (FOA)</li> <li>• NEMMCO recalculates MCL (including any pro-rated FOA term vs MCL term)</li> </ul>

	to most recent Futures Settlement Price	
<b>Payments under FOA</b>		
<ul style="list-style-type: none"> <li>○ Clearer draws on retailer account <i>equivalent to monies paid to NEMMCO</i></li> </ul>	<ul style="list-style-type: none"> <li>• 8am NEMMCO calculates amount payable from Clearer according to formula: <ul style="list-style-type: none"> <li>○ i.e. any new high in Futures Settlement Price minus previous highest Futures Settlement Price</li> </ul> </li> <li>• 8:30 am NEMMCO invoices Clearer</li> <li>• 11 am Clearer pays NEMMCO</li> </ul>	<ul style="list-style-type: none"> <li>• NEMMCO deposits money received to Retailer's Security Deposit</li> </ul>
<b>Retailer draws on SDA after futures price increases then decreases</b>		
<ul style="list-style-type: none"> <li>○ Clearer instructs retailer of new "high benchmark" Futures Settlement Price</li> </ul>	<ul style="list-style-type: none"> <li>• NEMMCO instructs Clearer of new benchmark DSP, for calculation purposes <ul style="list-style-type: none"> <li>○ New Futures Settlement Price "high benchmark" = most recent Futures Settlement Price</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• NEMMCO allows retailer to draw down on SDA balance to most recent Futures Settlement Price</li> </ul>

## Appendix 2

**Preferred implementation of FOAs** – intended to define and implement FOAs via a standalone letter of agreement between the SFE Clearing Participant and NEMMCO. This arrangement would adopt a similar legal and contractual relationship NEMMCO has currently with *Credit Support Providers* which are entities that are not National Electricity Market Participants. SFE Clearers providing Futures Offset Support to NEMMCO would not become NEM Participants, which is a critical requirement for SFE Clearing Participants.

This implementation of FOAs could be achieved by:

1. Changes to NER s. 3.3 to define:
  - a. *Futures Offset Support* (in a manner similar to *Credit Support* s.3.3.2) which lists minimum requirements of a *Letter of Futures Offset* between a SFE Clearing Participant and NEMMCO. These requirements would be further clarified via a new schedule in the Rules;
  - b. *Acceptable Futures Offset Support Provider* criteria (defining which entities may provide *Futures Offset Support* to NEMMCO, in a similar manner to *Acceptable Credit* criteria s.3.3.3); and
2. Other proposed draft Rule changes similar to those previously suggested during this Rule Change process

### 1. Draft Rules to:

- a. define *Futures Offset Support*; and
- b. define *Acceptable Futures Offset Support Provider Criteria*
- c. provide a schedule to define minimum requirements of a *Letter of Futures Offset Support between a Futures Offset Support Provider and NEMMCO*

### a. Define Futures Offset Support

#### **s.3.3.XX Futures Offset Support**

Futures Offset Support may be provided by a *Letter of Futures Offset Support* being an obligation in writing which:

- (a) is from an entity (the "*Futures Offset Support Provider*") which meets the *acceptable Futures Offset Support Provider criteria* and which is not itself a *Market Participant*;
- (b) is duly executed by the *Futures Offset Support Provider* and delivered unconditionally to *NEMMCO*;
- (c) constitutes a valid and binding unsubordinated obligation of the *Futures Offset Support Provider* to pay to *NEMMCO* amounts calculated with reference to one or more nominated futures contract price(s), in a form that is consistent with schedule 3.15.11B (*Letter of Futures Offset Support*).

### b. Define Acceptable Futures Offset Support Provider criteria

#### **s.3.3.XX Acceptable Futures Offset Support Provider criteria**

Where the *Rules* require that an entity meet the *acceptable Futures Offset Support Provider criteria*, this means that the entity must:

- (a) be a Clearing Participant of the Sydney Futures Exchange Clearing Corporation;
- (b) be resident in, or have a permanent establishment in, Australia;
- (c) not be an externally administered body corporate (as defined in the Corporations Act) or under a similar form of administration under any laws applicable to it in any jurisdiction;
- (d) not be immune from suit; and
- (e) be capable of being sued in its own name in a court of Australia.

