RULE CHANGE NOTICE

PRUDENTIAL REQUIREMENTS

(RC_2011_09)

This notice is given under clause 2.5.7 of the Market Rules.

Date Submitted: 15 May 2012

Submitter: Bruce Cossill, IMO

THE PROPOSAL

The IMO has developed the Rule Change Proposal: Prudential Requirements (RC_2011_09) to amend several clauses relating to Prudential Requirements for Market Participants. Prudential security for Market Participants is intended to provide secure trading within the Wholesale Electricity Market (WEM) and remove credit risk from the trading energy price.

The IMO has proposed some changes to the current methodology of determining prudential requirements to increase the efficiency of monitoring and managing credit risk for Market Participants. The IMO also seeks to amend the Market Rules to be principles-based rather than prescriptive, moving prescriptive detail to the Market Procedure for Prudential Requirements. Accordingly, the IMO intends to progress a Procedure Change Proposal for the Market Procedure in conjunction with this Rule Change Proposal.

Issue 1: Credit Limit

The IMO considers that clause 2.37.4 does not provide enough clarity to Market Participants regarding Credit Limit requirements. Clause 2.37.4 lists several variables that the IMO must take into account; however it does not specify how to implement the process. This results in the IMO having to make qualitative decisions on the required levels of prudential security. The clause also does not recognise the need to have different mechanisms for new and existing Market Participants.

The Rule Change Proposal suggests amendments to simplify clause 2.37.4 so as to allow for differential treatment of new and existing Market Participants. The proposed amendments seek to calculate Credit Limit using forecast liability based on reasonable expectation for a new Market Participant and forecast liability based on historical data for an existing Market Participant.

Issue 2: Outstanding Amount, Typical Accrual and Margin Call

The IMO considers that the current methodology used to calculate a Market Participant's Outstanding Amount relies too heavily on historical data and potentially results in Margin Calls being too high or too low to cover the risk.

The Rule Change Proposal suggests amendments to clause 2.40.1 that will introduce Net Current Liability and Net Forecast Liability into the calculation of Outstanding Amount. A key feature is the daily calculation and publication of a Market Participant specific Outstanding Amount that will ensure real-time monitoring of credit risk for both the IMO and the Market Participant.

Issue 3: Expected Value of Transaction Guidelines

The IMO considers that the concept of an expected value of a transaction is confusing and unnecessary. The Rule Change Proposal suggests removing the concept from the Market Rules and instead linking the submission or its rejection to whether it would result in the Trading Margin reaching zero based on reasonable assumptions held by the Market Participant or the IMO at the time.

Appendix 1 contains the Rule Change Proposal and gives complete information about:

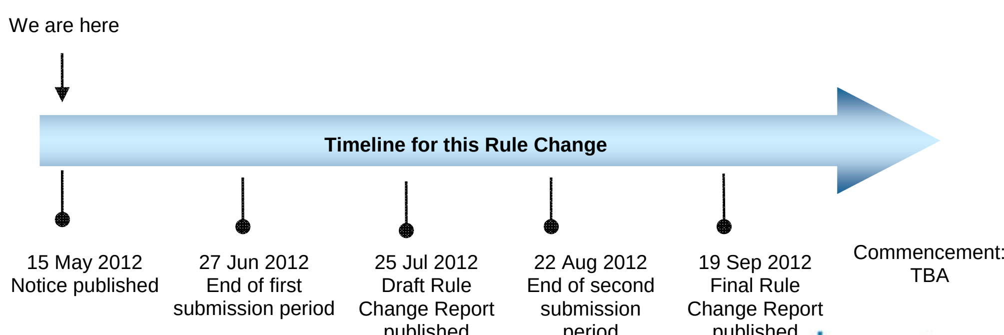
- the proposed amendments to the Market Rules;
- relevant references to clauses of the Market Rules and any proposed specific amendments to those clauses; and
- the submitter's description of how the proposed amendments would allow the Market Rules to better address the Wholesale Market Objectives.

DECISION TO PROGRESS THE RULE CHANGE

The IMO has decided to progress the Rule Change Proposal on the basis that Rule Participants should be given an opportunity to provide submissions as part of the rule change process.

