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NB. 3.3.8 amended to:

Introduce Futures Offset Arrangements (FOAs), and other Market Participant transactions (s 3.3.19) for inclusion in the determination of the Maximum Credit Limit (MCL) of NEM Participants; and

Ensure that maximum Futures Offset benefits for Market Participants are achieved by aligning NEMMCO’s MCL price prediction term with the electricity futures product term (calendar quarters ending March, June, September and December), as it has been previously.

**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 Arrangements) 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*.

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(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 benefits of Futures Offset Arrangements 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 owed by a SFE Clearing Participant under a Futures Offset Arrangement in accordance with s 3.3.15.IIB, which have not yet been paid to NEMMCO, in which case a credit balance will be a positive amount and a debit balance will be a negative amount.*

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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 lodge a Notice of Futures Offset Arrangement 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 Notice of a Futures Offset Arrangement 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 Notice of Futures Offset Arrangement 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 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 Arrangements](#) under this Chapter 3, including:

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

NB: New section 3.15.11B to define FOAs. S 1 defines entities which may facilitate FOAs, to require appropriate regulatory oversight of such entities and compliance with the relevant Corporations Law governing derivatives markets.

#### 3.15.11B Futures Offset Arrangements (new)

##### 1. Facilitators of Futures Offset Arrangements

A Futures Offset Arrangement is an arrangement whereby a Clearing Participant of a licensed **Clearing and Settlement Facility** as defined in the relevant Australian Corporations Legislation agrees on behalf of a Market Participant to facilitate the cash payment to NEMMCO of amounts equivalent to electricity futures variation margins occurring above a prescribed futures contract price in relation to electricity futures contracts that have been specified to be subject to the arrangement.

NB: S 2 provides the required specifications of a Notice of Futures Offset Arrangement to be made to NEMMCO. Examples of Notices of Futures Offset Arrangements are provided in appendix 3 of this Rule change proposal.

##### 2. Notice of Futures Offset Arrangement

In order to be valid, a Notice of Futures Offset Arrangement must be lodged with NEMMCO by or on behalf of a *Market Participant* and a Clearing Participant and include:

- 2.1 The term of the Futures Offset Arrangement, including:
  - a. The Starting Day being the first day on which a Futures Offset Arrangement is to commence effect;
  - b. The Termination Day being the last day that a Futures Offset Arrangement is to be in effect;

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- 2.2 Specification of the futures contracts nominated to become subject to the Futures Offset Arrangement including:
- a. The futures contract Region;
  - b. The futures product code as referenced by the relevant exchange;
  - c. 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);
  - d. The quantity of futures contracts;
  - e. The MWhs incorporated in one futures contract;
  - f. The futures contract cash settlement day;
  - g. The futures contract load shape (being either Base or Peak); and
  - h. The Futures Lodgement Price
- 2.3 Notification from the Clearing Participant and the *Market Participant* to NEMMCO that the Clearing Participant and the *Market Participant* agree to be bound by the terms and conditions of Futures Offset Arrangements as specified in this s 3.15.11B.

NB: S 3 details registration of FOAs by NEMMCO

### 3. Registration of Futures Offset Arrangements

- 3.1 NEMMCO will register a Futures Offset Arrangement within 1 hour of receipt of a valid Notice of Futures Offset Arrangement where such Notice is received 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 notice of Futures Offset Arrangement where such notice is received at any time other than between 9 am to 4 pm on a business day. NEMMCO will immediately inform the *Market Participant* and the Clearing Participant of such registration.
- 3.2 NEMMCO will nominate an Austraclear account to the Clearing Participant for the purpose of NEMMCO receiving payments arising from the Futures Offset Arrangement.

NB: S 5 defines the formula for the calculation of cash flows arising from positive movements in the value of relevant futures contracts (above the futures lodgement price) to be paid to NEMMCO by the Clearing Participant. Cash flows will be calculated on Calculation Days (defined) being futures exchange business days. The formula accommodates four types of calculation days being either the Starting Day of the Futures Offset Arrangement, subsequent calculation days, calculation days occurring on a termination day or calculation days occurring on a close out of futures positions.

NEMMCO receives cash flow amounts equivalent to the positive moves in the relevant futures contracts to the extent that such moves occur above the Futures Lodgement Price and the value of the futures

contracts is higher than the previous highest value of the futures contracts during the term of the Futures Offset Arrangement. NEMMCO will never be obligated to make a payment under the arrangement. If NEMMCO has received (or is due) payment arising from an increase in futures contract value and then, on a subsequent calculation day(s), the futures contract value reduces there is no obligation for NEMMCO to return funds under the arrangement. See worked cash flow examples and diagrams in Appendix 4.