### c. Other suggested Draft Rules required to implement Futures Offset Arrangements

## **Other amendments to Existing National Electricity Rules**

### **3.3.8 Maximum credit limit and prudential margin (amended)**

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

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

(c) The *prudential margin* for a *Market Participant* is a dollar amount to be determined by NEMMCO applying the principles set out in schedule 3.3, being amount determined by NEMMCO on the basis of a *reasonable worst case* estimate of the aggregate of the expected *trading amount* and the *reallocation amount* owing by the *Market Participant* to NEMMCO in respect of the *reaction period*.

(d) NEMMCO must *publish* details of the methodology used in determining *maximum credit limits* and *prudential margins*.

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

**(f) NEMMCO shall ensure that the methodology used in determining maximum credit limits and prudential margins ensures the maximum possible alignment to the term of electricity futures contracts being calendar quarters ending March, June, September and December to maximise the offset benefits of Futures Offset Support for Market Participants.**

(g) NEMMCO may change either or both of the *maximum credit limit* or *prudential margin* for a *Market Participant* at any time (whether by reason of an annual review or otherwise), provided that any change to the *maximum credit limit* or *prudential margin* will apply with

effect from such time (not being earlier than the time of notification of the changed *maximum credit limit* or *prudential margin*, as the case may be, to the *Market Participant*) as *NEMMCO* specifies.

(h) *NEMMCO* must notify the *Market Participant* of any determination or change under this clause 3.3.8 of that *Market Participant's maximum credit limit* or *prudential margin* (as the case may be) and, on request from that *Market Participant*, provide details of the basis for that determination or change, [including the trading, price, volatility, registered Futures Offset Arrangements and prospective reallocation assumptions and the average spot prices and ancillary service prices and average trading amounts.](#)

3.3.9 Amended to enable cash flow obligations arising from FOAs which are payable to *NEMMCO* from *SFE Clearing Participants* but which have not yet been paid to be included in the *Outstandings* formula **(to minimise unnecessary *NEMMCO* Margin Calls on *Market Participants*)**

### 3.3.9 Outstandings (amended)

At any time the *outstandings* of a *Market Participant* is the dollar amount determined

by the formula:

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

where:

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

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

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

[SDA is the balance \(if any\) of the \*Market Participant\* in the security deposit fund which includes monies paid or likely to be payable under a Letter of Futures Offset Support by a Futures Offset Support Provider by 11 am of the day of calculation of the \*Market Participant's\* outstandings, in which case a credit balance will be a positive amount and a debit balance will be a negative amount.](#)

The amounts to be used in this calculation will be the actual *settlement amounts* for *billing periods* where *final statements* have been issued by *NEMMCO* or *NEMMCO's* reasonable estimate of the *settlement amounts* for *billing periods* (where *final statements* have not been issued by *NEMMCO*).

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

NB: 3.3.13 amended to enable participants to arrange for a *Futures Offset Support Provider* to lodge a *Letter of Futures Offset Support* to meet Call Notices in a similar way in which *NEMMCO* reallocations may be applied for that purpose.

### 3.3.13 Response to Call Notices (amended)

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

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

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

(3) lodge a *reallocation request* or Letter of a Futures Offset Support which would give rise to a reduction in the Outstandings of the Market Participant of an amount which is not less than the *call amount* and which is accepted by *NEMMCO*; or

(4) provide to *NEMMCO* any combination of clauses 3.3.13(a)(1), (2) and

(3) such that the aggregate of the amount which can be drawn under the additional *credit support* provided and the amount of the security deposit paid and the amount of the *reallocation request* or Letter of Futures Offset Support accepted by *NEMMCO* is not less than the *call amount*.

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

NB. 3.3.19 deleted because:

Clause will become redundant when the Futures Offset Arrangements Rule change is approved. Market Participant transactions facilitated by other licensed operators of Australian Financial Markets for electricity and licensed Clearing and Settlement Facilities (if and when they exist) should be included/rejected via a formal Rule change proposal. This will enable due process in the inclusion or exclusion of other market operators to avoid the inclusion of unlicensed or otherwise illegal derivative markets (under Corporations Law).



### 3.3.19 Consideration of other Market Participant transactions (deleted)

NB: 3.15.1 amended to include the facilitation of FOAs in billing and payments facilitation provided by NEMMCO.

### 3.15.1 Settlements management by NEMMCO (amended)

(a) *NEMMCO* must facilitate the billing and settlement of payments due in respect of *transactions and [Futures Offset Support Arrangements](#)* under this Chapter 3, including:

- (1) *spot market transactions*;
- (2) *reallocation transactions*;
- (3) [Futures Offset Support Arrangements](#); and
- (4) ancillary services transactions under clause 3.15.6A.