TIMELINE

The projected timelines for processing this proposal are:



CALL FOR SUBMISSIONS

The IMO is seeking submissions regarding this proposal. The submission period is 30 Business Days from the publication date of this Rule Change Notice. Submissions must be delivered to the IMO by 5:00pm on **Wednesday 27 June 2012**.

The IMO prefers to receive submissions by email to market.development@imowa.com.au using the submission form available on the IMO website: http://www.imowa.com.au/rule-changes.

Submissions may also be sent to the IMO by fax or post, addressed to:

Independent Market Operator
Attn: Group Manager, Market Development
PO Box 7096
Cloisters Square, Perth, WA 6850
Fax: (08) 9254 4399

imo Independent Market Operator

Wholesale Electricity Market
Rule Change Proposal Form

Change Proposal No: RC_2011_09
Received date: 15 May 2012

Change requested by

Name:	Bruce Cossill
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Address:	Level 3, Governor Stirling Tower, 197 St Georges Terrace
Date submitted:	15 May 2012
Urgency:	Medium
Change Proposal title:	Prudential Requirements
Market Rule(s) affected:	Cl. 2.37.4, 2.37.9, 2.40.1, new clause 2.40.1A, 2.40.2, 2.41.2, 2.41.3, 2.42.1, 2.42.2, 2.42.3, 2.42.7, 2.43.1, 10.7.1, Ch 11 Glossary

Introduction

Market Rule 2.5.1 of the Wholesale Electricity Market Rules provides that any person (including the IMO) may make a Rule Change Proposal by completing a Rule Change Proposal Form that must be submitted to the Independent Market Operator.

This Change Proposal can be posted, faxed or emailed to:

> **Independent Market Operator**
> Attn: Group Manager, Market Development
> PO Box 7096
> Cloisters Square, Perth, WA 6850
> Fax: (08) 9254 4339
> Email: market.development@imowa.com.au

The Independent Market Operator will assess the proposal and, within 5 Business Days of receiving this Rule Change Proposal form, will notify you whether the Rule Change Proposal will be further progressed.

In order for the proposal to be progressed, all fields below must be completed and the change proposal must explain how it will enable the Market Rules to better contribute to the achievement of the wholesale electricity market objectives. The objectives of the market are:

(a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;
(b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;
(c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;
(d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system; and
(e) to encourage the taking of measures to manage the amount of electricity used and when it is used.

Details of the proposed Market Rule Change

1. Describe the concern with the existing Market Rules that is to be addressed by the proposed Market Rule change:

Background

The IMO manages the Prudential Requirements of Market Participants as set out in Chapter 2 of the Market Rules and the related Market Procedure: Prudential Requirements. In its current form, the Market Rules encompass Credit Limits, Credit Support, Trading Limits, Outstanding Amounts, Trading Margin, Margin Calls and the Prudential Requirements of Market Participants.

Prudential security for Market Participants is intended to provide secure trading within the Wholesale Electricity Market (WEM) and remove credit risk from the trading energy price. Conceptually the prudential process is designed to ensure that, if a Market Participant defaults by failing to settle its Short Term Electricity Market (STEM) or Non-STEM invoice amounts on a due date, the IMO will hold sufficient prudential security from the Market Participant so that the IMO would be able to settle a participant's exposure without short-paying the market.

Currently the IMO must determine and monitor each Market Participant's Credit Limit and Trading Margin in order to determine if a participant's exposure risk is greater than the security provided. If exposure is greater than the security held the IMO may make a Margin Call on a Participant in order to reduce the Credit Risk created.

In conjunction with identifying and proposing changes to the current methodology of determining prudential security for Market Participants, the IMO will also look to align the Market Rules to be principles-based as opposed to being overly prescriptive. This new approach will result in the eventual amendment of the Market Procedure for Prudential Requirements. Over time it is the IMO's intent to move any prescriptive detail from the Market Rules into the applicable Market Procedure.

Market Participant Credit Limit (Issue 1)

Pursuant to clause 2.37 the process for determining, revising and reviewing the Credit Limit for each Market Participant is partly principles-based and partly prescriptive. This leads in some instances to the IMO needing to make qualitative decisions that affect Market Participants and the levels of security required to comply with the clause.

