Capital Liquidity Handbook

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ASX

Contents

SECTION 1 – INTRODUCTION TO THE CAPITAL RULES AND HANDBOOK

(a)   Introduction

(i)   Why is Capital Important

The need to provide a minimum capital standard that covers the inherent risks of a securities business is a well-established regulatory principle. The International Organisation of Securities Commissions (IOSCO)[1] has stated that such standards:

1.   foster confidence in financial markets;
2.   should be designed to allow a firm to absorb some losses and continue to operate, particularly in the event of large adverse market moves;
3.   permit, where necessary the orderly wind down of a securities firm to minimise disruption to both clients and other dealers; and
4.   permit supervisors time to intervene to accomplish the objective of orderly wind down.

(ii)   Structure of Rules

(A)   ASX Clear Capital Requirements

The ASX Clear capital requirements are set out in section 5 of the ASX Clear Operating Rules. All ASX Clear Direct Participants and General Participants are subject to the ASX Clear capital requirements.

While section 5 of the ASX Clear Operating Rules only deals with capital requirements, it is complemented by other Rules which cover, for example, the obligations of a Participant to maintain adequate records and the obligation to prepare annual audited accounts (see, for example, ASX Clear Rule 4.4).

It should be noted that this Handbook only discusses the ASX Clear capital requirements. Capital requirements for participants of ASX Clear (Futures) Pty Limited (ASXCLF) are not covered.

ASX Market Participants that are not also ASX Clear Participants are not subject to any capital requirements imposed by ASX Clear. ASX Market Participants are subject to capital requirements under the ASIC Market Integrity Rules (Securities Markets – Capital) 2017.

(B)   Available Capital Regimes

Within the ASX Clear Operating Rules, two active capital regimes are included[2]. These are the Risk Based Capital Requirements and Other Capital Regime.

(1)   Risk Based Capital Requirements

The Risk Based Capital Requirements must be used by a Participant that clears equities or options (unless the Participant is an authorised deposit taking institution eligible to use the Other Capital Regime) and are set out in the ASX Clear Operating Rules – refer to section 5 of the ASX Clear Operating Rules and ASX Clear Rule S1 in Schedule 1.

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[1] Refer to Principle 30 in IOSCO Public Document No. 561, *Objectives and Principles of Securities Regulation*, IOSCO Report, May 2017 and IOSCO Public Document No. 562, *Methodology for Assessing Implementation of the IOSCO Objectives and Principles of Securities Regulation*, IOSCO Report, May 2017.
[2] A third capital regime included in the ASX Clear Operating Rules is the Net Tangible Assets (NTA) Requirements in ASX Clear Rule 5.1.2 and ASX Clear Rule S2 in Schedule 2. The NTA Requirements can only be used by a Participant that only clears ASX futures. As there are currently no futures traded on ASX, there are no ASX Clear Participants using the NTA Requirements.

This approach relies on both the "balance sheet" and prescribed risk measurement techniques as the measure of a Participant's financial stability. The capital liquidity requirements are classified into two distinct components:

1.	a measure of liquid capital (i.e. regulatory capital); and
2.	a measure of risk in the organisation (total risk requirement).

At all times, a Participant will be required to have sufficient liquid capital to cover its total risk requirement. Included in liquid capital is a defined term "core capital".

All ASX Clear Direct Participants are subject to a base core capital requirement of $5,000,000. All ASX Clear General Participants are subject to a base core capital requirement as specified in the following table:

General Participants – Base Core Capital Requirement		
Tier 1	$5,000,000	Clearing for itself <u>or</u> up to one External.
Tier 2	$10,000,000	Clearing for: • itself and one External, or • two Externals.
Tier 3	$15,000,000	Clearing for: • itself and two Externals, or • three Externals.
Tier 4	$20,000,000	Clearing for: • itself and three or more Externals, or • four or more Externals.

In this table "External" means another Participant or a Market Participant.

Additional core capital requirements will apply as follows:

•	an additional requirement of $2,500,000 for Participants undertaking clearing of client written options contracts registered in a Client Account of the Participant with ASX Clear (other than where specific Cover has been lodged), above a de minimis level. Where this activity is at a material level, this additional requirement will instead be $5,000,000;

•	an additional requirement of $2,500,000 for Participants undertaking own account business above a de minimis level. Where this activity is at a material level, this additional requirement will instead be $5,000,000; and

•	an additional requirement of $2,500,000 for Participants engaging in any non-ASX client activity above a de minimis level. Where this activity is at a material level, this additional requirement will instead be $5,000,000.

<p style="text-align:center">(2)	Other Capital Regime</p>

The Other Capital Regime can only be used by a Participant that is an authorised deposit taking institution that has been granted an authority to carry on banking business in Australia under the Banking Act 1959 and that is listed by the Australian Prudential Regulation Authority (APRA) as an "Australian-owned Bank",

"Foreign Subsidiary Bank" or "Branch of Foreign Bank". The Other Capital Regime rules are set out in the ASX Clear Operating Rules – refer to ASX Clear Rule 5.2.

Upon application by the Participant, ASX Clear may be willing to grant an exemption from the ASX Clear capital requirements on the basis that the bank is subject to the capital requirements and prudential regulation of its banking regulator. This recognition is subject to the conditions set out in ASX Clear Rule 5.2. ~~Under this approach, the prudential supervision of the Participant rests with the banking regulator, rather than with ASX Clear.~~

(iii)   Counterparty Risk Assessment

The Counterparty Risk Assessment unit is responsible for the capital regimes that ASX Clear Participants must comply with. This includes providing assistance with the development of the policy framework, development of reporting mechanisms, and the ongoing analysis of Participant data to assess their compliance with the ASX Clear capital requirements.

The goal of this supervision is to ensure that:

1.   each Participant maintains an adequate level of capital for the conduct of its business;
2.   a level of protection is afforded to ASX Clear and the market in general; and
3.   in the event of a Participant experiencing temporary or permanent financial difficulty, ASX Clear can oversee an orderly wind down of the operations of the Participant.

The Counterparty Risk Assessment unit monitors the financial position of all Participants that are subject to the Risk Based Capital Requirements and the NTA Requirements. This involves a review and analysis of the returns lodged by Participants. This review is exception based. Further information may be sought from Participants whose returns show, for example, significant changes since the previous returns, significant deterioration in capital position, potential breaches of the capital requirements or possible reporting errors. ASX Clear will continue to seek information until it is satisfied and this may require the Participant to make certain changes. Further information may also be sought from Participants in order for ASX Clear to obtain a better understanding of the Participant's business.

Note that ASX Clear is not responsible for the prudential supervision of Participants which are subject to the Other Capital Regime and so does not undertake analysis of the financial information provided by these Participants. Financial information may still be required from such Participants in order for ASX Clear to be satisfied that the Participant is in compliance with the Other Capital Regime. This also allows ASX Clear to assess its risk exposure and set limits on Participants' open positions.

(iv)   ~~Exposure~~Clearing Risk ~~Management~~Oversight

ASX Clear is central counterparty to all ASX market transactions and holds a CS facility licence. Central to its compliance with both its licence obligations and the RBA Financial Stability Standards is the obligation to manage the counterparty risks arising from its role as central counterparty.

In accordance with the Financial Stability Standards, ASX Clear has comprehensive risk controls in place to provide a high degree of confidence that in the event of extreme volatility, ASX Clear has sufficient financial resources to cover the potential default of two Participants and their affiliates.

The risk measurement and analysis process enables ASX Clear to assess the adequacy of its financial resources essential to maintaining its CS facility licence. The more understanding ASX Clear management has of the risks associated with its role as CCP, the more effectively ASX Clear can manage the capital

required to maintain its CS facility licence and meet its financial obligations. Management has identified risks to which ASX Clear is subject to under the daily operation of its CS facility licence. These risks form the basis of the risk measurement and reporting function of the ASX Clear ~~Exposure~~Clearing Risk ~~Management~~Oversight unit.

As part of the daily risk management function, ASX Clear performs the following:

(A) Margin

ASX Clear will calculate, for each Account of each ASX Clear Participant, margin and settlement to market amounts for open contracts registered in the name of the Participant.

ASX Clear will notify each Participant of the amounts calculated for total margin obligations for which the Participant must provide cover within a time notified by ASX Clear.

(B) Additional Control Measures

ASX Clear measures each Participant's Capital Based Position Limit ratio on a daily basis. ASX Clear monitors each Participant's margins relative to the Participant's liquid capital, net tangible asset, or Tier 1 capital figure. Where certain limits are exceeded, Additional Initial Margin (AIM) calls may be made.

ASX Clear measures each Participant's risk under various scenarios of extreme ("stress") market moves. ASX Clear may determine from time to time, by reference to this stress exposure, limits that a Participant is permitted to incur. Where limits are exceeded, Additional Initial Margin (AIM) calls may be made.

ASX Clear may limit the open position which a Participant is permitted to hold.

ASX Clear may also request intraday margin calls from Participants if intraday volatility is observed.

(C) Cover

In addition to the above, ASX Clear has discretion to request additional cover should it require it. This cover must be provided in the amount, manner and form determined by ASX Clear.

(D) Participant Contact

ASX Clear may contact Participants to discuss the risk exposure they have with ASX Clear.

(b) Format of the Handbook

This Handbook provides guidance on the Risk Based Capital Requirements only. Guidance for ASX Clear Participants on the NTA Requirements and Other Capital Regime can be found in a separate document "Capital Requirements Guidance", which can be obtained by contacting Counterparty Risk Assessment.

As well as providing guidance, the Handbook also documents matters that have been prescribed by ASX Clear, largely pursuant to its powers under Rule S1.3.1 (e.g. due dates for return lodgement). If a Participant does not follow such prescribed requirements, this could be considered a breach of the Rules and disciplinary action may be taken.

The Handbook has been produced to provide assistance to Participants, auditors and systems suppliers in understanding and implementing the Risk Based Capital Requirements and, in particular, the various calculations that need to be performed.

The Handbook has been structured to provide maximum assistance to Participants in understanding the Risk Based Capital Requirements and, in particular, finding the relevant sections of the Rules that are applicable to their business activities. It is anticipated that updates will be issued as and when the need arises.

The Handbook is divided into an introduction section followed by four key sections and includes:

Section	Title	Contents
1	Introduction to the Capital Rules and Handbook	Section 1 provides an introduction to the capital rules and the Handbook along with critical information concerning participation and rule structure.
2	How to Read the Handbook	Section 2 should be read prior to reading any of the detailed guidance in Sections 3 to 5. It explains the terminology used throughout the Handbook.
3	Risk Based Capital Requirements Guidance	Section 3 provides guidance on how to comply with the Risk Based Capital Requirements, including detailed worked examples of calculations.
4	Reporting Requirements Guidance	Section 4 contains guidance on the reporting requirements that apply under the Risk Based Capital Requirements.
5	Approved Subordinated Debt (ASD) Documentation	Section 5 contains instructions on the use of ASD documentation under the Risk Based Capital Requirements.

(i) Section 2 – How to Read the Handbook

This section explains the terminology that has been used in this Handbook. This section assists in understanding and interpreting the terminology used throughout the Handbook and so should be read prior to reading the detailed guidance provided in subsequent sections.

(ii) Section 3 – Risk Based Capital Requirements Guidance

This section commences with some introductory information on the structure of the Risk Based Capital Requirements. It then reproduces the definitions and interpretation sections of the Risk Based Capital Requirements and in some instances, additional practical guidance on a definition has been provided. Cross references between defined terms have also been included.

Section 3 then provides detailed guidance on the Risk Based Capital Requirements and, in particular, how this is to be interpreted and the capital requirements calculated. For each part of the Rule, or clause of the Annexures, the following are provided:

1. a restatement of the **Rule**
2. **Formula** (where relevant) that will assist in understanding the mechanics of any required calculations;
3. **Guidance** on how the Rule is to be interpreted and in some cases, procedures for completing any required calculations; and
4. a detailed **Example** of any required calculation demonstrating the practical application of the Rule.

(iii) Section 4 – Reporting Requirements Guidance

Section 4 provides guidance on the types of returns prescribed under the Risk Based Capital Requirements, lodgement and signatory requirements, late lodgement fees and procedures for seeking extensions for return lodgement.

(iv) Section 5 – Approved Subordinated Debt Documentation

Section 5 provides instructions on using the approved subordinated debt (ASD) documentation under the Risk Based Capital Requirements. Participants requiring copies of the relevant documents should contact Counterparty Risk Assessment.

(c) Future Development

It is intended that the ASX Clear capital requirements be updated and improved in response to future developments in the markets and changes in the markets that Participants become involved in.

(d) Contact Details

Please contact Counterparty Risk Assessment if you have any questions concerning the ASX Clear capital requirements or the Handbook, or if you identify any inaccuracies within it or have any suggestions on how it could be improved. This should be done via email to CRAteam@asx.com.au. If you would prefer to discuss the matter, please telephone Counterparty Risk Assessment on 1800 636 850.

(e) Disclaimer

While the Handbook is designed to assist ASX Clear Participants in understanding the ASX Clear capital requirements, use of the Handbook will not in itself ensure compliance with all relevant requirements of the ASX Clear Operating Rules. Participants retain responsibility for ensuring that they know, understand and comply with their obligations with respect to the ASX Clear capital requirements.

This Handbook provides general information only and may be subject to change at any time without notice. ASX Limited (ABN 98 008 624 691) and its related bodies corporate ("ASX") makes no representation or warranty with respect to the accuracy, reliability or completeness of the information. To the extent permitted by law, ASX and its employees, officers and contractors shall not be liable for any loss or damage arising in any way (including by way of negligence) from or in connection with any information provided or omitted, or from anyone acting or refraining to act in reliance on this information.

SECTION 2 – HOW TO READ THE HANDBOOK

(a)   Terminology

Wherever the term "Participant" is used throughout the Handbook, this means "ASX Clear Participant".