NB: Amendments to S 3.3.1 and S 3.3.2 to:

1. Introduce the consideration of FOAs within the Principles for Determination of Market Participant's MCL;
2. Define the calculation of the amount of MCL reduction created by FOAs. The MCL reduction is commensurate with the quantity, term and Lodgement Price of the relevant futures contracts in comparison to the volatility adjusted price assumption used by NEMMCO to calculate the MCL, before reallocations and FOAs<sup>1</sup>;
3. Determine the average level of prices for MCL calculation purposes using the relevant electricity futures price as a forward looking "market consensus" view, rather than using the current backward looking price assumption which relies entirely only historical price averages; and
4. Reduce the prudential factor calculation to zero for FOAs to reflect that under FOAs residual MCL bank guarantees are maintained up to the level of the Futures Lodgement Price (i.e unlike the currently approved NEMMCO ex-ante reallocations with an effective \$0.00/MWh fixed price).

### Schedule 3.3 - Principles for Determination of Maximum Credit Limits & Prudential Margins (amended)

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

#### S3.3.1 Principles for determining maximum credit limits

(a) The *maximum credit limit* should be set on the principle of imposing a guarantee of payment being made to *NEMMCO* to a level of a *reasonable worst case*.

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<sup>1</sup> For a worked example of a calculation of the reduction in MCL as a result of FOA see Appendix 5 of the original Rule change Request.

(b) When calculating the *maximum credit limit* NEMMCO should have regards to:

(1) impartial objectivity rather than subjectivity, though it is recognised that some key parameters will need to be subjectively estimated from a limited amount of data - the estimation should be as impartial as possible;

(2) the average level and volatility of the *regional reference price* for the *region* for which the *maximum credit limit* is being calculated, measured with reference to the most relevant SFE electricity futures contract price comparable to the frequency of breaches of the *maximum credit limit*;

(3) the pattern of the quantity of electricity recorded in the *metering data* for the *Market Participant*;

(4) the quantity and pattern of the *prospective reallocation* in the immediate future;

(5) the correlation between the metered amounts of electricity and the *regional reference price*;

(6) the length of the *credit period*, which is the number of days from the start of a *billing period* to the end of the *reaction period* taking into account:

(i) the length of the *billing period*;

(ii) the typical time from the end of the *billing period* to the day on which *settlement* for that *billing period* is due to be paid (the *payment period*);

(iii) any current written request from the *Market Participant* to NEMMCO for the *maximum credit limit* to be determined on a *payment period* taken, for the purposes of clause 3.3.8 and not otherwise, to be 14 days; and

(iv) the time from a *default event* to the suspension or other removal of the *defaulting Market Participant* from the *market*, being a period of up to 7 days (the *reaction period*);

(7) the statistical distribution of accrued amounts that may be owed to NEMMCO; and

(8) the degree of confidence that the *maximum credit limit* will be large enough to meet large defaults (i.e. the degree of reasonableness in a *reasonable worst case*).

(c) As far as practicable, this schedule 3.3 must be read and construed as taking into account *market ancillary service transactions* for the calculation of the *maximum credit limit* for the relevant *Market Participant*.

**(9) the quantity of Futures Offset Arrangements involving futures contracts with contract terms that include the immediate future. Futures Offset Arrangements will give rise to a reduction in maximum credit limit for the Market Participant that is subject to a Futures Offset Arrangement commensurate with the quantity and the term of the futures contracts which are the subject of a Futures Offset Arrangement and the difference between:**

(i) The expected worst case volatility-adjusted price outcome assumed by NEMMCO for maximum credit limit calculation purposes in accordance with this section 3.3.1; and

(ii) The Futures Lodgement Price of the Futures Offset Arrangement;

such that the reduction in maximum credit limit as a result of a Futures Offset Arrangement will be calculated using the following methodology:

Max [(PR x VFR – FLP) x FLR x T, 0]

Where for each Futures Offset Arrangement:

FLP represents the futures lodgement price covering each Market Region R;

FLR represents the associated average daily energy of Futures Offset Arrangements for the Market Participant where the offset is to be calculated with reference to the spot electricity price of Region R.