Clause 2.37.4 specifies variables that the IMO must take into account when setting a credit limit for a new or existing Market Participant[1]. However, the clause does not explicitly recognise a need to have different mechanisms for establishing a Credit Limit for a new entrant and reviewing Credit Limits for existing Market Participants. A distinction should be made clear in the rules to allow for different methods of calculating Credit Limits for Participants in different circumstances.

The IMO considers that clause 2.37.4 does not provide enough clarity to Market Participants regarding additional Credit Limit requirements. For example:

- Clause 2.37.4 requires the IMO to determine a Credit Limit that is equal to the maximum net amount that the participant is expected to owe the IMO over any 70 day period where this amount is not expected to be exceeded more than once in a 48 month period. The clause continues to provide a number of other factors the IMO must "take into account". If the IMO has determined a dollar amount 70-day liability which is the Credit Limit, it is not clear what the IMO is to do in practice when it takes into account the other factors.
- Clause 2.37.4 (d) requires the IMO to take into account the length of the settlement cycle and the processes set out in clauses 9.23, 9.24 (default) and 2.32 (suspension and deregistration). This implies the IMO may be required to adjust Credit Limits to include financial cover to allow for the period from Market Participant default to de-registration. In practice, the IMO would seek to rely on alternative mechanisms such as the supplier of last resort.
- Clause 2.37.4 (j) refers to any past breaches of the Market Rules. It is not clear how the IMO could reasonably translate a participant's prior breaches into a dollar value to be used to adjust a Credit Limit.

Calculation of Outstanding Amount, Typical Accrual and Margin Calls (Issue 2)

The Typical Accrual and Outstanding Amount are mechanisms by which the amount of a Margin Call can be arrived at in the event a participant's Trading Margin has fallen to zero or less **[MR2.42.1].**

The IMO considers the current methodology used to calculate a Market Participant's Outstanding Amount **[MR 2.40.1]** is not effective as it relies too heavily on historical data. An example of this is the liability arising from Capacity Cost Refunds. Forced Outage data can

[1] In RC_2011_10: Competitive Balancing and Load Following Market, clause 2.37.4 was amended to be consistent with the Market Evolution Program. However, the issues as stated in this Rule Change Proposal were not dealt with in RC_2011_10 because of their substance and material difference from the Market Evolution Program.

be available to the IMO up to fifteen days after the event **[MR3.21.7]** making it hard for the IMO to calculate Capacity Cost Refunds and assess the level of security needed from participants. This could result in Margin Calls being too high or too low to cover the risk.

. Clause 2.42.2 defines the Typical Accrual as:

"the amount that the IMO determines would have been the Outstanding Amount of the Market Participant at that time if the prices and quantities applying to the amounts payable by the Market Participant were equal to the average prices and quantities as applied in the most recent determination of the Market Participant's Credit Limit."

However, in practice, there are no "average prices and quantities" used when calculating the anticipated Non-STEM liability component of a participant's Credit Limit. The IMO believes this affects the validity of the Outstanding Amount which ultimately affects when and for how much Margin Calls may be issued and which in turn could affect their integrity and efficacy.

The Market Evolution Program (MEP), due to commence on 1 July 2012, will introduce a new competitive balancing market which will change the dynamics of balancing liabilities in the WEM. The Market Rules and Market Procedures around monitoring, Typical Accrual and Margin Call processes need to be better defined to enable the IMO to properly manage changes to liabilities resulting from any changes to the balancing market.

Expected Value Transaction Guidelines (Issue 3)

The notion of an expected value of a transaction **[MR 2.37.9]** is relevant only in that a participant is required not to submit **[MR 2.41.2],** and the IMO may reject **[MR 2.41.3]**, any trading submission that would reduce its Trading Margin to zero based on the expected value of that transaction.

The notion of an expected value of a transaction is confusing and unnecessary. A clearer, simpler and more practicable restriction is simply to link the submission or its rejection to whether it would result in the Trading Margin reaching zero based on reasonable assumptions held by the participant or IMO at the time.