Wherever the term "Rule S1" is used throughout the Handbook, this means "ASX Clear Rule S1".

Where there is a specific reference to the "ASX Operating Rules", "ASX Clear Operating Rules", "ASX Market Participant" or "ASX Clear Participant", the reference is only to that particular rule or class of participant.

The term "participant" in lower case has been used to refer to participants of any market generally (e.g. overseas markets, other Australian exchanges, ASX or ASX Clear, as the case may be).

(b)   Defined Terms

All defined terms appear in Title Case within the ASX Clear Operating Rules. For ease of reference, defined terms appear in **_bold italic_** within Sections 3 to 5 of this Handbook. (Note, defined terms in the "Rule" sections in this Handbook appear in Title Case only, which is consistent with the ASX Clear rule book).

(c)   Formulae

In the Handbook, formulae for the calculation of a risk amount or capital calculation are provided to assist in the interpretation of a particular Rule. Notation used in the formulae is generally accepted mathematical notation and the abbreviations used in a formula are defined below each formula.

$\left| \quad \right|$: Absolute Value

$\sum\limits_{i=1}^{n} x_i$: Sum of x_i starting at 1 to n

Important Note: For the avoidance of doubt, should there be any inconsistency or ambiguity between the Rule as written and the formula, guidance or examples provided, Participants should follow the Rule. In addition, if an inconsistency is discovered, it would be appreciated if it was brought to the attention of Counterparty Risk Assessment so that the Handbook can be amended if necessary. Contact details are provided at the end of Section 1 of the Handbook.

SECTION 3 – RISK BASED CAPITAL REQUIREMENTS GUIDANCE

(a)   Introduction

(i)   Overall Framework of the Risk Based Capital Rules

(A)   Principles

The principles of the Risk Based Capital Requirements include:

1.   a methodology which is comprehensively risk based with internationally recognised separately identifiable measures for operational risk, counterparty risk, large exposure risk, position risk and underwriting risk[3];

2.   the concept of *core capital* and setting some limits on the use of *approved subordinated debt* in meeting the capital requirements;

3.   a minimum capital requirement irrespective of the legal structure of the Participant. In addition to the minimum capital requirement, there are "add ons" according to the risks faced by the Participant in respect of counterparties, large exposures, positions, *underwriting*s and non-standard exposures;

4.   the capital requirements for principal positions focus on the financial exposure of positions and recognise the risk reduction benefits of hedging and portfolio diversification;

5.   offsets between physical and *derivative* principal positions are permitted; and

6.   use of internal options risk assessment models and value at risk models are recognised.

Under the Risk Based Capital Requirements, capital is separated into two tiers as is common in other regulatory capital frameworks globally. The components of the top tier of capital, termed *core capital* in the Risk Based Capital Requirements, should have the following characteristics:

1.   it should represent a permanent commitment of funds;

2.   it should be freely available to absorb losses;

3.   it should rank behind the claims of creditors in the event of winding up; and

4.   it should not impose a recurrent servicing obligation (eg, an obligation to pay dividends or interest).

(B)   Framework

The Risk Based Capital Requirements can be summarised by the following diagram:

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[3] However, the introduction of the underwriting risk rules has been deferred. This issue is raised further in several sections of the Handbook.
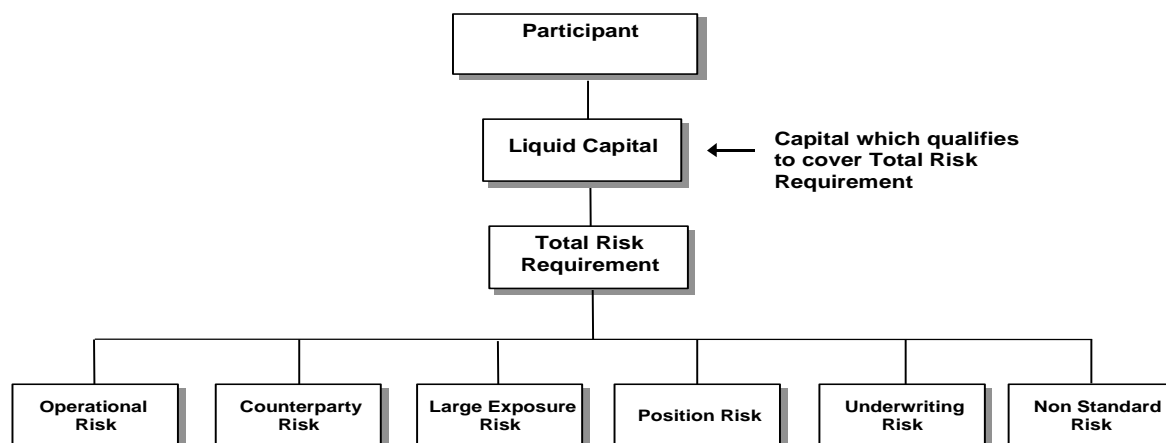
As can be seen from the above diagram, the Risk Based Capital Requirements separates the capital and risk calculation for Participants into two, namely:

1. *liquid capital*; and
2. a *total risk requirement*.

Liquid capital represents the capital a Participant has available to meet its *total risk requirement*. Where an illiquid asset is held, this will be excluded from *liquid capital*.

Total risk requirement represents the amount of capital a Participant will be required to have to cover the sum of the individual risk areas which include operational risk, counterparty risk, large exposure risk, position risk and underwriting risk[4]. In addition, a capital requirement for non-standard exposures arising from positions or transactions with characteristics that are not specifically dealt with under the Rule is added to the *total risk requirement*.

The capital requirement for each of these areas of risk will depend on the nature and extent of activities undertaken by the Participant.

At all times, a Participant will be required to have sufficient *liquid capital* to cover its *total risk requirement*.

(C)   Structure of Rules

The Risk Based Capital Requirements have been structured so that both the obligation of a Participant to calculate a capital requirement and the powers of ASX Clear are clearly stated as Rules.

Given that the framework of the Risk Based Capital Requirements focuses on assessing risk in different areas of a Participant's business, the Risk Based Capital Requirements have been structured to be sufficiently flexible to accommodate new types of business. However, Participants are to consult with ASX Clear where new or innovative transactions might not easily fit within the framework to determine the appropriate capital requirement.

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[4] As noted previously, the introduction of the underwriting risk rules has been deferred.

(ii)   Authorisation

(A)   Authorisation Process

Compliance with the Risk Based Capital Requirements is subject to authorisation by ASX Clear. As part of the authorisation process, a Participant will need to demonstrate that it has an adequate understanding of the Risk Based Capital Requirements and will need to demonstrate its systems for performing the necessary calculations. The process will involve ASX Clear conducting an authorisation review. The based on information ~~to be reviewed and the steps involved~~provided in the ~~authorisation process are set out in the Risk Based Capital Requirements Authorisation Checklist, a copy of which can be obtained by contacting Counterparty Risk Assessment~~ASX Participant Application Form and subsequent requests for information.

Once all issues have been addressed satisfactorily, ASX Clear will issue the Participant with an authorisation letter which will include any conditions attached to the authorisation and any other matters that may need further attention.

The authorisation review of a Participant's procedures does not represent an endorsement or certification of the individual systems and processes nor guarantee compliance with the Risk Based Capital Requirements at all times. Participants remain responsible for ensuring that they comply with the Risk Based Capital Requirements at all times and the review process does not prejudice ASX Clear's rights to take action against a Participant for breaches of the Risk Based Capital Requirements.

(B)   Risk Methods

A Participant must be authorised for each of the risk calculation methods it needs to use. The authorisation letter will specify which methods the Participant is authorised for. A Participant will only be authorised to use a particular method after having satisfactorily demonstrated its ability to calculate risk amounts under that method.

Authorisation must be obtained prior to the use of a particular method. Therefore, if a Participant plans to commence a new business activity that requires the calculation of a risk amount using a method for which the Participant has not previously been authorised, it must seek authorisation for the new method prior to commencing the new activity.

(C)   Policy and Procedures Manual

Each Participant is expected to have a policy and procedures manual available for review by ASX Clear. The aim of requesting a Participant to prepare such a manual is to have a document in place that would enable the reader to both understand the source of the data for the Risk Based Capital Requirements calculation and to complete such a calculation, or, at a minimum, assist that person to do so.

Whilst the contents of the policy and procedures manual is not mandated, inclusion of the following, at a minimum, is recommended:

1.   an overview of the Risk Based Capital Requirements setting out the main principles (eg, that **core capital** must always be at least the minimum amount required under Rule S1 and that **liquid capital** must at all times be greater than **total risk requirement**);

2.   procedures for the calculation of **core capital** and **liquid capital**, highlighting the need to treat illiquid assets as **excluded assets**;

3.   procedures for comparing **liquid capital** to the **total risk requirement**;

4.   procedures for notifying ASX Clear in the event of **core capital** falling below the minimum required or the ratio of **liquid capital** to the **total risk requirement** falling to or below 1.2;

5.   relevant cross references to the Capital Liquidity Handbook;

6.   procedures for the calculation of each of the risk requirements that may be applicable;

7.   procedures setting out the frequency of the Risk Based Capital Requirements calculation. If **liquid capital** is only fully calculated on, say, a monthly basis, the manual should set out the intra-month treatment or estimation of **liquid capital**;

8.   detail of the various sources of data necessary to prepare the Risk Based Capital Requirements return;

9.   how these sources of data are reconciled to the financial risk amounts and other data reported in the Risk Based Capital Requirements return;

10.   how these sources of data are reconciled to the front office dealing positions (position risk only);

11.   sample printouts from any reports/spreadsheets used;

12.   the procedure in place to ensure the staff responsible for the preparation of the return are kept informed of any new products traded, guarantees entered into, non standard exposures that may arise;

13.   how new staff are trained to understand the Risk Based Capital Requirements; and

14.   procedures for notifying ASX Clear prior to starting a new business activity that requires calculation of a risk method which the Participant has not previously been authorised for.

It is recommended that each Participant reviews its policy and procedures manual on a regular basis, at least annually, to ensure continued relevance and accuracy of the document.

(iii)   Waivers

ASX Clear Operating Rule 1.6 enables the granting of waivers of the ASX Clear Operating Rules.

With respect to the capital requirements, ASX Clear will generally only give consideration to granting waivers that relate to operational aspects of Rule S1 (ie, a reporting requirement). Waivers of the financial requirements as set out in the Risk Based Capital Requirements are unlikely to be granted.

The reason for this is that, being a risk based capital framework, Rule S1 only requires a Participant to hold capital for a particular transaction if the transaction exposes the Participant to some form of risk. Where a risk does exist, the Participant must hold capital against that risk. However, if for some reason Rule S1 should require capital for a "risk free" transaction, a waiver may be applied for.

A Participant wishing to seek a waiver must do so in writing, setting out which part of Rule S1 they want waived and full details of the reason for seeking the waiver. ASX Clear will consider the Participant's request and decide whether or not to grant the waiver. If ASX Clear decides to grant the waiver, it will

advise the Participant in writing. ASX Clear may attach conditions to the waiver. If this is the case, then the Participant must comply with all such conditions. Failure to comply with any conditions imposed by ASX Clear is a breach of the Operating Rules. Such a breach may result in disciplinary action, which may be a referral to ASX Enforcement and/or to ASIC or, if necessary, consideration of suspension under ASX Clear Operating Rule 15.2.1.

Refer to the ASX Clear Guidance Note No. 4 "Waivers and In-Principle Advice".

(iv)   Approvals

In a number of sections of the Risk Based Capital Requirements, Participants are required to seek the approval of ASX Clear. To assist, the following table lists those sections of the Risk Based Capital Requirements that require Participants to seek approval.

Rule Section	Description
Definitions	*Approved Institution* sub section (a) – approval of documentation sub section (c) – approval of an institution.
Definitions	*Approved Subordinated Debt* - approved under Rule S1.2.4
Definitions	*Excluded Asset* sub section (e)(ii) – for deposits or loans, approve valuation of collateral at other than market value sub section (f) – approving a deposit with third party clearing organisation as not being an *excluded asset* sub section (g) – for *related/associated person balance*, approve valuation of collateral at other than market value sub section (h) – for debts created > 30 days, approve valuation of collateral at other than market value
S1.2.4(1)	*Approved Subordinated Debt* - approval of subordination arrangement and draw down.
S1.2.4(2)	*Approved Subordinated Debt* - approval of subordination arrangement.
S1.2.4(3)	*Approved Subordinated Debt* - approval of subordination arrangement.
S1.2.4(6)	*Approved Subordinated Debt* - approval of repayment.
S1.2.5	*Redeemable Preference Shares* - approval of redemption.
S1.2.7	Records and Accounts - approval ~~not~~ to ~~adopt~~prepare accounts and returns in accordance with accounting standards other than those which are generally accepted ~~accounting principles~~in Australia.
S1.2.8(1)(b)(ii)	Valuations and Foreign Currencies - approval of option pricing model.
S1.2.9(2)	Unusual or Non-Standard Exposures - approval of risk requirement amount other than at full market value.
Annexure 1 Clauses 2, 3, 5, 6	*Counterparty Risk Requirement* - all collateral provisions - approval to value at other than market value.
Annexure 2 Clause 2.3 (b)(iv)(B)	*Large Exposure Risk Requirement* - reference to an option pricing model approved by ASX Clear under Annexure 3.

Rule Section	Description
Annexure 3	Position Risk -
Clause 4.1(a)	- approval of option pricing model - equity.
Clause 4.3(b)	- approval of option pricing model - equity.
Clause 12.4	- approval of duration method - debt.
Clause 13.1(a)	- approval of option pricing model - debt.
Clause 13.3(b)	- approval of option pricing model - debt.
Clause 20.1 (a)	- approval of option pricing model - foreign exchange.
Clause 23(a)	- approval to use the internal models approach.
Clause 24(a)	- approval to use the internal models approach.
Clause 30(a)	- approval to revert from internal models approach to prescribed method.