PR represents NEMMCO's estimate of the average future pool price for each Market Region R;

VFR is a volatility factor, which ensures that the maximum credit limit is not exceeded more than once in 48 months;

T is the number of days assumed in NEMMCO's maximum credit limit credit period which coincide with days in the term of the futures contracts which are the subject of the Futures Offset Arrangement.

### S3.3.2 Principles for determining prudential margins

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

(1) if the aggregate of all *trading amounts* for the *Market Participant* is a positive amount the quantity and pattern of those *trading amounts* are not taken into account when determining the *prudential margin*;

(2) if the aggregate of all *reallocation amounts* for the *Market Participant* is a positive amount the quantity and pattern of those *reallocation amounts* are not taken into account when determining the *prudential margin*;

(3) the prudential margin will be zero to the extent that the quantity and term of Market Participant Futures Offset Arrangements coincide with the credit period;

and

(4) the *prudential margin* is calculated in respect of the *reaction period*.

## Additional New National Electricity Rules

NB: Registration of FOAs by NEMMCO, on receipt of a valid *Letter of Futures Offset Support*

### 1. Registration of Futures Offset Arrangements

NEMMCO will register a Futures Offset Arrangement within 1 hour of receipt of a valid *Letter of Futures Offset Support* where such receipt occurs between 9 am to 4 pm on a business day. NEMMCO will register a Futures Offset Arrangement by 9 am on the business day following the receipt of a valid *Letter of Futures Offset Support* where such receipt occurs at any time other than between 9 am to 4 pm on a business day. NEMMCO will immediately inform the *Market Participant* of such registration, including confirmation of the relevant details of the Letter of Futures Offset Support including:

- (a) The name of the *Futures Offset Support Provider* who has submitted the the *Letter of Futures Offset Support* to NEMMCO;
- (b) the term of the arrangement, including:
- (c) The Starting Day being the first day on which the arrangement is to commence effect;
- (d) The Termination Day being the last day that the arrangement is to be in effect;
- (e) Specification of the futures contracts nominated to become subject to the arrangement including:
- (f) The futures contract Region;
- (g) The futures product code as referenced by the relevant exchange;
- (h) The futures contract term (specifying the time and date of the first half hour interval of energy and the time and date of the last half hour interval of energy encompassed by the term of the futures contract);
- (i) The quantity of futures contracts;
- (j) The MWhs incorporated in one futures contract;
- (k) The futures contract cash settlement day;
- (l) The futures contract load shape (being either Base or Peak); and
- (m) The Futures Lodgement Price, quoted in \$/MWh.

NB: Prescribes (a) the minimum balance of Security Deposit for *Market Participant* which is subject to a Futures Offset Support Arrangement; and (b) the timing of notification to NEMMCO of the *Market Participant's* intention to draw to the minimum balance, to enable NEMMCO time to inform the *Futures Offset Support Provider* of any *DSP<sub>n</sub>* price reset by 8:30am (as per NEMMCO's responsibility under a *Letter of Futures Offset Support*).

### 2. Application of monies received by NEMMCO from Futures Offset Arrangements.

NEMMCO will credit the Security Deposit of the *Market Participant* with an amount equivalent to monies received from a *Futures Offset Support Provider* under a *Letter of Futures Offset Support* arrangement relevant to the *Market Participant*, unless otherwise agreed to by NEMMCO and the *Market Participant*. Unless otherwise agreed to by NEMMCO, the *Market Participant* must retain an amount (in cash or other approved security) in the *Market Participant's* Security Deposit of no less than:

Max [(DSP<sub>t</sub> – FLP) x FQ, 0] where such terms are as defined in schedule 3.15.11B [new]

during the term of the Futures Offset Arrangement or until the Futures Offset Arrangement has been otherwise terminated.

Once monies have been received by NEMMCO under a *Letter of Futures Offset Support* the *Market Participant* may only draw upon their Security Deposit to the permitted level (specified above) by instructing NEMMCO in writing of their intention to draw on those funds by no later than 8am on the day of notification.