**5. Calculation of payment to NEMMCO of futures variation margins above the Futures Lodgement Price.**

5.1 The Clearing Participant will make payment to NEMMCO amounts calculated on Calculation Days being business days of the relevant exchange that occur during the term of the Futures Offset Agreement in relation to futures contracts which are the subject of a Futures Offset Arrangement equivalent to:

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

Where, subject to s 5.2:

FLP = the Futures Lodgement Price;

$DSP_h$  = the previous highest official daily settlement price that has occurred during the term of the Futures Offset Arrangement;

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

5.1.1 For the first Calculation Day of a Futures Offset Arrangement:

$DSP_t$  = the 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 official daily settlement price as at close of business on the next business day of the relevant exchange); and

$$DSP_{t-1} = \text{FLP};$$

5.1.2 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 official daily settlement price as at close of business on the Calculation Day.

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

5.1.3 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 official cash settlement price of the relevant futures contract.

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

- 5.1.4 In relation to a close out of futures contracts which are the subject of a Futures Offset Arrangement on any Calculation Day on or after the Starting Day:

DSP<sub>t</sub> = the volume weighted average price at which the relevant futures contracts were closed out on the date of close out. The Clearing Participant will provide NEMMCO with notification of the price and volume of each futures contract that is closed out no later than 11 am on the next Business Day of the relevant exchange following the date of the close out.

DSP<sub>t-1</sub> = the most recent official daily settlement price prior to the date of close out unless the close out occurs on the Starting Day in which case DSP<sub>t-1</sub> = FLP.

NB: S 6 defines form and timing of payments to NEMMCO

**6. Form and Timing of payments to NEMMCO arising from Futures Offset Arrangements.**

The Clearing Participant will make cash payment to an Austraclear account nominated by NEMMCO no later than 11 am on the next Business Day of the relevant exchange following the relevant Calculation Day on which a payment obligation arises. NEMMCO will accept such payments.

**7. Clearing Participant to provide daily Futures clearing statement to NEMMCO.**

The Clearing Participant will provide NEMMCO with a daily clearing statement detailing the volume and official daily settlement price of futures contracts which are the subject of Futures Offset Arrangements by 11 am on the exchange business day following the exchange business day to which the official daily settlement price relates.

NB: S 8 requires NEMMCO to deposit payments received from Clearing Participant into the Security Deposit account of the Market Participant unless otherwise agreed between NEMMCO and Market participant.

**8. 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 the Clearing 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 the cumulative monies received from the Clearing Participant during the term of the Futures Offset Arrangement until the 4<sup>th</sup> business day after the end of the associated Futures quarter or until the Futures Offset Arrangement has been terminated in accordance with s 9.

NB: S 9 defines the notification procedure and obligations for early termination of FOAs by the Clearing Participant or by NEMMCO.

**9. Termination of Futures Offset Arrangements**

- 9.1 A Futures Offset Arrangement may be wholly or partially terminated on a date earlier than that specified on the Notice of Futures Offset Arrangement, by notification to NEMMCO and the *Market Participant* from the Clearing Participant specifying:

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- a) a new termination day being the last day that the Futures Offset Arrangement will occur and not being earlier than the date of such notification to NEMMCO; and
  - b) the number of futures contracts which will be subject to the new termination day.
- 9.2 In the event of a close out of futures contracts that are subject to a Futures Offset Arrangement, the Clearing Participant will:
- a) notify NEMMCO and the *Market Participant* of the termination of the Futures Offset Arrangement in relation to the futures contracts that have been closed out, specifying a new termination day for the Futures Offset Arrangement, being the day that notice is given; and
  - b) make such payments to NEMMCO as required under clause 3.15.11B 5.2.
- 9.3 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 of a Futures Offset Arrangement, *NEMMCO* may terminate the Futures Offset Arrangement by notice given to the Clearing Participant and the *Market Participant* at any time whilst the *default event* is subsisting. The termination is effective forthwith upon *NEMMCO* notifying the *Market Participant* and the Clearing Participant that lodged the Notice of Futures Offset Arrangement of the fact of termination, notwithstanding that the *default event* may be subsequently cured. The obligation for the Clearing Participant to make payments to NEMMCO in accordance with this section 3.15.11B will cease upon payment by the Clearing Participant to NEMMCO of all amounts owing in relation to Calculation Days which predate the time of notification of termination of the Futures Offset Arrangement by NEMMCO.
- 9.4 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 lodged the Notice of Futures Offset Arrangement having regard to the termination which has occurred.

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

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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 Rule change Request.

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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*.
- (b) When calculating the *maximum credit limit* *NEMMCO* should have regard to:
  - (1) impartial objectivity rather than subjectivity, though it is recognised that some key parameters will need to be subjectively estimated from a limited amount of data - the estimation should be as impartial as possible;
  - (2) the average level and volatility of the *regional reference price* for the *region* for which the *maximum credit limit* is being calculated, *measured 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*).

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(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 a party 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

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