<u>Proposal</u>

Market Participant Credit Limit (Issue 1)

The proposed amendments by the IMO allow for the different treatment of new participants and existing participants when calculating Credit Limits. This is because clause 2.37.4 will differentiate between the forecast liability of a participant based on reasonable expectations and forecast liability based on historical data.

The IMO suggests the removal of sub clauses (a) – (j) as they are impossible to apply in practice and the intended principles (e.g. volatility, metered consumption, bilaterals) are adequately captured by the use of historical data as the starting point for calculating Credit Limits.

Detailed processes relating to calculating a participant's Credit Limit can be found in the Market Procedure: Prudential Requirements.

Calculation of Outstanding Amount and Margin Calls (Issue 2)

The IMO proposes that the Outstanding Amount calculation described in clause 2.40.1 be simplified to provide the IMO and Market Participants with greater understanding and clarity of what is incorporated into the Outstanding Amount. The proposed amendments will introduce a Net Forecast Liability for participants that will eliminate the need for establishing guidelines for assessing expected value of transactions as stated in clause 2.37.9 and 2.43.1(e).

An important feature of this new methodology is the daily calculation of the Outstanding Amount as this reduces the current risks described above when using historical data. Having a daily Outstanding Amount figure for each participant, displayed on the participant's WEMS interface, will give the IMO and Market Participants a better indication of when Margin Calls need to be issued and reduce the risk to other participants in the market.

A new clause 2.42.2 simplifies and clarifies the relationship between what a participant owes (Outstanding Amount) and what the IMO can demand in the event the Trading Margin falls to zero or less and a Margin Call is made.

A worked example of how this new Outstanding Amount is calculated can be found in Appendix 1 and Appendix 2 of this proposal.

The IMO recommends that the prescriptive content of this calculation be included in the Market Procedure: Prudential Requirements in line with the new principles- based approach being adopted in RC_2011_10: Competitive Balancing and Load Following Market. The Market Procedure will also be amended to coincide with the Rule Change.

Expected Value Transaction Guidelines (Issue 3)

The proposed amendments delete the concept of an expected value of a transaction and link the submission or its rejection to whether it would result in the Trading Margin reaching zero based on reasonable assumptions held by the participant or IMO at the time.

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2. Explain the reason for the degree of urgency:

The IMO has determined that PRC_2011_09 is of medium urgency and proposes that this Rule Change Proposal be progressed through the Standard Rule Change Process.

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3. Provide any proposed specific changes to particular Rules: (for clarity, please use the current wording of the Rules and place a ~~strikethrough~~ where words are deleted and <u>underline</u> words added)

The Amending Rules from RC_2011_10: Competitive Balancing and Load Following Market have been taken as the base for the proposed amendments in this Rule Change Proposal. Amendments to clause 2.37.4 in RC_2011_10 will commence on 1 June 2012.

The IMO notes that with regard to new clause 10.7.1(f), the IMO is currently updating the confidentiality list for the entire Market Rules.

2.37.4. The Credit Limit for each Market Participant is the dollar amount determined by the IMO as being equal to the maximum net amount that the Market Participant is expected to owe the IMO over any 70 day period. ~~where this amount is not expected to be exceeded more than once in a 48 month period.~~ The Credit Limit for each Market Participant must:

a) Reflect the IMO's reasonable expectations of the Market Participant's forecast liability arising from STEM and Non-STEM activities;

b) Be based on historical data when a minimum of three months of settlement data is available, or where historical data is not available, on the IMO's reasonable assumptions about the forecast liability arising from STEM and Non-STEM activities;

c) Where the Credit Limit is based on historical data, be equal to the sum of the Market Participant's highest 70 consecutive day Non-STEM liability and its highest 15 consecutive day STEM liability (plus GST) calculated on the invoices issued by the IMO to the Market Participant in the twenty four months preceding the date that the Credit Limit is determined.