Defines the notification procedure and obligations for early termination of FOA.
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### 3. Termination of Futures Offset Arrangements

- (a) If a *default event* occurs in relation to the *Market Participant* which is a party to a Futures Offset Arrangement prior to the Termination Day specified in the relevant *Letter of Futures Offset Support*, NEMMCO may terminate the Futures Offset Arrangement by notice given to the *Market Participant* at any time whilst the *default event* is subsisting. The termination is effective forthwith upon NEMMCO notifying the *Market Participant* which was the subject of the Futures Offset Arrangement of the fact of termination, notwithstanding that the *default event* may be subsequently cured.
- (b) NEMMCO will terminate a Futures Offset Arrangement upon receipt of a valid notification of termination of the *Letter of Futures Offset Support* from the relevant *Futures Offset Support Provider*.
- (c) In addition to any other right which NEMMCO may exercise in relation to a *default event*, upon termination of a Futures Offset Arrangement NEMMCO may redetermine the *maximum credit limit*, *prudential factor* and *trading limit* for the *Market Participant* which was the subject of the Futures Offset Arrangement having regard to the termination which has occurred.

## Appendix 3

New Schedule in the Rules to define requirements of a *Letter of Futures Offset Support* between a *Futures Offset Support Provider* and NEMMCO

### 3.15.11B Schedule for *Letters of Futures Offset Support*

#### Letter of Futures Offset Support

A *Letter of Futures Offset Support*, upon written acceptance by NEMMCO, commits the *Futures Offset Support Provider* to make cash payment to NEMMCO of amounts equivalent to electricity futures variation margins occurring above a specified SFE official daily settlement price in relation to electricity futures contracts that have been specified to be subject to the arrangement. In order to be valid, a *Letter of Futures Offset Support* must be lodged with NEMMCO by a *Futures Offset Support Provider* which has been requested to do so by a *Market Participant*, accepted by NEMMCO in accordance with part (e) of this schedule and include contractual obligations consistent with the following:

The *Letter of Futures Offset Support* must specify:

- (a) The name of the *Market Participant* who has requested the *Futures Offset Support Provider* to submit the *Letter of Futures Offset Support* to NEMMCO;
- (b) the term of the arrangement, including:
  1. The Starting Day being the first day on which the arrangement is to commence effect;
  2. The Termination Day being the last day that the arrangement is to be in effect;
- (c) Specification of the futures contracts nominated to become subject to the arrangement including:
  1. The futures contract Region;
  2. The futures product code as referenced by the relevant exchange;
  3. The futures contract term (specifying the time and date of the first half hour interval of energy and the time and date of the last half hour interval of energy encompassed by the term of the futures contract);
  4. The quantity of futures contracts;
  5. The MWhs incorporated in one futures contract;
  6. The futures contract cash settlement day;
  7. The futures contract load shape (being either Base or Peak); and
  8. The Futures Lodgement Price (being the most recent SFE official daily settlement price prior to the Starting Day, quoted in \$/MWh).
- (d) A commitment by the *Futures Offset Support Provider* to make payment to NEMMCO of monies equivalent to futures variation margins above the Futures Lodgement Price in accordance with the following calculation methodology:
  1. The *Futures Offset Support Provider* will make payment to NEMMCO in amounts calculated on Calculation Days with reference to SFE official daily settlement prices occurring prior to the Calculation Day.

Calculation Days will coincide with business days of the SFE that occur during the term specified in the *Letter of Futures Offset Support* in relation to futures contracts which are the subject of the arrangement. Payment amounts will be equivalent to:

$$\text{Max} [(DSP_t - \text{Max} [DSP_{t-1}, \text{FLP}, DSP_h]) \times \text{FQ}, 0]$$

Where:

FLP = the Futures Lodgement Price;

$DSP_h$  = the previous highest SFE official daily settlement price that has occurred during the term of the arrangement;

FQ = the quantity of Futures Contracts multiplied by the MWhs incorporated in each Futures Contract; and

2. The first Calculation Day of the arrangement will occur on the next SFE business day after the Starting Day and:

$DSP_t$  = the SFE official daily settlement price as at close of business on the Starting Day (unless the Starting Day is not a business day of the relevant exchange, in which case  $DSP_t$  = the SFE official daily settlement price as at close of business on the next business day of the relevant exchange); and

$DSP_{t-1}$  = FLP;

3. For a Calculation Day that occurs after the first Calculation Day but excludes any day after the last trading day of the relevant futures contract:

$DSP_t$  = the SFE official daily settlement price immediately prior to the Calculation Day.

$DSP_{t-1}$  = the most recent SFE official daily settlement price prior to  $DSP_t$

4. Where the Termination Day occurs after the last trading day of the relevant futures contract only one Calculation Day will occur after the last trading day of the relevant futures contract. That Calculation Day will occur on the cash settlement day of the relevant futures contract. For a Calculation Day that occurs on the cash settlement day of the relevant futures contract:

$DSP_t$  = the SFE official cash settlement price of the relevant futures contract.