Guidance on each of the above sections that require approval is provided (where relevant) in the relevant section of the Risk Based Capital Requirements Guidance (Section 3 of this Handbook).

As a general rule, where a Participant requires approval with respect to the Rule, the Participant will be required to seek this approval in writing, providing all necessary detail to enable ASX Clear to consider the request in a timely and complete manner.

SECTION 3A – RULE S1.1 DEFINITIONS AND INTERPRETATION

(a)   S1.1.1 – Definitions

(i)   General

Consistent with other sections of the ASX Clear Operating Rules, Rule S1 includes a number of defined terms and these appear in Rule S1.1.1.

An understanding of, or familiarity with, the Definitions section of Rule S1 is considered essential, as each defined term forms part of the Risk Based Capital Requirements framework.

Whilst each defined term is considered to be clear, in some instances additional practical guidance has been provided in this section of the Handbook. In addition, the main cross references to the relevant section/s of Rule S1 have been provided.

Other terms that are in the Risk Based Capital Requirements but which are not defined in Rule S1.1.1 are defined in Section 2 of the ASX Clear Operating Rules (eg, Business Day).

(ii)   Guidance and Cross References

(A)   General

This section of the Handbook includes the Definitions from the Risk Based Capital Requirements. Where guidance or a cross reference to another section of Rule S1 has been provided, this is indicated.

Guidance or cross references should not be read as forming part of the Rule.

(B)   Definitions – Guidance and Cross References

"Approved Deposit Taking Institution" means:

(a)   an authorised deposit taking institution under section 5 of the Banking Act 1959 *(*Cth*)*;

(b)   a banking institution which has its activities formally regulated in accordance with the standards of the Basel Committee on Banking Supervision; or

(c)   an institution which has been given a risk weighting by the Australian Prudential Regulation Authority equivalent to an authorised deposit taking institution referred to in paragraph (a) above.

Guidance: The following guidance is provided for this definition.

(1)   Paragraph (a)

All Authorised Deposit Taking Institutions (ADIs) in Australia are *approved deposit taking institution*s for the purposes of the Risk Based Capital Requirements. ADIs are directly supervised by the Australian Prudential Regulation Authority (APRA) and an up to date list of them can be found on the APRA web site[5].

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[5] A list of Authorised Deposit Taking Institutions can be found on the APRA web site at http://www.apra.gov.au.

An ADI only includes the legal entity that is the bank, building society or credit union and **does not** include any subsidiary, funds management entity or securitisation entity (non-ADI entity). Under APRA Prudential Standards APS 120 "Funds Management & Securitisation" dated May 2006[6](effective 1 January 2018) and APS 222 "Associations with Related Entities" (effective 1 January 2022), these non-ADI entities must be clearly identified as **not** being "guaranteed" by the ADI[7]. APRA does not conduct any direct supervision of these entities.

For this reason non-ADI entities do not fall within the definition of an ***approved deposit taking institution*** within the Risk Based Capital Requirements and hence deposits with or other claims on such entities fall within the definition of an ***excluded asset***.

It should not be difficult for a Participant to identify whether the deposit they have made is with the ADI or a non-ADI entity as APS 120 (dated May 2006) states that non-ADI entities must clearly identify to the investor that the investment does not represent depositsa deposit with, or other liabilitiesliability of, the ADI.

(2)   Paragraph (b)

An overseas banking institution regulated according to Basle standards includes a banking institution in a country that is part of a group of countries known as the "Group of Ten"[8] (although there are actually 11 countries in the group known as "G-10"). All G-10 countries follow the Basle standards. Whilst it is not mandatory for other countries (i.e. non G-10 countries) to follow these standards, most countries do in fact follow them, although not necessarily exactly.

For the purposes of the Risk Based Capital Requirements, only G-10 countries will qualify as being "Basle compliant" as it is not possible for ASX Clear to readily determine the extent to which the other countries do or do not comply with the standards.

Hence banks from G-10 countries satisfy the definition of an ***approved deposit taking institution***.

Only the legal entity that is the banking institution may satisfy the definition of an ***approved deposit taking institution*** and not any subsidiary, associated funds management entity or securitisation entity.

(3)   Paragraph (c)

APRA gives a risk weighting of 20% to all ADIs, including the Australian branches of foreign banks.
In relation to overseas banks, the following weightings apply:

- All claims on banks incorporated in OECD countries[9] are weighted 20% regardless of residual maturity.

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6 ADIs are required to comply with the funds management requirements in APS 120 "Funds Management & Securitisation" dated May 2006 until such time as a new funds management prudential standard is implemented by APRA.

7 Under APS 222 (effective 1 January 2022), for financial transactions between an external counterparty and a member of an ADI's group that uses a common brand name with the ADI, the ADI must ensure that disclosure to the external counterparty includes that:
(a) the group member is not an ADI and that the member's obligations do not represent deposits or other liabilities of the ADI in the group;
(b) the ADI does not stand behind the group member, unless support is provided for in legal documentation, in which case the nature and limitations of the ADI's obligations must be disclosed; and
(c) the investor is exposed to investment risk of the financial transactions.

8 G-10 countries are: Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, United Kingdom, United States. BIS/G-10 web site : http://www.bis.org/list/g10publications/index.htm

9 OECD countries are: Australia, Austria, **Belgium**, **Canada**, Chile, Czech Republic, Denmark, Estonia, Finland, **France**, **Germany**, Greece, Hungary, Iceland, Ireland, Israel, **Italy**, **Japan**, Korea, Luxembourg, Mexico, **the Netherlands**, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, **Sweden**, **Switzerland**, Turkey, **United Kingdom**, **United States** (bold indicate a G-10 country also). OECD web site : http://www.oecd.org

- All claims on banks incorporated in non-OECD countries with a residual maturity of one year of less are weighted 20% (however if a non-OECD country has had a debt rescheduling within the last 5 years then the weighting would be 100% irrespective of the term).

- All claims on banks incorporated in non-OECD countries with a residual maturity exceeding one year are weighted 100%.

Hence any deposit with an overseas bank that has a residual maturity of one year or less will be a deposit with an *approved deposit taking institution* for the purposes of the Risk Based Capital Requirements. However a deposit with a residual maturity exceeding one year would only be a deposit with an *approved deposit taking institution* for the purposes of the Risk Based Capital Requirements if it is with a bank incorporated in an OECD country.

In addition to the above, the following non-OECD institutions have applied for, and received from APRA, a 20% weighting for all claims regardless of term. Hence the following institutions are *approved deposit taking institutions* for the purposes of the Risk Based Capital Requirements:

> Oversea-Chinese Banking Corporation Ltd
> United Overseas Bank Ltd
> Hong Kong Shanghai Banking Corporation
> Overseas Union Bank Ltd
> Development Bank of Singapore

Cross reference within Rule S1: *excluded asset, related/associated person balance*, Annexure 5 – Table 2.1

"**Approved Institution**" means:

(a)   any of the following institutions whose net assets are greater than $30 million at the date of its last published audited balance sheet (or other documentation approved by ASX Clear):

(i)   a life insurance company or general insurance company; or

(ii)   an investment company, trust or other similar institution whose ordinary business is to buy and sell Financial Instruments;

(b)   any body corporate or partnership whose ordinary business is to buy and sell Financial Instruments and which is regulated by a:

(i)   Recognised non-European Union Regulator specified in Table 3.1, Annexure 5;

(ii)   Recognised European Union Regulator specified in Table 3.2, Annexure 5; or

(c)   any other body corporate or partnership approved by ASX Clear, provided that on request by ASX Clear, the Participant makes available documentation in support of paragraphs (a), (b) or (c) and ASX Clear is satisfied that the documentation provided is adequate for this purpose.

Guidance: Refer to guidance on Annexure 1, clause 8 in Section 3 of the Handbook.

Cross reference within Rule S1: Annexure 5 – Table 2.1

"Approved Subordinated Debt" means an amount owing by a Participant under a subordination arrangement which is approved by ASX Clear under Rule S1.2.4.

Cross reference within Rule S1: *liquid capital*, S1.2.4

"Approved Subordinated Loan Deed" means, in respect of a subordination arrangement, a deed which:

(a)   is executed:

(i)   by the lender and ASX Clear under seal or by such equivalent method expressly recognised under the Corporations Act (or in the case of ASX Clear, on behalf of ASX Clear by its attorney, delegate or sub-delegate); and

(ii)   in the case of a Participant which is a company, by the Participant under seal or by such equivalent method expressly recognised under the Corporations Act;

(b)   sets out details of the terms governing any subordinated debt regulated by the subordination arrangement or identifies the document which does so;

(c)   contains those provisions required by ASX Clear including without limitation, provisions to the effect that:

(i)   alterations to the subordinated loan deed or the terms or details of any subordinated debt regulated by the subordination arrangement cannot be made unless the agreement of all parties is obtained and the variation is executed in the manner required under paragraph (a) ;

(ii)   ASX Clear must be satisfied that the Participant has made adequate arrangements to ensure that Rule S1 will be complied with and will continue to be complied with upon the maturity date of any loan for a fixed term;

(iii)   ASX Clear must be given full particulars of any debt to be regulated by the subordination arrangement under the subordinated loan deed prior to such debt being created; and

(iv)   prior to the Bankruptcy of the Participant, repayment of any subordinated debt regulated by the subordination arrangement can only occur in accordance with Rule S1.2.4(6) and (7); and

(d)   contains specific acknowledgment by the lender of the matters set out in Rule S1.2.4(2)(a) and (b).

Cross reference within Rule S1: *related/associated person*, S1.2.4

"Bankruptcy" means in respect of an entity:

(a)   the entity becomes an externally administered body-corporate within the meaning of the Corporations Act;

(b)   the entity becomes an individual who is an insolvent under administration within the meaning of the Corporations Act;

(c)   if the entity is a partnership, the entity is wound up or dissolved or a liquidator is appointed to it;

(d)   a person takes control of the entity's property for the benefit of the entity's creditors because the entity is, or is likely to become, insolvent;

(e)   the entity enters into an arrangement, composition or compromise with, or assignment for the benefit of, all of its creditors or any class of them; or

(f)   anything analogous to, or having a substantially similar effect to the events specified in paragraphs (a) to (e) happens under the laws of any applicable jurisdiction.

Cross reference within Rule S1: *approved subordinated loan deed*, S1.2.4

"Base Core Capital Requirement" means the amount specified in Rule S1.2.1(1)(b)(i) (Table A or Table B), as applicable.

Cross reference within Rule S1: S1.2.1

"Client Balance" means an individual Counterparty's net debit or credit balance with a Participant arising from non margined Financial Instruments.

Cross reference within Rule S1: Annexure 1

"Core Capital" means the sum of:

(a)   all ordinary issued shares to the extent that those shares are paid-up;

(b)   all non cumulative Preference Shares;

(c)   all reserves, excluding revaluation reserves other than Financial Asset and Liability Revaluation Reserves; and

(d)   opening retained profits/losses adjusted for all current year movements.

Cross reference within Rule S1: *liquid capital*, S1.2.1, S1.2.2, S1.2.4

"Counterparty" means in respect of a transaction to which a Participant is a party, another party to that transaction whether that person is a counterparty or a client**.**

Cross reference within Rule S1: *client balance*, *free delivery*, *positive credit exposure*, S1.2.3, Annexure 1, Annexure 2, Annexure 5 – Table 2.1

"**Counterparty Risk Requirement**" means the greater of:

(a)   zero; and

(b)   the absolute sum of the counterparty risk amounts calculated in accordance with Annexure 1 less any provision raised for doubtful debts.

<u>Cross reference within Rule S1</u>: ***total risk requirement***, S1.2.3, Annexure 1

"**Debt Derivative**" includes:

(a)   a convertible note (except to the extent that Annexure 3 provides for the treatment of a convertible note as an equity position);

(b)   an interest rate Swap;

(c)   a Forward Rate Agreement;

(d)   a forward contract over a Debt Instrument;

(e)   a Future over a Debt Instrument and a Future over an index or basket product based on Debt Instruments;

(f)   an index or basket product based on Debt Instruments;

(g)   an Option over a Debt Instrument and an Option over any of the products referred to in paragraphs (a) to (f); and

(h)   an instrument whose value is derived from a Debt Instrument and which is prescribed as such by ASX Clear, but does not include an instrument prescribed as an Equity Derivative or Foreign Exchange Derivative by ASX Clear.

<u>Cross reference within Rule S1</u>: ***debt equivalent, derivative, equity derivative, foreign exchange derivative, government debt instrument, position risk requirement***, Annexure 3 – Parts 1 and 2, Annexure 5 – Table 1.2

"**Debt Equivalent**" means the value of a position in a Debt Derivative that is equivalent to the value had it been a physical position in the underlying Debt Instrument calculated in accordance with clause 16 of Annexure 3.

<u>Cross reference within Rule S1</u>: Annexure 3 – Parts 1 and 2

"**Debt Instrument**" includes:

(a)   a debt security without call or put provisions;

(b)   a discount security without call or put provisions;

(c)   a non-convertible preference share;

(d)   a redeemable preference share with a fixed and certain date for redemption;

(e)   an interest in a managed investment scheme investing only in Debt Instruments, mortgages or cash;

(f)   a depository receipt (including a depository interest) representing a unit of beneficial interest in any of the instruments referred to in (a) to (e); and

(g)   an instrument prescribed as such by ASX Clear, but does not include an instrument prescribed as an Equity by ASX Clear.