~~When determining the Credit Limit for a Market Participant the IMO must take into account:~~

~~(a) the average level and volatility of the Balancing Price and the STEM Clearing Price for the previous 48 months, or such shorter time period as data is available for;~~

~~(b) the metered quantity data for the Market Participant, or an estimate of their expected generation and consumption where no meter data is available;~~

~~(c) the correlation between the Relevant Dispatch Quantity and the Balancing Price;~~

~~(d) the length of the settlement cycle and the process set out in clauses 9.23, 9.24 and 2.32;~~

~~(e) a reduction in the Credit Limit reflecting applicable bilateral contract purchase quantities, where these quantities are the historical bilateral contract submissions, or an estimate of the Market Participant's expected bilateral contract levels where no historical bilateral contract submission data is available;~~

~~(f) the historical STEM sales and purchases, or an estimate of the Market Participant's expected STEM sales and purchases where no historical STEM sale and purchase data is available;~~

~~(fA) the historical level of payments under clause 9.8.1 or an estimate of the Market Participant's expected level of payments under clause 9.8.1 where no historical payment data is available;~~

~~(g) the expected level of Ancillary Service payments;~~

~~(h) the statistical distribution of the accrued amounts that may be owed to the IMO;~~

~~(i) the degree of confidence that the Credit Limit will be large enough to meet large defaults; and~~

~~(j) any past breach of the Regulations or these Market Rules by, the Market Participant or a related entity of the Market Participant.~~

2.37.9. [Blank] ~~The IMO must develop guidelines in the Market Procedure referred to in clause 2.43 for determining the expected value of a transaction. The guidelines must be consistent with the methodology that the IMO uses to determine Credit Limits for Market Participants.~~

2.40.1. The Outstanding Amount for a Market Participant ~~at any time~~ equals:

(a) [Blank]

(b) the sum of:

i. Outstanding Invoices ;

ii. Net Current Liability ; and

iii. Net Forecast Liability for the period up to and including the next Non-STEM Settlement Statement Date determined by the IMO.

~~(b) the total amount calculated as follows:~~

~~i. the aggregate of the amounts payable by the Market Participant to the IMO under these Market Rules, including amounts for all past periods for which no Settlement Statement has yet been issued, and whether or not the payment date has yet been reached; less~~

~~ii. the aggregate of the amounts payable by the IMO to the Market Participant under these Market Rules, including amounts for all past periods for which no Settlement Statement has yet been issued, and whether or not the payment date has yet been reached.~~

2.40.1A. The IMO must calculate each Market Participant's Outstanding Amount daily and make each Market Participant's Outstanding Amount available to that Market Participant.

2.40.2. The amounts to be used for the purposes of making the calculation under clause 2.40.1(b)~~(i) and (ii)~~ will be the actual amounts for which Settlement Statements have been issued by the IMO and the IMO's reasonable estimate of other amounts as described in the Market Procedure referred to in clause 2.43.1.

2.41.2. A Market Participant must not make any submission to the IMO where the transaction contemplated by the submission could result in the Trading Margin of the Market Participant being ~~exceeded~~ equal to or less than zero, ~~were the transaction to be valued according to the expected value guidelines referred to in clause 2.37.9.~~ based on the Market Participant's reasonable assumptions about its Net Current Liability and Net Forecast Liability to the IMO.

2.41.3. The IMO may reject any submission from a Market Participant where in the IMO's opinion the transaction contemplated by the submission could result in the Trading Margin of the Market Participant being ~~exceeded~~ equal to or less than zero, ~~were the transaction to be valued according to the expected value guidelines referred to in clause 2.37.9~~ based on the IMO's reasonable assumptions about the Market Participant's Net Current Liability and Net Forecast Liability to the IMO.

2.42.1. If, at any time, a Market Participant's Trading Margin ~~drops~~ is zero or less ~~or below~~, then the IMO may issue a Margin Call Notice to the Market Participant, specifying the amount of the Margin Call.