$DSP_{t-1}$  = the SFE official daily settlement price as at close of business on the last exchange trading day of the relevant futures contract.

5. On a Calculation Day, NEMMCO may notify the *Futures Offset Support Provider* that a  $DSP_h$  price reset will occur if:
  - i. Such notification is given on or before 8:30am on the Calculation Day;
  - ii.  $DSP_t < DSP_h$ ;

- iii. the relevant Market Participant has withdrawn funds or instructed NEMMCO in writing that it will withdraw funds from the *Market Participant's* Security Deposit with NEMMCO in an amount equal to or greater than  $(DSP_h - \text{Max}[DSP_t, \text{FLP}]) \times \text{FQ}$ .

In which case  $DSP_h$  will be reset on this Calculation Day to  $\text{Max}[DSP_t, \text{FLP}]$  and NEMMCO will inform the *Futures Offset Support Provider* of the new  $DSP_h$ .

(e) Acceptance or rejection of *Letter of Futures Offset Support* by NEMMCO

NEMMCO must not accept a *Letter of Futures Offset Support* prior to the relevant *Market Participant* confirming in writing to NEMMCO that the *Market Participant* has authorized the *Futures Offset Support Provider* to submit the *Letter of Futures Offset Support*.

NEMMCO will inform the *Futures Offset Support Provider* and the relevant *Market Participant* of NEMMCO's acceptance or rejection of the *Letter of Futures Offset Support* within 1 hour of receipt of a *Letter of Futures Offset Support* which meets the requirements of this schedule where such receipt occurs between 9 am to 4 pm on a business day. NEMMCO will inform the *Futures Offset Support Provider* and the relevant *Market Participant* of NEMMCO's acceptance or rejection of a *Letter of Futures Offset Support* which meets the requirements of this schedule by 9 am on the business day following such receipt where such receipt occurs at any time other than between 9 am to 4 pm on a business day. Where NEMMCO has not informed the *Futures Offset Support Provider* of NEMMCO's acceptance or rejection of a *Letter of Futures Offset Support* within the specified timeframe, the *Letter of Futures Offset Support* will be deemed to have been rejected by NEMMCO.

(f) Form and Timing of payments to NEMMCO.

The *Futures Offset Support Provider* will make cash payment to an Austraclear account nominated by NEMMCO no later than 11 am on the relevant Calculation Day. NEMMCO will accept such payments.

(g) NEMMCO to calculate payments and provide daily invoice to *Futures Offset Support Provider*.

NEMMCO will provide the *Futures Offset Support Provider* with a daily invoice detailing any amount payable by the *Futures Offset Support Provider*, the volume and relevant SFE official daily settlement price of futures contracts which are the subject of the arrangement, by 8:30 am on the relevant Calculation Day.

(h) Termination of the arrangement by *Futures Offset Support Provider*

The obligations of a *Futures Offset Support Provider* arising from a *Letter of Futures Offset Support* may be wholly or partially terminated on a date earlier than that specified in the *Letter of Futures Offset Support*, by notification to NEMMCO from the *Futures Offset Support Provider* specifying:

- i. a new termination day being the last day that the arrangement will occur and not being earlier than the date of such notification of termination to NEMMCO; and
- ii. the number and detail of futures contracts which will be subject to the new termination day.