Cross reference within Rule S1: *debt derivative*, *debt equivalent*, *derivative*, *equity*, *financial instrument*, *government debt instrument*, *position risk requirement*, *qualifying debt instruments*, *securities lending and borrowing*, *underwriting*, S1.2.10, Annexure 1, Annexure 2, Annexure 3 – Parts 1, 2 and 3, Annexure 5 – Table 1.2

"Debt Net Position" means an amount calculated in accordance with Annexure 3 clause 17.

Cross reference within Rule S1: S1.2.3, Annexure 2, Annexure 3 – Part 2

"**Derivative**" includes:

(a)   an Equity Derivative;

(b)   a Debt Derivative;

(c)   a Foreign Exchange Derivative; and

(d)   an instrument prescribed as such by ASX Clear, but does not include an instrument prescribed as an Equity or Debt Instrument by ASX Clear.

Cross reference within Rule S1: *financial instrument*, *OTC derivative*, Annexure 2

"Equity" includes:

(a)   a share other than a share referred to in paragraphs (c) and (d) of the definition of Debt Instrument;

(b)   a depository receipt (including a depository interest) other than a depository receipt referred to in paragraph (f) of the definition of Debt Instrument;

(c)   an instalment receipt;

(d)   an interest in a managed investment scheme other than an interest referred to in paragraph (e) of the definition of Debt Instrument;

(e)   an instrument prescribed as such by ASX Clear, but does not include an instrument prescribed as a Debt Instrument by ASX Clear.

Cross reference within Rule S1: *debt derivative, debt instrument, derivative, equity derivative, financial instrument, future, position risk requirement, securities lending and borrowing, underwriting*, Annexure 1, Annexure 2, Annexure 3 – Parts 1, 2, 3 and 4, Annexure 5 – Tables 1.1 and 2.2

"**Equity Derivative**" includes:

(a)   an equity Swap;

(b)   a forward contract over an Equity;

(c)   a Future over an Equity and a Future over a basket or index product based on Equities;

(d)   an index or basket product based on Equities;

(e)   a renounceable or non-renounceable right to subscribe for an equity;

(f)   an Option over an Equity (whether issued or unissued) and an Option over any of the products referred to in paragraphs (a) to (d); and

(g)   an instrument whose value is derived from an Equity and which is prescribed as such by ASX Clear, but does not include an instrument prescribed as Debt Derivative or a Foreign Exchange Derivative by ASX Clear.

Cross reference within Rule S1: *debt derivative, derivative, foreign exchange derivative, position risk requirement*, Annexure 3 – Parts 1 and 2

"**Equity Equivalent**" means the value of a position calculated in accordance with clause 8 of Annexure 3.

Cross reference within Rule S1: Annexure 3 – Part 1

"**Equity Net Position**" means an amount calculated in accordance with clause 9 of Annexure 3.

Cross reference within Rule S1: S1.2.3, Annexure 2, Annexure 3 – Part 1

"**Excluded Asset**" means:

(a)   a fixed asset;

(b)   an intangible asset;

(c)   a future income tax benefit;

(d)   a non current asset;

(e)   a deposit with or loan to a person other than:

(i)   a deposit or loan with an Approved Deposit Taking Institution;

(ii)   a deposit or loan to the extent the balance is secured by collateral which is Liquid, evidenced in writing and valued at the mark to market value or at another value approved by ASX Clear;

(iii)   a deposit of funds as a margin or deposit with a person licensed to trade Futures or Options to the extent that those funds relate to an open position;

(iv)   funds deposited with ASX Clear as margin or as Excess Cash; or

(v)   funds deposited with ASX Clear (Futures) Pty Limited as margin or excess deposits;

(f)   a deposit with a third party clearing organisation, unless approved otherwise by ASX Clear;

(g)   a Related/Associated Persons Balance to the extent the balance is not secured by collateral which is Liquid, evidenced in writing and valued at the mark to market value or at another value approved by ASX Clear;

(h)   a debt which was reported or created more than 30 days previously other than a debt which is secured by collateral which is Liquid, evidenced in writing and valued at the mark to market value or at another value approved by ASX Clear;

(i)   a prepayment which is not Liquid;

(j)   an asset which is not Liquid;

(k)   an asset which is Liquid but which has a charge against it (in whole or in part) where the purpose of the charge is to raise funds for use outside the ordinary course of the Participant's securities or derivatives business; and

(l)   an asset prescribed as such by ASX Clear.

Guidance: Refer to guidance on Rule S1.2.1 in Section 3 of the Handbook.

Cross reference within Rule S1: *liquid capital, total risk requirement*, S1.2.3, Annexure 3 – Part 3

"**Excluded Liability**" means:

(a)   the maximum liability specified in a guarantee or indemnity under Rule S1.2.6(1)(c); and

(b)   any other liability prescribed as such by ASX Clear.

Guidance: Refer to guidance on Rule S1.2.6 in Section 3 of the Handbook.

Cross reference within Rule S1: *liquid capital, total risk requirement*

"Family Trust" means a trust in which:

(a)   the person or the Immediate Family of the person is the sole or majority beneficiary; or

(b)   the person has the ability to remove the trustee of the trust and replace the trustee with his or her own nominee.

Cross reference within Rule S1: *related/associated person*

"Financial Asset and Liability Revaluation Reserves" means revaluation reserves relating to financial assets and financial liabilities revalued at fair value through other comprehensive income as defined in accordance with accounting standards which are generally accepted in Australia or other accounting standards approved or prescribed by ASX Clear under Rule S1.2.7(2).

Cross reference within Rule S1: *core capital, liquid capital*

"Financial Instrument" means:

(a)   an Equity;

(b)   a Debt Instrument;

(c)   a Derivative; and

(d)   any other instrument prescribed as such by ASX Clear.

Cross reference within Rule S1: *approved institution, client balance, free delivery, government debt instrument, option, related/associated person balance,* S1.1.2, S1.2.3, S1.2.8, Annexure 1, Annexure 2, Annexure 3 – Parts 1, 2 and 3

"**Foreign Exchange Derivative**" includes:

(a)   a forward contract over foreign currency;

(b)   a Future over foreign currency;

(c)   an Option over foreign currency; and

(d)   an instrument whose value is derived from a foreign currency and which is prescribed as such by ASX Clear, but does not include an instrument prescribed as an Equity Derivative or Debt Derivative by ASX Clear.

Cross reference within Rule S1: *debt derivative, derivative, equity derivative, position risk requirement,* Annexure 3 – Part 3

"Foreign Exchange Equivalent" means the value of a position calculated in accordance with clause 21 of Annexure 3.

Cross reference within Rule S1: Annexure 3 – Part 3

"Forward Rate Agreement" means an agreement in which two parties agree that:

(a)   one party will make payments to the other of an amount of interest based on an agreed interest rate for a specified period from a specified date applied to an agreed principal amount;

(b)   no commitment is made by either party to lend or borrow the principal amount; and

(c)   the exposure is limited to the interest difference between the agreed and actual market rates at settlement.

Cross reference within Rule S1: *debt derivative*, S1.2.8, Annexure 2, Annexure 3 – Part 2

"Free Delivery" means a trade where delivery of the Financial Instrument is made to a Counterparty without receiving payment or where a payment is made without receiving a Financial Instrument.

Cross reference within Rule S1: Annexure 1, Annexure 2

"Future" means a contract which is traded on an exchange, subject to an Primary Margin Requirement and which is:

(a)   a contract to make an adjustment between the parties on an agreed future date as to the value on that date of an interest rate, a foreign currency, an Equity, basket or index, or some other agreed factor;

(b)   a deliverable bond futures contract or deliverable share futures contract; or

(c)   an instrument prescribed as such by ASX Clear.

Cross reference within Rule S1: *debt derivative, equity derivative, excluded asset, foreign exchange derivative, related/associated person balance*, Annexure 2, Annexure 3 – Parts 1, 2 and 3

"Government Debt Instrument" means any form of government financial instrument including a bond, treasury note or other short term instrument, and a Debt Derivative of any of those instruments where:

(a)   it is issued by, fully guaranteed by, or fully collateralised by a Debt Instrument issued by:

(i)   the Australian Commonwealth, State (including Territories) governments; or

(ii)   a central government or central bank within the OECD; or

(b)   it is issued by, or fully guaranteed by, a non-OECD country central government or central bank, has a residual maturity of one year or less and is denominated in local currency and funded by liabilities in the same currency.

Cross reference within Rule S1: Annexure 2, Annexure 3 – Part 2, Annexure 5 – Table 1.2

"Group of Connected Persons" means two or more persons or entities where:

(a)   each person or entity is a Related/Associated Person of each other person or entity; or

(b)   the persons who have control of the management of each entity or have been appointed as directors of each entity are substantially the same.

Cross reference within Rule S1: Annexure 2

"Immediate Family" in relation to a person means that person's spouse and any non-adult children.

Cross reference within Rule S1: *family trust, related/associated person balance*

"**In the Money**" means:

(a)   in relation to call Options, that the current market price of the underlying instrument is greater than the exercise price; and

(b)   in relation to put Options, that the current market price of the underlying instrument is less than the exercise price.

Guidance: In Annexure 3, certain methods require that **option**s positions be **in the money** be a specified percentage. To determine if this specified percentage is satisfied, the calculation is as follows:

(a)   for a call **option**

$$\frac{\text{market price - exercise price}}{\text{exercise price}}$$

(b)   for a put **option**

$$\frac{\text{exercise price - market price}}{\text{exercise price}}$$

Cross reference within Rule S1: S1.2.8, Annexure 3 – Parts 1, 2 and 3

"Large Exposure Risk Requirement" is the absolute sum of a Participant's:

(a)   counterparty large exposure risk amount calculated in accordance with Annexure 2; and

(b)   issuer large exposure risk amount calculated in accordance with Annexure 2.

Cross reference within Rule S1: *total risk requirement*, S1.2.3, Annexure 2

"Liquid" means realisable or otherwise convertible to cash within 31 days, or prescribed as liquid by ASX Clear.

Cross reference within Rule S1: **_excluded asset_**, Annexure 3 – Part 1

"Liquid Capital" means the sum of:

(a)   Core Capital;

(b)   cumulative Preference Shares;

(c)   Approved Subordinated Debt; and

(d)   revaluation reserves other than Financial Asset and Liability Revaluation Reserves;

less the sum of:

(e)   Excluded Assets;

(f)   Excluded Liabilities.

Cross reference within Rule S1: **_liquid margin_**, S1.2.1, S1.2.2, S1.2.3, S1.2.4, S1.2.5, Annexure 2

"Liquid Margin" means the amount calculated by deducting the Total Risk Requirement amount from the amount of Liquid Capital.

Cross reference within Rule S1: S1.2.2

"Market Spot Exchange Rate" means the closing rate of exchange for foreign currencies against Australian dollars on each Business Day, having a settlement period of 2 days.

Cross reference within Rule S1: S1.2.8, Annexure 3 – Part 3

"Non-Standard Risk Requirement" means the amount calculated in accordance with Rule S1.2.9 to cover unusual or non-standard exposures.

Cross reference within Rule S1: **_total risk requirement_**, S1.2.3

"Operational Risk Requirement" means the amount calculated in accordance with Rule S1.2.3(1) which is required to cover exposures associated with commencing and remaining in business arising separately from exposures covered by other risk requirements.

Cross reference within Rule S1: **_total risk requirement_**, S1.2.3

"Option" means a contract which gives the holder the option or right, exercisable at or before a specified time to:

(a)   buy (whether by way of issue or transfer) or sell a quantity of a Financial Instrument or a foreign currency; or

(b)   be paid an amount of money calculated by reference to the value of a Financial Instrument, foreign currency or index as specified in the contract.

Cross reference within Rule S1: **debt derivative, equity derivative, excluded asset, foreign exchange derivative, in the money, related/associated person balance,** S1.2.8, Annexure 1, Annexure 2, Annexure 3 – Parts 1, 2, 3 and 4, Annexure 5 – Tables 1.1, 1.2 and 1.7

"OTC Derivative" means a Derivative, other than a Derivatives CCP Contract resulting from the registration of an OTC Options Market Transaction, which is not traded on an exchange.

Cross reference within Rule S1: Annexure 1

"Position Risk Factors" are the percentages applied to principal positions as specified in Tables 1.1, 1.2, 1.3 and 1.7 of Annexure 5.

Cross reference within Rule S1: Annexure 2, Annexure 3 – Parts 1, 2 and 3, Annexure 5 – Tables 1.1, 1.2, 1.3 and 1.7

"Position Risk Requirement" is the absolute sum of the position risk amounts for a Participant's:

(a)   (i)   Equity and Equity Derivative positions calculated in accordance with Part 1 of Annexure 3;

          (ii)   Debt Instrument and Debt Derivative positions calculated in accordance with Part 2 of Annexure 3; and

          (iii)   foreign exchange and Foreign Exchange Derivative positions calculated in accordance with Part 3 of Annexure 3; or

(b)   principal positions for all of the above plus commodity positions (if any), calculated in accordance with Part 4 of Annexure 3; or

(c)   principal positions for all of the above plus commodity positions (if any), calculated in accordance with a combination of any of Parts 1, 2, 3 and 4 of Annexure 3.

Cross reference within Rule S1: **total risk requirement**, S1.2.3, Annexure 3

"Positive Credit Exposure" means an exposure to a Counterparty such that if the Counterparty were to default on its obligations under:

(a)   an individual transaction; or

(b)   to the extent allowed by Rule S1, a group of transactions, contracts, arrangements or agreements,

the Participant may incur a financial loss.

Cross reference within Rule S1: S1.2.3, Annexure 1, Annexure 2

"Preference Share" means a preference share that is redeemable solely at the request of the Participant.

Cross reference within Rule S1: *core capital, debt instrument, liquid capital,* S1.2.5

"Primary Margin Requirement" means the amount which a Participant lodges or is notionally required to lodge as a deposit to cover potential daily worse case price movements in the relevant market, lodged in accordance with the rules of an exchange or clearing house against open positions registered in the name of the Participant on the exchange or clearing house.