2.42.2. The IMO must calculate the amount of the Margin Call the IMO reasonably expects is necessary to cover any potential shortfall between the Market Participant's current Credit Support and its Outstanding Amount. ~~The Typical Accrual for a Market Participant at any time is the amount that the IMO determines would have been the Outstanding Amount of the Market Participant at that time if the prices and quantities applying to amounts payable by the Market Participant were equal to the average prices and quantities as applied in the most recent determination of the Market Participant's Credit Limit.~~

2.42.3. [Blank] ~~The amount of the Margin Call must be equal to the Market Participant's Outstanding Amount less the Market Participant's Typical Accrual.~~

2.42.7. Where the IMO issues a Margin Call Notice, it must review the Credit Limit of the relevant Market Participant within 30 business days of the date that the Margin Call Notice is issued. ~~and increase the Credit Limit in line with the amount of the Margin Call.~~

2.43.1. The IMO must develop a Market Procedure ~~dealing with~~ setting out how the IMO will:

(a) determine i~~ng~~ Credit Limits;

(b) assess~~ing~~ persons against the Acceptable Credit Criteria;

(c) deal with Credit Support arrangements, including:

i. the form of acceptable guarantees and bank letters of credit;

ii. where and how it will hold cash deposits and how the costs and fees of holding cash deposits will be met;

iii. the application of monies drawn from Credit Support in respect of amounts owed by the relevant Market Participant to IMO;

(d) calculate~~ion of~~ Trading Margins;

(e) ~~guidelines for assessing the expected value of transactions~~ calculate Net Current Liability and Net Forecast Liability;

(f) issue~~ing of~~ Margin Calls; and

(g) deal with other matters relating to clauses 2.37 to 2.42,

and Market Participants and the IMO must comply with that Market Procedure.

10.7.1. The IMO must set the class of confidentiality status for the following information under clause 10.2.1, as Rule Participant Restricted Information and the IMO must make this information available from the Market Web Site:

...

(f) Market Participant specific Outstanding Amount

GST: GST means goods and services tax applicable to any taxable supplies as determined under *A New Tax System (Goods and Services Tax) Act 1999*.

Outstanding Invoice: Any Invoice issued to a Market Participant for which the IMO has yet to receive payment in full.

Net Current Liability: A Market Participant's net financial exposure in the market for the period since its most recent Invoice up to and including the Trading Day immediately preceding the Trading Day on which the Net Current Liability is calculated.

Net Forecast Liability: A Market Participant's net forecast financial exposure in the market for the period from and including the Trading Day on which the Net Current Liability is calculated up to and including the next Non-STEM Settlement Statement Date.

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4. Describe how the proposed Market Rule change would allow the Market Rules to better address the Wholesale Market Objectives:

PRC_2011_09 would allow the Market Rules to impact the Wholesale Market Objectives, as described below.

Impact	Market Objectives
Allow the Market Rules to better address the objective	d
Consistent with objective	a, b, c, e
Inconsistent with objective	

(a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;

(b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;

(c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;

(d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system; and

(e) to encourage the taking of measures to manage the amount of electricity used and when it is used.

The IMO believes the proposed changes to the Prudential Obligations in respect of the Market Participants would allow the Market Rules to better achieve key Wholesale Market Objective (d) as follows:

- greater transparency of a Market Participant's Outstanding Amount will promote a more economically efficient market due to increased accuracy when making Margin Calls;
- daily calculation of the Outstanding Amount will place the IMO and Market Participants in a better position to calculate the amount of security needed to monitor and manage credit risk effectively and efficiently, and
- adding a Net Forecast liability into the Credit Limit assessment and Outstanding Amount calculation will better reflect a participant's current and future exposure and will also support the efficient entry of new entrants without exposing existing participants to undue risk.

The IMO considers that the proposal is consistent with the remaining Wholesale Market Objectives.

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5. Provide any identifiable costs and benefits of the change:

Cost

The move to more real-time monitoring will require the configuration of a credit risk monitoring module within the settlement system and its integration with WEMS. A formal costing for these IT changes has not been obtained by the IMO.

It is not anticipated this change will result in any additional IT expenses to Market Participants.

Benefits

The proposed changes allow for more accurate and current monitoring of actual liabilities, which will reduce the credit risk to the market overall and may lead to lower Credit Support requirements for some participants. The proposed changes will also allow a more responsive and credible Margin Call process.