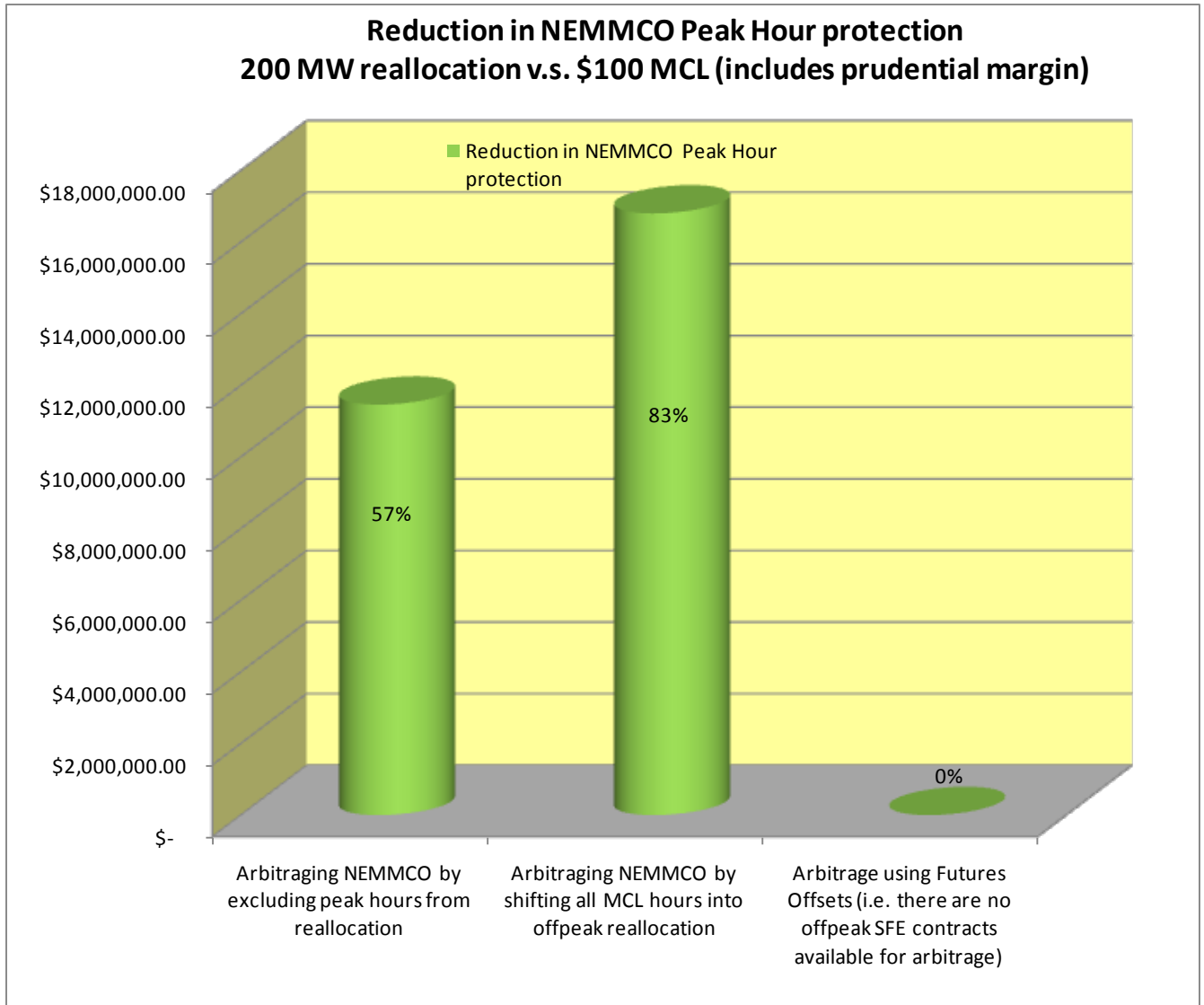
The obligation for the *Futures Offset Support Provider* to make payments to NEMMCO in accordance with the *Letter of Futures Offset Support* relating to the futures contracts specified in the notification of termination will cease upon payment by the *Futures Offset Support Provider* to NEMMCO of all amounts owing in relation to Calculation Days up to and including the date of notification of termination.

(i) Termination of the arrangement by NEMMCO

*NEMMCO* may terminate a *Letter of Futures Offset Support* by notice given to the *Futures Offset Support Provider* at any time. The termination is effective forthwith upon *NEMMCO* notifying the *Futures Offset Support Provider* of the fact of termination. The obligation for the *Futures Offset Support Provider* to make payments to NEMMCO in accordance with the *Letter of Futures Offset Support* will cease upon payment by the *Futures Offset Support Provider* to NEMMCO of all amounts owing in relation to Calculation Days up to and including the date of notification of termination.