Cross reference within Rule S1: *future,* Annexure 3 – Parts 1 and 2

"Qualifying Debt Instruments" means Debt Instruments that are:

(a)   rated investment grade by at least two of the credit rating agencies recognised by the Australian Prudential Regulation Authority and specified in Table 1.5, Annexure 5;

(b)   rated investment grade by one credit rating agency recognised by the Australian Prudential Regulation Authority and specified in Table 1.5, Annexure 5, and the issuer has its ordinary shares included in a Recognised Market Index;

(c)   unrated but the Issuer of the Debt Instrument has its ordinary shares included in a Recognised Market Index and, in accordance with a policy agreed between ASX Clear and the Participant, the Debt Instruments are reasonably deemed by the Participant to be of comparable investment quality to one or more of the categories of Qualifying Debt Instrument as described in this definition;

(d)   issued by, or guaranteed by, Australian local governments and Australian public sector entities other than those which have corporate status or operate on a commercial basis;

(e)   issued by, or fully guaranteed by, a non-OECD country's central government and central bank and which have a residual maturity of over one year and are denominated in local currency and funded by liabilities in the same currency;

(f)   issued by or collaterised by claims on, an international agency or regional development bank including the International Monetary Fund, the International Bank for Reconstruction and Development, the Bank for International Settlements and the Asian Development Bank;

(g)   issued, guaranteed, first endorsed or accepted by an Australian ADI or a bank incorporated within the OECD or a non-OECD bank accorded the same credit risk weight as an OECD bank by the Australian Prudential Regulation Authority provided that such instruments do not qualify as capital of the issuing institution;

(h)   issued, guaranteed, endorsed or accepted by a non-OECD bank and which have a residual maturity of one year or less provided that such instruments do not qualify as capital of the issuing institution; or

(i)   issued by or guaranteed by OECD country, State and regional governments and OECD public sector entities.

Cross reference within Rule S1: Annexure 3 – Part 2, Annexure 5 – Tables 1.2 and 1.5

"Recognised Market Index" means an index specified in Table 1.6 of Annexure 5.

Cross reference within Rule S1: *qualifying debt instruments*, Annexure 2, Annexure 3 – Part 1, Annexure 5 – Tables 1.1 and 1.6

"**Related/Associated Person**" means:

(a)   a partner, director, employee, officer or consultant of a Participant or of a company which is a partner of a Participant;

(b)   a person who is a member of the Immediate Family of a person referred to in paragraph (a);

(c)   the trustee of a Family Trust of a person referred to in paragraph (a);

(d)   an entity which is:

   (i)   controlled by a person referred to in paragraphs (a), (b) or (c) or any of those persons acting together;

   (ii)   a corporation in which a person referred to in paragraphs (a) or (b) is beneficially entitled to more than 50% of the issued capital;

(e)   an entity which is the holding company, or which is controlled by the holding company, of a Participant or of a company which is a partner of a Participant;

(f)   a person who is a Substantial holder of a Participant or of a company which is a partner of a Participant;

(g)   an associate of a Participant (as defined in each section of Part 1.2 Division 2 of the Corporations Act) or of a company which is a partner of a Participant; and

(h)   a lender who is a party to an Approved Subordinated Loan Deed or a related entity or associate of that lender.

Cross reference within Rule S1: *excluded asset, group of connected persons, related/associated person balance*

"Related/Associated Person Balance" is an amount owing to the Participant by a person who is a Related/Associated Person of the Participant excluding an amount owing as a result of:

(a)   the deposit with, loans to or other amounts owing from an Approved Deposit Taking Institution;

(b)   the deposit of funds as a margin or deposit with a person licensed to trade Futures or Options to the extent that those funds relate to an open position; or

(c)   a transaction in a Financial Instrument under Annexure 1 which is made on terms no more favourable to the Related/Associated Person than those on which it would be reasonable to expect the Participant to make if it had entered into the transaction on an arm's length basis, but not including sundry fees, interest or similar amounts owing on such transactions; or

(d)   brokerage or similar amounts owing that were reported or created less than 30 days previously and which arose as a result of a third party clearing arrangement entered in to with another Participant,

unless ASX Clear considers that an amount owing under paragraph (a), (b), (c) or (d) is to be included as a Related/Associated Person Balance.

Guidance: Clause (b) is also intended to capture the deposit of funds with a person licensed to clear *futures* or *options*, not just with persons licensed to trade such products.

Clause (d) is also intended to capture referral arrangements, not just third party clearing arrangements. It only applies where the Participant has entered into a third party clearing arrangement or referral arrangement with either an ASX Market Participant or an ASX Clear Participant that is a *related/associated person*.

Also refer to guidance on Rule S1.2.1 in Section 3 of the Handbook.

Cross reference within Rule S1: *excluded asset*

"Secondary Requirement" means a capital amount imposed under Rule S1.3.3.

Cross reference within Rule S1: S1.2.3, S1.3.3

"Securities Lending and Borrowing" means any transaction undertaken by a Participant under an Equity or Debt Instrument lending or borrowing agreement, a repurchase or reverse repurchase agreement or an agreement for the sale and buyback of Equity or Debt Instruments or other similar agreement as prescribed by ASX Clear.

Cross reference within Rule S1: Annexure 1, Annexure 2

"Substantial holder" means a person who has or would have a substantial holding if Part 6C of the Corporations Act applied to that corporation.

Cross reference within Rule S1: *related/associated person*

"Swap" means a transaction in which two counterparties agree to exchange streams of payments over time on a predetermined basis.

Cross reference within Rule S1: *debt derivative, equity derivative*, S1.2.8, Annexure 2, Annexure 3 – Parts 1, 2 and 3

"**Total Risk Requirement**" means the sum of:

(a)   Operational Risk Requirement;

(b)   Counterparty Risk Requirement;

(c)   Large Exposure Risk Requirement;

(d)   Position Risk Requirement;

(e)   Underwriting Risk Requirement; and

(f)   Non-Standard Risk Requirement,

however where an asset or liability is an Excluded Asset or Excluded Liability a risk requirement otherwise applicable under paragraphs (a) to (e) is not included.

Cross reference within Rule S1: *liquid margin*, S1.2.1, S1.2.2, S1.2.4, S1.2.5

"Trading Book" means all of a Participant's principal positions for which a position risk amount is calculated under the internal models approach of Part 4 of Annexure 3.

Cross reference within Rule S1: Annexure 3 – Part 4

"Trading Day" means a day on which a relevant exchange traded or over the counter market has been open for trading.

Cross reference within Rule S1: Annexure 3 – Part 4

"Underwriting" means a commitment to take up Equity or Debt Instruments where others do not acquire or retain them under an underwriting agreement, sub underwriting agreement, or other similar agreement calculated using:

(a)   the price stated in the Underwriting agreement; or

(b)   in the case of new float where the price is not known, the indicative price, until the price is known.

Cross reference within Rule S1: S1.2.3, S1.2.10, Annexure 4

"Underwriting Risk Requirement" is the absolute sum of the risk amounts calculated in accordance with Annexure 4.

Cross reference within Rule S1: *total risk requirement*, S1.2.3, Annexure 4

(b)   S1.1.2– Interpretation

(i)   Rule

S1.1.2   Interpretation

(1)   Rule S1 must be interpreted and applied:

(a)   in accordance with its spirit, intention and purpose;

(b)   by looking beyond form to substance;

(c)   consistently across positions in the same Financial Instruments throughout a period covered by a return required under Rule S1;

(d)   consistently with any guidance notes or other interpretation issued by ASX Clear; and

(e)   for the purpose of calculating capital liquidity requirements only and so as not to detract from the operation of other Rules.

(2)   A Participant's compliance with Rule S1.2.1 will be assessed using the methods chosen by it and recognised under Rule S1.

(3)   The annexures to Rule S1 form part of Rule S1 and:

(a)   a reference to an annexure is a reference to an annexure of Rule S1;

(b)   a reference to a clause is a reference to a clause of an annexure;

(c)   a clause within an annexure which refers to another clause is taken to refer to a clause within the same annexure unless expressly stated otherwise; and

(d)   a clause within an annexure which refers to a Table is taken to refer to a Table within the same annexure unless expressly stated otherwise.

(4)   References to dollar amounts are references to Australian dollar amounts.

(ii)   Guidance

(A)   General

Rule S1.1.2 is the interpretation section of the Risk Based Capital Requirements and includes a number of principles to be applied in the application of Rule S1.

Prior to adopting the Risk Based Capital Requirements a Participant should familiarise itself with these principles.

One of the reasons ASX Clear considers the interpretative principles included in the Risk Based Capital Requirements important is that, within Rule S1, Participants are, in a number of instances, provided with choice in the methodology they apply to a particular risk type. The reason for this choice is that all Participants are not the same and the Rule recognises this by providing alternate methods. Those Participants who have invested in the more sophisticated risk management methods are likely to enjoy a lower capital charge.

Generally, unless a particular Rule requires otherwise by virtue of applicable criteria, once a method has been chosen, it is incumbent on the Participant to calculate the charge under that methodology consistently and accurately. The choice of method represents a Participant's acknowledgment that a particular method is appropriate relative to its capitalisation and extent of involvement in different activities, markets and investments. Participants will need to assess which methods are appropriate to their own circumstances prior to measuring their capital liquidity under the Risk Based Capital Requirements.

(B)   Rule S1.1.2(2)

A Participant must be authorised for each of the risk calculation methods it needs to use. The authorisation letter will specify which methods the Participant is authorised for. A Participant will only be authorised to use a particular method after having satisfactorily demonstrated its ability to calculate risk amounts under that method.

Authorisation must be obtained prior to the use of a particular method. Therefore, if a Participant plans to commence a new business activity that requires the calculation of a risk amount using a method for which the Participant has not previously been authorised, it must seek authorisation for the new method prior to commencing the new activity.

SECTION 3B – OBLIGATIONS OF PARTICIPANTS, POWERS OF ASX CLEAR AND TRANSITIONAL ARRANGEMENTS

(a)   Rule S1.2 Obligations of Participants

(i)   **S1.2.1 – Core Capital, Liquid Capital and Total Risk Requirement**

(A)   **Rule**

S1.2.1   Core Capital, Liquid Capital and Total Risk Requirement

(1)   Unless a Participant obtains a prior waiver from ASX Clear under Rule 1.6, it must ensure that its:

(a)   Liquid Capital is at all times greater than its Total Risk Requirement; and

(b)   Core Capital is at all times not less than the sum of the amounts specified in Rules S1.2.1(1)(b)(i) (Table A or Table B), (ii), (iii) and (iv) below as applicable:

(i)

Table A - Direct Participants – Base Core Capital Requirement
$5,000,000

Table B - General Participants – Base Core Capital Requirement		
Tier 1	$5,000,000	Clearing for itself <u>or</u> up to one External.
Tier 2	$10,000,000	Clearing for: • itself and one External, or • two Externals.
Tier 3	$15,000,000	Clearing for: • itself and two Externals, or • three Externals.
Tier 4	$20,000,000	Clearing for: • itself and three or more Externals, or • four or more Externals.

In Table B above, "External" means another Participant or a Market Participant.

(ii)   for a Participant undertaking client written options clearing other than for which specific Cover is lodged, as described in the Procedures, which ASX Clear has determined:

A.   to be de minimis - $0;

B.   not to be de minimis or material - $2,500,000;

C.   to be material - $5,000,000.

(iii)   for a Participant undertaking own account business, as described in the Procedures, which ASX Clear has determined:

A.   to be de minimis - $0;

B.   not to be de minimis or material - $2,500,000;

C.   to be material - $5,000,000.

(iv)   for a Participant undertaking non-ASX client activity, as described in the Procedures, which ASX Clear has determined:

A.   to be de minimis - $0;

B.   not to be de minimis or material - $2,500,000;

C.   to be material - $5,000,000.

(2)   For the purpose of Rules S1.2.1(1)(b)(ii), (iii) and (iv):

(a)   the amounts under those Rules will not apply to Participants determined by ASX Clear to be inactive;

(b)   the amount of Core Capital required in respect of a Participant under those Rules will be assessed quarterly by ASX Clear (or at such other time at ASX Clear's discretion);

(c)   where, as a result of an assessment referred to in paragraph (b) above, ASX Clear determines that additional Core Capital is required in respect of a Participant under those Rules, the Participant will have until the date specified in the notice provided to the Participant of the additional Core Capital required to ensure that its Core Capital complies with such additional requirement. Subject to paragraph (d) below, ASX Clear will give not less than 6 months' notice of such additional requirement.

(d)   in the event a Participant fails to lodge, in accordance with Rule S1.2.10(2), a return relevant to the assessment referred to in paragraph (b) above, ASX may give less than 6 months' notice of any additional Core Capital required.

(3)   For the purpose of making a determination on materiality pursuant to Rule S1.2.1(1)(b)(iii)(C) and Rule S1.2.1(1)(b)(iv)(C), ASX Clear may rely on any self-declaration of materiality provided by the Participant.

(B) **Procedure**

PROCEDURE S1.2.1   CORE CAPITAL, LIQUID CAPITAL AND TOTAL RISK REQUIREMENT

1.   For the purposes of Rule S1.2.1(1)(b)(ii):

   (a)   client written options clearing is activity undertaken by a Participant which involves clearing of a written Options Market Contract registered in a Client Account of the Participant;

   (b)   specific Cover is lodged for a written Call Option if, in accordance with paragraph 2.2.1(iii) of Annexure 1 to the Procedures, the outcome of such lodgement is that ASX Clear does not call margins in respect of such Call Option.

2.   For the purposes of Rule S1.2.1(1)(b)(iii), own account business is activity undertaken by a Participant which involves:

   (a)   dealing in, or Underwriting, a financial product on its own behalf; or

   (b)   dealing in a financial product on behalf of a Related Body Corporate where the Participant has funded such dealing.