APPENDIX 1: Current Inputs for Outstanding Amount and Proposed Changes

Old Input	Description	Proposed Changes
Invoice not paid	Sum of all invoices which have n'o been paid.	No change.
Non-STEM settled not invoiced	Where settlement has occurred but not invoiced yet.	Removed since the values that would appear are too low to affect the margin.
STEM Trade Imbalance	Current STEM exposure based on invoiced transactions.	Calculated after the STEM auction occurs, not after invoicing.
Non-STEM Trade Imbalance	Current Non-STEM exposure based on invoiced transactions.	Making it more dynamic by combining values from the last invoices and using real time values
Actual Net Exposure	The sum of the above three.	No change
STEM Forecast Exposure	Future STEM exposure based on invoiced transactions.	Calculated now after the STEM auction occurs, not after invoicing.
Non-STEM Forecast Exposure	Future Non-STEM exposure based on invoiced transactions.	Using the new values to calculate the future exposure.

New Input	Description	Justification
AS	Ancillary services charge or payment from the last Non-STEM invoice.	Settlement segment that appears in the invoices.
RS	Reconciliation segment charge or payment from the last Non STEM invoice.	Settlement segment that appears in the invoices
MF	Market Fees charge from the last Non-STEM invoice.	Settlement segment that appears in the invoices.
DI	Number of trade days in the last invoiced trading month.	To work out a daily value for the above segments as they are monthly values.
DF	Number of days until the next invoice is published.	In order to calculate the forecast exposure.
DP	Number of days since last invoice.	In order to calculate the current exposure.
BS	Net value of trades in the balancing market.	Balancing market exposure.
FF	Forced outage quantity.	Refunds are paid for forced outages.
REF	Refund rate as per clause 4.26	In order to calculate the amount paid through refunds.
CC	Total Capacity Credits held and not traded bilaterally	To determine the exposure against payments for Capacity Credits.
RCP	Reserve Capacity Price per MW for the current capacity year.	Amount received for each Capacity Credit.
∑_DP_STEM	Sum of past STEM transactions.	To determine a Market Participant's Net Current Liability.
∑_DP_BS	Sum of past Balancing transactions.	Total Balancing exposure
∑_DP_FF x REF	Sum of Forced Outage refunds for days past in the cycle.	Actual Forced Outage Refunds to be paid
DF STEM	Forecast of STEM transactions for the days left in the cycle.	Total forecast STEM exposure

OUTSTANDING INVOICES

+

NET CURRENT LIABILITY

((CC x RCP)/365) x DP + ((AS + RS + MF)/DI x DP) + (∑_DP_STEM) + (∑_DP_BS) + (∑_DP__FF x REF_)

+

NET FORECAST LIABILITY

((CC x RCP)/365) x DF + ((AS + RS + MF)/DI x DF) + (ave ∑_(30 DP)_STEM + ∑_(30 DP)_BS) x DF

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MARKET PARTICPANT OUTSTANDING AMOUNT (DAILY)

APPENDIX 2: New Methodology for Outstanding Amount – Worked Example

INPUT	AMOUNT
CC	20.00
RCP	144,228.00
AS	- 203,112.00
RS	3,040.00
MF	- 113,000.00
DI	31.00
DP	60.00
DF	12.00
∑_DP_STEM	120,000.00
∑_DP_BS	- 13,004.00
∑_DP__FF x REF	- 400.00
DF STEM	12.00
outstanding invoices	20,000.00

Proposed Rule Change

2.40.1. The Outstanding Amount for a Market Participant ~~at any time~~ on a daily basis equals:

(a) [Blank]

(b) the sum of:

i. outstanding invoices;

ii. net current liability; and

iii. net forecast liability

for the period up to and including the next Non-STEM Settlement Statement Date.

outstanding invoices = **20,000.00**

net current liability = **- 24,978.26**

$$((CC \times RCP)/365) \times DP + ((AS + RS + MF)/DI \times DP) + (\sum\_DP\_STEM) + (\sum\_DP\_BS) + (\sum\_DP\_\_FF \times REF\_)$$

474,371.50 | - 605,945.76 | 120,000.00 | - 13,004.00 | - 400.00

net forecast liability = **1,257,637.15**

$$((CC \times RCP)/365) \times DF + ((AS + RS + MF)/DI \times DF) + (\text{ave} \sum\_(30\ DP)\_STEM + \sum\_(30\ DP)\_BS) \times DF$$

94,874.30 | - 121,189.15 | 1,283,952.00 = **1,252,658.89**