**Appendix 4**

**(i) Reduction in Peak hour protection using off-peak reallocation arbitrage**



Workings:

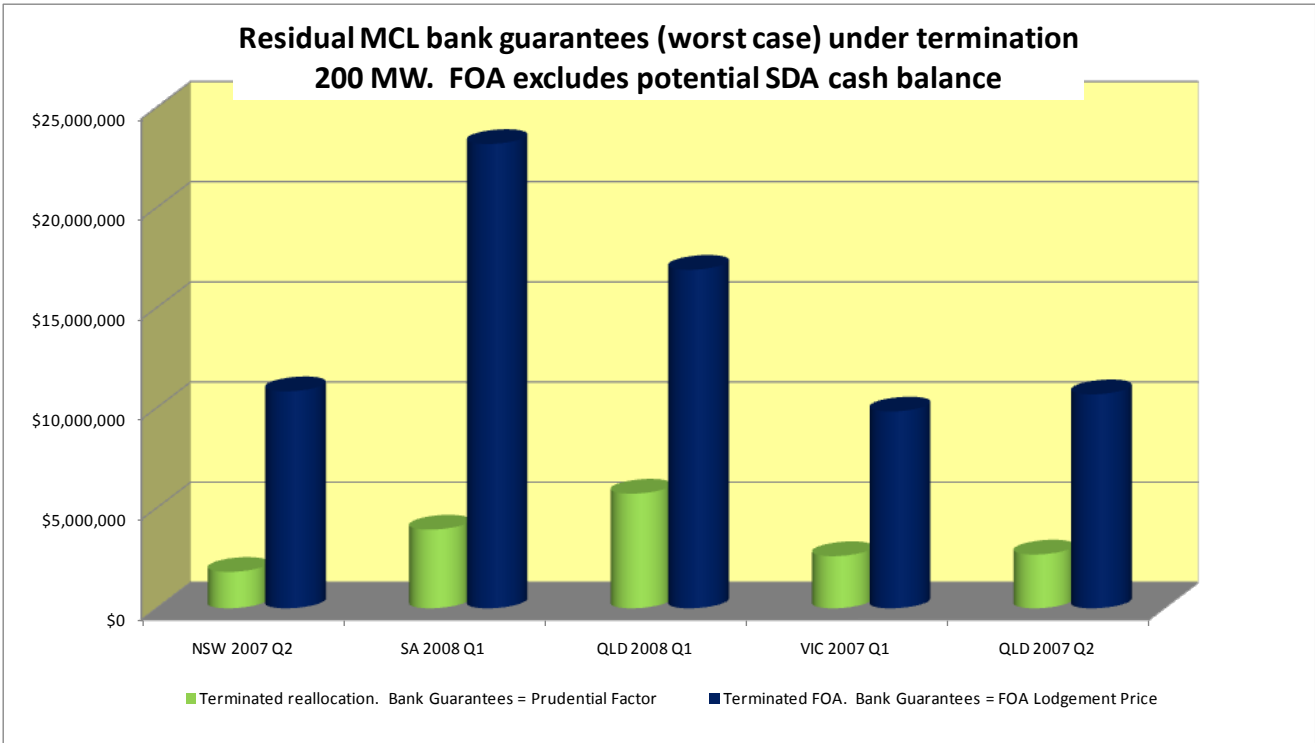
MCL hours		1008
Retailer MW		200
Normal MCL \$/MWh (assumed)	\$	100
Total MCL	\$	20,160,000

	Full Year (hour allocation to		
	Peak and Offpeak)	% of Base hours	MCL hours
Base	8,760	100%	1008
Peak	3,780	43%	435
Offpeak	4,980	57%	573

	Arbitraging NEMMCO by <i>excluding</i> peak hours from reallocation	Arbitraging NEMMCO by <i>shifting</i> all MCL hours into offpeak reallocation	Arbitrage using Futures Offsets (i.e. there are no offpeak SFE contracts available for arbitrage)
Peak reallocation (hours)	0	0	
Offpeak reallocation (hours)	573	1,008	
Offpeak reallocation (MW)	200	352	
Peak reallocation (MWh)	0	0	
Offpeak reallocation (MWh)	114,608	201,600	
Prudential Margin (7 days/42 days)	3,360,000.00	3,360,000.00	
Total MCL guarantees after reallocation	8,699,178.08	3,360,000.00	
MCL reduction due to reallocation	\$ 11,460,821.92	\$ 16,800,000	
Reallocation coverage of Peak Hours	\$ -	0	
<b>Reduction in potential Peak hour protection (i.e. not covered by MCL or reallocation)</b>	<b>\$ 11,460,821.92</b>	<b>\$ 16,800,000</b>	0
Percentage reduction - MCL bank guarantee	57%	83%	0%

(ii) Residual MCL bank guarantee.

Reallocation vs. FOA



**(iii) Reallocation termination risk to reallocated generator**