3.   For the purposes of Rule S1.2.1(1)(b)(iv), non-ASX client activity is activity undertaken by a Participant which involves:

   (a)   dealing in a financial product on behalf of a client, where the transaction or contract under such dealing is not cleared by ASX Clear or ASX Clear (Futures) Pty Limited;

   (b)   issuing a financial product to a client;

   (c)   providing a credit facility to a client; or

   (d)   disposing of a financial product to a client as part of a securities lending service.

4.   ASX Clear may, at its discretion, exclude activities which fall within the descriptions of own account business or non-ASX client activity in paragraphs (2) or (3) above, from its assessment of own account business or non-ASX client activity undertaken by a Participant for the purposes of Rules S1.2.1(1)(b)(iii) or S1.2.1(1)(b)(iv).

5.   Where activity undertaken by a Participant falls within both the descriptions of own account business and non-ASX client activity in paragraphs (2) and (3) above, ASX Clear will choose, at its discretion, whether such activity should be included in its assessment of:

   (a)   own account business undertaken by the Participant for the purposes of Rule S1.2.1(1)(b)(iii); or

   (b)   non-ASX client activity undertaken by the Participant for the purposes of Rule S1.2.1(1)(b)(iv),

   so that the same activity is not assessed under both of those Rules.

(C) Guidance

(1) Liquid Capital

Liquid capital is the measure of the regulatory capital a Participant has available to cover the risks that it incurs in the operation of its business. The measure of these risks is referred to as the *total risk requirement.*

Both *liquid capital* and the *total risk requirement* have a number of components to them. These components are specified in the definitions section of the Rule and are restated below.

Liquid capital means the sum of:

1.   *core capital*;
2.   cumulative *preference shares*;
3.   *approved subordinated debt*; and
4.   revaluation reserves other than *financial asset and liability revaluation reserves*;

less the sum of:

5.   *excluded assets*; and
6.   *excluded liabilities*.

As noted above *liquid capital* specifically requires two items to be **deducted** from it. It is important that each Participant familiarises itself with these deductions. *Excluded assets* and *excluded liabilities* are defined terms and full details of these items may be obtained from both the definitions section of the Rule and the guidance provided below.

(2) Core Capital

(a) Definition

Core capital means:

(a)   all ordinary issued shares to the extent that those shares are paid-up;
(b)   all non cumulative *preference shares*;
(c)   all reserves excluding revaluation reserves other than *financial asset and liability revaluation reserves*; and
(d)   opening retained profits/losses adjusted for all current year movements.

Core capital does not include *approved subordinated debt*. Accordingly Participants are advised to separately monitor *core capital* to ensure that the minimum requirement is complied with at all times. Any Participant that has negative shareholders equity would be unable to satisfy the *core capital* requirement.

The requirement to exclude *approved subordinated debt* from *core capital* applies to all Participants irrespective of ownership structure. Hence, even though the lender of *approved subordinated debt* may be the owner of the Participant, the Risk Based Capital Requirements treats this "transaction" on an arms length basis and accordingly the amount must be excluded from *core capital*.

(b) Minimum Requirements

The minimum *core capital* requirement for a Participant will be the sum of a base requirement, a requirement based on client written options clearing, a requirement based on own account business and a requirement based on non-ASX client activity.

For a Participant that has ceased clearing activity and has become an inactive ASX Clear Participant, ASX Clear may determine under Rule S1.2.1(2)(a) to only apply the **base core capital requirement** and to not require the Participant to submit a business activities return on a quarterly basis. (Guidance on the business activities return can be found in section 4 of this Handbook.)

(i)   Base Requirement

The **base core capital requirement** for a Direct Participant is $5,000,000.

The **base core capital requirement** for a General Participant varies from $5,000,000 to $20,000,000. Note that as the **core capital** requirement increases with the number of Market Participants[10] that a General Participant clears for, if a General Participant seeks to increase the number of Market Participants it clears for and this will push the them into a new tier, it will need to demonstrate that it can meet the higher **core capital** requirement as specified in Rule S1.2.1(1)(b)(i) before it commences clearing for the other Market Participant. If the General Participant cannot meet the higher **core capital** requirement, it will not be permitted to clear for the other Market Participant.

(ii)   Client Written Options Clearing Component

Client written options clearing relates to the clearing of written Options Market Contracts that are registered in the Participant's Client Account(s) and that do not have specific Cover lodged against them. For the purposes of the **core capital** requirements, a written Call Option has specific Cover lodged against it if, in accordance with paragraph 2.2.1(iii) of Annexure 1 to the ASX Clear Rules Procedures, the outcome of such lodgement is that ASX Clear does not call margins in respect of such contract.

Given that initial margin on Options Market Contracts is predominantly driven by written options, it is this initial margin that will be used for the purposes of setting the **core capital** requirement for the level of written options activity.

If the average initial margin for Options Market Contracts in the Participant's Client Account(s) over the previous 12 months is less than $2,500,000, the client written options clearing activity will be considered de minimis and the additional **core capital** requirement for this activity will be nil.

If the average initial margin for Options Market Contracts in the Participant's Client Account(s) over the previous 12 months is from $2,500,000 to $40,000,000 (inclusive), the client written options activity will be considered intermediate[11] and the additional **core capital** requirement for this activity will be $2,500,000.

If the average initial margin for Options Market Contracts in the Participant's Client Account(s) over the previous 12 months is greater than $40,000,000, the client written options activity will be considered material and the additional **core capital** requirement for this activity will be $5,000,000.

If there is less than 12 months of initial margin data for a Participant due to it only recently commencing options clearing, the assessment will be based on the average initial margin over the actual period of time for which data is available. However, if the Participant already has an established client base for options trading prior to it starting to clear options transactions for those clients (eg, if the Participant previously executed options trades which were cleared by a third party clearer), ASX Clear will use the initial margin data for the previous 12 months for those Client Accounts to make its assessment of the Participant's

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[10] The term Market Participant captures participants of ASX Ltd and also participants of Chi-X Australia Pty Ltd- and National Stock Exchange of Australia Limited (NSX).

[11] If the activity is determined to be intermediate, it has been determined not to be de minimis or material.

additional *core capital* requirement for client written options clearing. The Participant from which those options positions will be transferred will be requested to provide the list of Client Accounts so that ASX Clear can extract the initial margin data specifically for those clients.

(iii)   Own Account Business Component

Own account business relates to dealing in or *underwriting* a financial product undertaken by a Participant or dealing in a financial product on behalf of a Related Body Corporate where the Participant has funded such dealing. It therefore seeks to address a Participant's risk profile due to activities which directly or potentially place the Participant's own funds at risk of a loss due to a change in value of the financial product.

Examples of own account business are:
- *underwriting* (irrespective of whether the activity is mitigated by sub-underwriters);
- market making activity where the Participant is taking on the risk of the positions acquired from the market making activity;
- all Participant house activity , irrespective of the exchange the transactions are executed on or the central counterparty through which the transactions are cleared;
- principal positions held by the Participant arising from its corporate finance activities; and
- client facilitation where the Participant has transacted as principal with its client and then seeks to close its principal position by transacting with other clients.

Own account business would not include:
- principal trading or investments conducted by related entities of the Participant (provided they are not funded by the Participant);
- principal positions arising from errors, back to back transactions and hedging transactions;
- foreign currency denominated bank accounts; and
- stock borrowing transactions undertaken for the purposes of meeting ASX settlement obligations.

ASX Clear's assessment of the minimum *core capital* requirement for own account business will primarily be based on the information reported by a Participant in its business activities return.

A Participant that does not undertake any own account business will not have an additional *core capital* requirement apply to them.

A Participant that self-declares materiality will automatically have an additional *core capital* requirement of $5,000,000 apply for own account business. For other Participants, ASX Clear will make an assessment of whether the Participant's own account business is considered to be de minimis, intermediate[12] or material.

The starting point for this assessment will be the aggregate of its position/risk limits and exposure limits across all products and activities, as reported in the own account business section of the business activities return. If the aggregate limit is:
- less than $1,000,000, the own account business will initially be considered de minimis;
- from $1,000,000 to $10,000,000 (inclusive), the own account business will initially be considered intermediate; or
- greater than $10,000,000, the own account business will initially be considered material.

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[12] If the activity is determined to be intermediate, it has been determined not to be de minimis or material.

Other factors will then be taken into account such as turnover, limit utilisation, number of transactions and the percentage of total revenue that is generated from own account business. If any of these are considered to be significant, then the Participant will be moved up into the next category (ie, from de minimis to intermediate or from intermediate to material). For example, a Participant with an aggregate limit of between $1,000,000 and $10,000,000 and with a high level of turnover or a high percentage of revenue from own account business will be moved from the initial category of intermediate to material.

Participants will not be moved down a category if the other factors (as referred to in the paragraph above) are not significant. This is because of the potential for the Participant to have significant positions or exposures even if this is not currently the case. For example, a Participant with an aggregate limit of $6,000,000 but low turnover, limit utilisation, number of transactions and revenue from own account business would be kept in the intermediate category.

If the own account business is assessed as being de minimis, the additional *core capital* requirement for this activity will be nil.

If the own account business is assessed as being intermediate, the additional *core capital* requirement for this activity will be $2,500,000.

If the own account business is assessed as being material, the additional *core capital* requirement for this activity will be $5,000,000.

(iv)   Non-ASX Client Activity Component

Non-ASX client activity relates to:
- dealing in financial products on behalf of a client where the transactions or contracts under such dealing are not cleared by ASX Clear or ASX Clear (Futures) Pty Ltd (ASXCLF);
- issuing financial products to a client;
- providing a credit facility to a client; and
- disposing of financial products to a client as part of securities lending transactions.

For the avoidance of doubt, references to 'client' above include a Related Body Corporate of the Participant.

Examples of non-ASX client activity include:
- acquiring, disposing of or subscribing for financial products on behalf of a client where the relevant transaction or contract is not cleared through ASX Clear or ASXCLF, and would include:
    - client execution on other exchanges not cleared through ASX Clear or ASXCLF;
    - client clearing through a central counterparty other than ASX Clear or ASXCLF; and
    - client non-exchange traded products (other than those cleared by ASX Clear or ASXCLF);
- offering clients the ability to trade in international stocks and *derivatives* under an arrangement where the Participant acts as an intermediary between its clients and an international broker;
- contracts for difference;
- securities lending;
- margin lending and the provision of other credit facilities; and
- debt and foreign exchange activities.

For the purposes of the minimum *core capital* requirements, the following are not included as non-ASX client activities:
- trading on the Chi-X Australia ~~market~~and National Stock Exchange of Australia (NSX) markets on behalf of a client as this is cleared by ASX Clear;

- offering clients the ability to trade in international stocks and **derivatives** under an arrangement where the Participant only acts as an introducing broker and does not act as an intermediary between its clients and an international broker;
- the issue and redemption of managed funds through the ASX mFund service for a client;
- "administrative" type activities for a client (eg, portfolio administration and superannuation);
- provision of paid services where the Participant is not exposed directly to financial risk (eg, research and financial planning); and
- ancillary services performed by the Participant on the instruction of a client, such as placing the client's funds into a term deposit or an off-market acquisition of debentures for a client (ie, in both cases the Participant is just moving the funds on the client's instructions).

ASX Clear's assessment of the minimum **core capital** requirement for non-ASX client activity will primarily be based on the information reported by a Participant in its business activities return.

A Participant that does not undertake any non-ASX client activity will not have an additional **core capital** requirement apply to them.

A Participant that self-declares materiality will automatically have an additional **core capital** requirement of $5,000,000 apply for non-ASX client activity. For other Participants, ASX Clear will make an assessment of whether the Participant's non-ASX client activity is considered to be de minimis, intermediate[13] or material.

The starting point for this assessment will be the percentage of total revenue that is generated from non-ASX client activity (on a year to date basis). If year to date revenue from non-ASX client activity is:
- less than 5% of total revenue, the non-ASX client activity will be considered de minimis unless the other information reported in the return appears significant, in which case the non-ASX client activity will be considered intermediate;
- from 5% to 25% (inclusive) of total revenue, the non-ASX client activity will be considered intermediate unless the revenue from non-ASX client activity is less than $2,500,000[14] (in which case the non-ASX client activity will be considered de minimis) or the other information reported in the return appears significant enough to warrant the non-ASX client activity being considered material; or
- greater than 25% of total revenue, the non-ASX client activity will be considered material.

If the non-ASX client activity is assessed as being de minimis, the additional **core capital** requirement for this activity will be nil.

If the non-ASX client activity is assessed as being intermediate, the additional **core capital** requirement for this activity will be $2,500,000.

If the non-ASX client activity is assessed as being material, the additional **core capital** requirement for this activity will be $5,000,000.

(c) Assessment Process and Timing

The minimum **core capital** requirement for each Participant will be reviewed on a quarterly basis using ASX Clear's initial margin data and the business activities return submitted by the Participant (all data as at the end of each quarter).

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[13] If the activity is determined to be intermediate, it has been determined not to be de minimis or material.
[14] The year to date revenue from non-ASX client activity will be annualised to compare to the $2,500,000 threshold.

Where the quarterly review indicates that there has been a significant shift in the Participant's risk or business profile that ASX Clear considers will change its minimum *core capital* requirement, ASX Clear will notify the Participant in writing of the new requirement.

If the requirement is increased, the Participant will have to meet the additional *core capital* requirement by the date specified in the notification from ASX Clear, which will be at least a period of six months from the date of notification. However, this timeframe does not apply in the case of an increased requirement for a General Participant arising from it clearing for an additional Market Participant as this needs to be met prior to it starting clearing for that additional Market Participant.

If the requirement is decreased, it will take effect on the date specified in the notification from ASX Clear. Furthermore, if this decreased requirement follows a previous notification of an increased requirement which the Participant has not yet met because the implementation period has not yet elapsed, the increased requirement will not apply.

(3)   Total Risk Requirement

As noted above, the risks incurred in the operation of a securities or derivatives business are measured by the *total risk requirement.*

Total risk requirement means the sum of:

1.   *operational risk requirement*;
2.   *counterparty risk requirement*;
3.   *large exposure risk requirement*;
4.   *position risk requirement*;
5.   *underwriting risk requirement*; and
6.   *non-standard risk requirement*.

However where an asset or liability is an *excluded asset* or *excluded liability* a risk requirement otherwise applicable under paragraphs 1 to 5 is not included.

Each of the components of the *total risk requirement* are defined in the definitions section of the Rule. Each component requires a calculation of various risk amounts and the manner in which these amounts are calculated is specified in the Annexures to the Rule. It is important that Participants familiarise themselves with these Annexures and guidance is provided on them later in this Handbook.

Within Annexure 1 (*counterparty risk requirement)* and Annexure 3 (*position risk requirement*), a Participant may, depending on the type of exposure, have a choice of methods in the calculation of the risk amount. There are various criteria that must be satisfied before some methods can be used and it is therefore important that a Participant familiarise itself with the available methods and criteria and choose the method that is suitable to the nature of its operation.

A Participant must be authorised for each of the methods it needs to use. Authorisation must be obtained prior to the use of the method. Therefore, if a Participant plans to commence a new business activity that requires the calculation of a risk amount using a method for which the Participant has not previously been authorised, it must seek authorisation for the new method prior to commencing the new activity.

The guidance section for Rule S1.2.2 provides details on the relationship between *liquid capital* and the *total risk requirement*. The guidance section for Rule S1.2.3 provides further details on the *total risk requirement* and an example of its calculation.

(4) Excluded Assets

(a) General

It is important that a Participant is familiar with the definition of an *excluded asset* as they are a direct deduction from a Participant's *liquid capital*.

It is also important to note that some transactions for which there exists a specific method for the calculation of a risk amount may nevertheless need to be treated as an *excluded asset* if they are not *liquid* (i.e. cannot be realised or converted to cash within 31 days). The reason for this is that whilst an available risk method may be appropriate for a transaction that is *liquid*, this may not be the case where the transaction is not *liquid*.

(b) Approved Deposit Taking Institutions

Participants should note the interrelationship between the definitions of *excluded asset* and *approved deposit taking institution*.

In summary, if a Participant deposits an amount on an unsecured basis with an institution that is not an *approved deposit taking institution,* the amount should be treated as an *excluded asset*.

However, it should also be noted that if a Participant deposits an amount with an institution that is an *approved deposit taking institution,* whilst prima facie that amount does not have to be treated as an *excluded asset,* if that amount is not realisable within 31 days it would still have to be treated as an *excluded asset*. The reason for this is that the deposit would not be considered *liquid*.

With respect to a term deposit with an *approved deposit taking institution* that has a maturity greater than 31 days, if a Participant is able to break the term deposit and realise the funds within 31 days, then the term deposit would be considered *liquid* and would not need to be treated as an *excluded asset*. This treatment applies regardless of whether the Participant incurs an interest penalty for breaking the term deposit early.

An investment in a cash management trust, even if offered by an *approved deposit taking institution* (or its subsidiary) is not considered to be a deposit with the *approved deposit taking institution* as it is not capital guaranteed and is subject to investment risk. The cash management trust should instead be treated as either a hybrid exchange traded fund (ETF) or other managed fund (assuming that the cash management trust satisfies the definition of either of these instruments – refer to the guidance for Annexure 3, Part 1, clause 9 for definitions). Otherwise, it must be treated as an *excluded asset*.

(c) Third Party Clearing and Referral Arrangements

Where a Participant uses a third party clearer or a clearer other than itself and is required to lodge some form of surety deposit with the clearer relating to clearing purposes only, the Participant would generally need to treat that deposit paid to the clearer as an *excluded asset*, unless approved otherwise by ASX Clear.

The reason for this is that once the deposit is paid to the clearer, the Participant who has paid the deposit will, in the normal course of business, have no ability to access or recall the deposit and hence has effectively "lost control" of that deposit. For this reason the deposit cannot be considered *liquid* and hence should be treated as an *excluded asset*.

The above treatment also applies when the clearer with whom the Participant lodges a surety deposit is an *approved deposit taking institution*. This is due to the fact that the deposit lodged would have terms and conditions that would restrict the Participant's ability to access or recall the deposit amount (over and above what is required under a 'normal' deposit with an *approved deposit taking institution*) and may also not meet the definition of *liquid*. The deposit is generally driven by the clearer's requirement to obtain some form of security or collateral to mitigate its risks arising from acting as the clearer for the Participant. As such, this deposit differs from a 'normal' bank deposit and needs to be treated as an *excluded asset*.

(d) Related/Associated Person Balances

(i) General

The general principle is that an unsecured amount owing by a *related/associated person* should be treated as an *excluded asset*. However, there are some transaction amounts that do not have to be treated in this manner. This is explained further below.

In brief, a *related/associated person balance* is an amount owing to the Participant by a person who is a *related/associated person* <u>excluding</u> those amounts set out in the definition of *related/associated person balance*.

It is probable that a *related/associated person balance* will be considered an *excluded asset* for one of two reasons:

1. it is not *liquid*; or

2. it is *liquid* but is not secured by collateral which is *liquid*, evidenced in writing and valued at the mark to market value or at another value approved by ASX Clear.

(ii) Liquidity Consideration

The initial criteria that needs to be considered is whether or not the amount owing from the *related/associated person*, regardless of whether the amount owing is secured or unsecured, meets the definition of *liquid*. If the amount owing is not *liquid*, it falls under clause (j) of the definition of *excluded asset* (an asset which is not *liquid*) and the full amount owing must be excluded from *liquid capital*. In other words, the fact that the amount is owed by a *related/associated person* is irrelevant and it must be treated the same as any other asset which is not *liquid*. In order for a loan to be considered *liquid*, the loan agreement between a Participant and a *related/associated person* must contain a clause giving the Participant the right to recall and be repaid the loan within 31 days from the date of recall.

(iii) Collateral Consideration

Related/associated person balances that are secured by collateral need not be treated as *excluded assets* if <u>all</u> of the following conditions are met:

1. the collateral held as security must meet the definition of *liquid* (i.e. realisable or otherwise convertible to cash within 31 days) and therefore will generally be limited to debt or *equity* securities. Any collateral which is held in escrow and unable to be converted to cash within 31 days would not meet the definition of *liquid*;

2. the Participant must have full control over the collateral so that if the *related/associated person* defaults, the Participant can liquidate the collateral to recover the amount owing. This would require, in the case of *equity* securities lodged as collateral, that the securities be lodged

in a participant sponsored account. Securities lodged as collateral which cannot be accessed by the Participant without the approval of a third party or are otherwise encumbered cannot be recognised as collateral for the purposes of this Rule;

3. the lodgement of the collateral, and indeed the loan from the Participant, must be evidenced in writing (i.e. it must be documented by a legally binding agreement between the Participant and the *related/associated person*). The Participant must have established that the *related/associated person* and the persons signing have the legal capacity to enter into the agreement and to provide the nominated collateral (e.g. the *related/associated person* is an appropriately registered company and the person executing the agreement has the authority to enter into the agreement on behalf of that company). ASX Clear recommends that independent legal advice be obtained to assist the Participant with the documentation of *related/associated person* loans and the collateral arrangements; and

4. the collateral must be valued at market value or at another value approved by ASX Clear (note: if the value of the collateral is less than the balance owing by the *related/associated person*, the difference must be treated as an *excluded asset*. The Participant must take active measures to monitor the value of the collateral).

(iv)   Returns Disclosure

*Related/associated person balance*s should be shown in the Related/Associated Persons section of the capital liquidity returns submitted (i.e. section BSD-RAP).

Note: if a Participant is related/associated to an *approved deposit taking institution*, any *related/associated person balance*s of this type should also be shown in section BSD-RAP of the return (notwithstanding that these do not fall within the definition of *related/associated person balance*) and **not** in the "Cash and Cash Equivalents" section (i.e. section BSD-CCE) of the return.

(v)   Exclusions

It should be noted that in the definition of a *related/associated person balance,* there are some specific unsecured amounts that **do not** have to be treated as *related/associated person balance*s and hence do not have to be treated as *excluded assets*.

This treatment only applies where it is specifically stated in Rule S1 that the amount does not have to be treated as a *related/associated person balance* and, as a general principle, the transaction has been conducted on terms no more favorable to the *related/associated person* than those on which it would be reasonable to expect the Participant to make if it had entered into the transaction on an arm's length basis.

Please note that the exclusion under part (c) of the definition of *related/associated person balance* does not extend to sundry fees, interest or similar amounts owing on such transactions.

If ASX Clear determines that a transaction has been constructed to take advantage of the specific "exceptions" within the Rule (i.e. the transaction does not appear to have been executed on an arm's length basis and/or is not in accordance with the spirit and intention of the Rule), the unsecured amount arising from that transaction will immediately have to be treated as a *related/associated person balance* and hence an *excluded asset.*

If a Participant is unsure about whether a transaction should be treated as a *related/associated person balance*, it should contact ASX Clear for guidance.

A transaction with a **related/associated person** that is of a type specifically excluded in the definition of **related/associated person balance** does not form part of the **related/associated person balance**. It will instead be subject to the same risk amount calculation as if the transaction had been entered into with an unrelated **counterparty**. With the exception of a deposit with an **approved deposit taking institution** (as noted earlier), this type of transaction should **not be** shown as a **related/associated person** amount in section BSD-RAP of the capital liquidity returns submitted to ASX Clear, but should be included in the appropriate asset or liability section of the balance sheet section of the return in the same manner as an unrelated **counterparty**.

(e)   Prepayments

(i)   General

Prepayments which are not **liquid** (i.e. not realisable within 31 days) fall within the definition of **excluded asset**. Prepayments are not defined in the ASX Clear Operating Rules but are expenses which have been paid during one accounting period for a term which extends beyond the end of that period.

There are prepayments which, in the normal course of business, will be utilised over a period greater than 31 days. For example, a Participant may prepay subscription fees a year in advance. If the subscription fees cannot be cancelled then they will not be capable of realisation within 31 days.

If the subscription can be cancelled and the Participant can demonstrate that it is able to obtain a refund of the payment (in respect of the unused portion of the subscription) within 31 days, then the subscription can be regarded as being capable of realisation within 31 days.

(ii)   Treatment

It is ASX Clear's view that, as a general principle, where a prepayment is capable of being cancelled and realised within 31 days, regardless of the period over which it is actually utilised, then the prepayment is **liquid** and hence is not an **excluded asset** for the purposes of the Risk Based Capital Requirements.

This general principle does not, however, apply where the prepayment is made in respect of an item of expenditure that is specifically required to be made by the Participant for it to comply with the requirements of the ASX Operating Rules, ASX Clear Operating Rules or ASIC Market Integrity Rules.

Professional indemnity insurance, for example, is required to be maintained by a Participant pursuant to the ASIC Market Integrity Rules and/or ASX Clear Operating Rule 4.3. A prepayment made by a Participant for this insurance will be an **excluded asset**, even though the Participant's insurer may permit the contract to be cancelled and the premium for the unexpired portion refunded within 31 days of cancellation.

(f)   Principal Positions in Financial Instruments

The market value of some principal positions (or percentage thereof) in **financial instruments** may need to be treated as **excluded assets** if they are not **liquid**.

There are four fundamental characteristics in order for **financial instruments** to be considered to be **liquid**. These characteristics are that:

1.   there are genuine independent offers from third parties to the Participant;

2.   prices or rates exist that closely approximate the last sale price or rate in the ***financial instrument*** (whether exchange traded or OTC);

3.   payment/settlement can be effected within the settlement conventions applicable to the ***financial instrument***; and

4.   there is sufficient liquidity in the market to ensure a ready sale of the position held.

If all of these characteristics are not able to be identified in a position then ASX Clear believes that the position does not demonstrate that it is ***liquid***.

With respect to characteristic four, some of the factors which would be taken into consideration by ASX Clear include:

1.   the trading statistics related to the ***financial instrument*** (for example, with respect to ***equities***, the volumes over the previous 3 months should generally be considered. If, however, the previous month's volumes have been low, only 1 month's volume should be considered). Participants should be conservative in determining if trading statistics indicate a ***financial instrument*** to be ***liquid*** and should bear in mind the spirit and intent of the Rule; and

2.   with respect to ***equity*** and ***debt instruments***, details of the shareholder base, the concentration of holdings of the ***financial instrument***, and spread of the ***financial instrument.***

Two possible scenarios arise from the above:

1.   If a principal position in its entirety is not considered ***liquid***, it should be treated as an ***excluded asset***.

2.   If only a percentage of the principal position is not considered ***liquid***, only that percentage need be treated as an ***excluded asset***.

Scenario 2 is illustrated in the following examples.

(i)   Example 1

A Participant holds an ***equity*** principal position in stock XYZ of 100,000 shares and the market value of the stock is $1 per share at the end of March.

Assume monthly trading volumes of stock XYZ over each of the last three months has been:

Jan 13,000
Feb 12,000
Mar 15,000

so average volume over the three month period is 13,333.

Based on this information, 86,667 shares (i.e. $86,667) would have to be treated as an ***excluded asset*** at the end of March as this percentage of the holding would not satisfy the definition of ***liquid***. The remainder of

the position (i.e. 13,333 shares, $13,333) can be considered *liquid* and hence may continue to be included in the calculation of a *position risk requirement* in accordance with Annexure 3.

(ii) Example 2

Assume that in April, volumes fall significantly to 6,000 for the month.

For simplicity, assume that the market value of the stock is still $1 per share. At the end of April, rather than using the "new" three month average volume of 11,000, the Participant should only consider one month's volume as being *liquid*. Therefore, 94,000 shares (i.e. $94,000) would have to be treated as an *excluded asset* at the end of April as this percentage of the holding would not satisfy the definition of *liquid*. The remainder of the position (i.e. 6,000 shares, $6,000) can be considered *liquid* and hence may continue to be included in the calculation of a *position risk requirement* in accordance with Annexure 3.

(g) Prescribed Excluded Assets

There are currently two assets that have been prescribed as *excluded assets* under part (l) of that defined term. One arises when there is a legally linked asset and liability and one applies to leases that a Participant has entered into and are reported on the Participant's balance sheet.

(i) Asset Due From One Entity Linked to an Offsetting Liability Payable to Another Entity

Where a Participant has an asset due from one entity (which would ordinarily be treated as an *excluded asset*) which is linked to an offsetting liability payable to another entity such that the liability can only be enforced once the asset is realised, it is possible to net the asset and liability so that only the net amount is reported as an *excluded asset*. This treatment is subject to authorisation by ASX Clear.

To net an asset with a liability and treat it as a prescribed excluded asset the following conditions must be met:

1. the Participant must have obtained authorisation from ASX Clear;

2. the Participant must have a documented, legally binding contract or agreement with the counterparty to the liability that specifies that the liability cannot be enforced unless the asset is realised. ASX Clear may require the Participant to provide an independent legal opinion to confirm the arrangement;

3. the Participant must continue to report the asset and liability on a gross basis in the balance sheet section of the capital liquidity return (i.e. as a separate asset and liability), if this is consistent with the relevant accounting standards;

4. the Participant must report the net amount as an "Other Prescribed Asset" in the "Liquid Capital" section of the capital liquidity return (section CAP); and

5. the Participant must include the following details in the capital liquidity return:

The amount included in the Excluded Asset "Other Prescribed Asset" line is calculated as:

Asset – *describe the nature of the asset/s*		**$**
less	**Liability –** *describe the nature of the liability/s*	**$( )**
	Excluded Asset - other prescribed asset	**$ net amount**

If the net amount is nil, these details should be included in the "Additional Comments" section of the capital liquidity return (section ADD). Otherwise, if the net amount is positive, these details should be included in the comments box for "Other Prescribed Assets" in the "Liquid Capital" section of the capital liquidity return (section CAP).

Note the "other prescribed asset" amount should only ever be a positive number or zero.

It is appropriate to allow this netting because if an asset and liability are legally linked in the manner set out above, the inability to realise the asset within 31 days cannot cause a liquidity issue for the Participant. The netting is illustrated in the following example.

(a) Example

Details
A Participant receives commission income from clients. This income is accrued but is only received at the end of each quarter. The Participant pays its advisers a percentage of this commission income and this expense is also accrued over the quarter.

The accrued income receivable falls within the definition of *excluded asset* for the first two months of the quarter on the basis that it is not realisable within 31 days (i.e. it does not meet the definition of *liquid*). There is a documented contract between the Participant and its advisers specifying that the Participant has no liability to pay the advisers unless the client income has been received.

Treatment and Reporting
Assume as at 30 April, a Participant has accrued commission receivable (i.e. an asset) from clients of $700,000 due to be received on 30 June and an amount payable (i.e. a liability) to its advisers of $250,000.

The receivable and payable are legally linked via a documented and legally binding contract, the Participant has contacted ASX Counterparty Risk Assessment, who have approved the net amount as an "other prescribed asset".

Therefore, the $450,000 can be reported as an *excluded asset* in the "other prescribed asset" line of the "Liquid Capital" section of the capital liquidity return instead of the full $700,000.

The Participant should still show a $700,000 asset and a $250,000 liability in the balance sheet section of the capital liquidity return if this is consistent with the accounting standards. The Participant must include the following disclosure in the comments box for "Other Prescribed Assets" in the "Liquid Capital" section of the capital liquidity return:

The amount included in the Excluded Asset "Other Prescribed Asset" line is calculated as:

Asset – *accrued client commission payable*		**$700,000**
less	**Liability –** *accrued commission due to advisers*	**$(250,000)**

Excluded Asset - other prescribed asset   **$450,000**

(ii)   Right-of-Use Asset and Lease Liability

This scenario arises if, under accounting standards generally accepted in Australia, a right-of-use asset and a lease liability are reported on a Participant's balance sheet as a result of the Participant entering into a lease. As the movement in the right-of-use asset is linked to the movement in the lease liability, the Participant can treat the net of the right-of-use asset and the corresponding lease liability for the same lease as an ***excluded asset***. The netting needs to be done on a lease by lease and not an aggregate basis; ie right-of-use assets of multiple leases cannot be aggregated and then offset with the aggregate of lease liabilities. This treatment does not require authorisation by ASX Clear.

When this treatment is applied, a Participant must follow the reporting outlined below when filling out capital liquidity returns:

1. the Participant must report individual right-of-use assets and lease liabilities in the "Leases" section of the capital liquidity return (section BSD-LEA) even if it reports right-of-use assets under plant, property and equipment in its internal accounts. The Participant should not include any right-of-use asset under the property, plant and equipment line in the "Balance Sheet" (BAL) section of the capital liquidity return;

2. the Participant must report the sum of the positive net amounts of individual right-of-use assets and their corresponding lease liabilities as an "Other Prescribed Asset" in the "Liquid Capital" section of the capital liquidity return (section CAP), i.e right-of-use assets cannot be aggregated and then offset with the aggregate of lease liabilities; and

3. the amount reported as an "Other Prescribed Asset" in the "Liquid Capital" section of the capital liquidity return cannot be less than zero.

(a)   Example

Details

A Participant enters into ~~two~~the following lease contracts~~, one for~~: lease of premises ~~and one for~~, lease of printers~~.~~ and lease of motor vehicles. Accounting standards generally accepted in Australia require ~~both~~the leases to be reported on the Participant's balance sheet. The Participant calculates the value of the right-of-use asset related to the lease of premises to be $1,200,000 with a corresponding lease liability of $1,100,000. Similarly, the value of the right-of-use asset related to the lease of printers is $50,000 with a corresponding lease liability of $47,000~~.~~, and the value of the right-of-use asset related to the lease of motor vehicles is $70,000 with a corresponding lease liability of $75,000. The Participant reports the ~~two~~three right-of-use assets under property, plant and equipment in its internal accounts.

Treatment and Reporting

The Participant should list the ~~two~~three right-of-use assets and corresponding liabilities in the "Leases" section of the capital liquidity return (section BSD-LEA~~) and report $103,000~~). The sum of the positive net amounts is $103,000, which does not include the negative net right-of-use asset related to motor vehicles. This amount should be reported as an ***excluded asset*** in the "Other Prescribed Asset" line of the "Liquid Capital" section of the return, as per the calculation in the table below.

Description of the lease	Right-of-Use Asset	Lease Liability	Net Right-of-Use Asset
Premises	$1,200,000	$1,100,000	$100,000
Printer	$50,000	$47,000	$3,000
Motor Vehicles	$70,000	$75,000	$(5,000)
Total	**$1,250,000**	**$1,147,000**	**$103,000***

* Sum of positive net right-of-use asset amounts

(h)   Funds Deposited with ASX Clear or ASX Clear (Futures) Pty Limited

Funds deposited with ASX Clear as margin or as Excess Cash and funds deposited with ASX Clear (Futures) Pty Limited as margin or excess deposits do not need to be treated as an *excluded asset*. It should, however, be noted that this exclusion does not apply to additional Cover[15].

(5)   Excluded Liabilities

It is important that a Participant is familiar with the definition of an *excluded liability* as they are a direct deduction from a Participant's *liquid capital*.

An *excluded liability* is the maximum liability specified in a guarantee or indemnity under Rule S1.2.6(1)(c) or a liability prescribed as such by ASX Clear.

As at the date of this Handbook, ASX Clear has not prescribed any amounts as *excluded liabilities* but a Participant will have an *excluded liability* if it has given a guarantee or indemnity under Rule S1.2.6(1)(c).

(6)   Compliance at all Times

(a)   General

Participants must comply with all aspects of the Risk Based Capital Requirements at all times. To avoid any ambiguity, this includes on an intra-day basis. Simply complying with the reporting requirements (i.e. lodging the monthly capital liquidity return) does not represent compliance at all times.

All Participants are expected to calculate their *total risk requirement* on a daily basis. As this represents the amount of *liquid capital* a Participant is required to have, it is important that this amount is known each day as this will vary with the level of trading conducted and with changes to market prices and rates.

Ideally Participants should also calculate their *core capital* and *liquid capital* figures on a daily basis. However, if a Participant undertakes a relatively limited variety of transactions or has immaterial principal positions and has a "more than" adequate *liquid margin* and ratio of *liquid capital* to *total risk requirement* for the level and nature of business undertaken, it may calculate the *core capital* and *liquid capital* figures on a less frequent basis. If a Participant chooses to do this, it must nevertheless have "appropriate triggers" in place to prompt a more frequent calculation if necessary and still be able to demonstrate that it remained in compliance with the Risk Based Capital Requirements in between the dates that the calculations were actually completed.

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[15] As defined in ASX Clear Operating Rule 14.6.

Whilst the type of "appropriate triggers" will vary between Participants, in general terms they would include, for example, a sudden increase in the level of business, a change in the type of business undertaken, incurring a large one off expense, the repayment of *approved subordinated debt* or the payment of a dividend.

(b)   Real Time Live Monitoring

Each Participant needs to assess for itself whether or not it needs real time live monitoring to enable it to comply with the Risk Based Capital Requirements at all times. ASX Clear does not mandate real time live monitoring but does highly recommend this, especially for Participants that have a relatively low *liquid margin* or that are planning an increase or change in business activity. Having real time live monitoring capability will give a Participant greater certainty that it is in compliance with the Risk Based Capital Requirements at all times

While, in practice, Participants need to maintain documentation showing compliance with the Risk Based Capital Requirements at the end of the day, as noted above ASX Clear expects Participants to be able to demonstrate compliance at all times during the day. For Participants that do not have real time live monitoring capabilities, this can be achieved in a number of ways. For example, if a Participant has a small capital buffer and a large agency trade or intra-day principal trade comes through during the day, the Participant should do a "rule of thumb" calculation of the capital that would be required during the day to ensure it has the required capital. If it does not have the capital, then it would have to increase capital, inject *approved subordinated debt* or reject the trade.

ASX Clear recommends that all Participants set triggers appropriate to their business (which will depend on their size, amount of surplus capital, level of expenses, etc.) to ensure compliance at all times. The intention of this is that while the Participant may be comfortable that it is in compliance at all times during the day in the normal course of business, if a trigger event occurs, the Participant would complete a more "accurate" intraday capital calculation to ensure compliance at all times.

ASX Clear has not mandated any set documentation, but for an agency only Participant for example, the end of day calculation for the prior day could be "adjusted" intra-day on a "rule of thumb" basis to include the trading levels experienced that day to determine intraday compliance. As ASX Clear does not mandate real time live monitoring, this type of practical approach is considered acceptable.

(c)   Implications of a Systems Failure

It is expected that, in the event of system failure, a Participant would inform ASX Clear as to the nature and severity of the problem. Any action undertaken by ASX Clear would be dependent on the circumstances at that time.

As the capital liquidity calculation is completed via the collection of information from a number of sources such as the general ledger, settlement systems, principal position systems, etc. the "seriousness" of the disaster may depend on which system/s have failed and the length of time it takes to recover the system/s.

For example, if the general ledger system failed it is likely that estimates of income and expenses could be used rather than actual figures, using prior month's data as a guide. The ability to use an estimated figure would be influenced by the source of the estimates, the capital ratio leading up to the estimates (i.e. a ratio of 1.2 the day before the system failure may result in a different approach being taken than if there was a "stronger" ratio) and the injection or availability of additional *approved subordinated debt*. If, however, the settlement system failed, this would impact the ASX settlement cycle and hence the implications of this would be wider than just the capital requirements.

If the system failure results in a Participant being unable to generate a capital liquidity calculation in the prescribed format, ASX Clear may accept an alternate format, but a Participant would still have to be able to show some evidence of compliance, and also be able to show the planned steps it has in place for rectifying the systems problem in line with the organisation's internal disaster recovery programs.

Taken to the extreme, if it is not possible to determine whether a Participant is complying with the capital liquidity requirements, ASX Clear may have no other choice but to suspend or terminate the admission of the Participant under ASX Clear Operating Rule 15.2.1. Other disciplinary action may follow this suspension or termination.

(ii)   **S1.2.2 - Notifying ASX Clear**

(A)   **Rule**

S1.2.2	**Notifying ASX Clear**
(1)	A Participant must notify ASX Clear immediately if its:
	(a) Core Capital is at any time less than the minimum amount required by Rule S1.2.1(1)(b); or
	(b) Liquid Capital divided by its Total Risk Requirement is equal to or falls below 1.2.
(2)	A Participant must provide ASX Clear with a return in the form prescribed by ASX Clear disclosing the amount of its Liquid Margin:
	(a) no later than one Business Day after notifying ASX Clear under Rule S1.2.2(1); and
	(b) from then on, either:
	(i) weekly, for so long as the amount referred to in Rule S1.2.2(1)(b) is equal to or less than 1.2 but greater than 1.1; and
	(ii) daily, for so long as the amount referred to in Rule S1.2.2(1)(b) is 1.1 or less.

(B)   **Guidance**

(1)   **General**

The general principle associated with this Rule is that it is a Participant's responsibility to monitor its *core capital* and *liquid capital* positions at all times and notify ASX Clear if, at any time, the prescribed minimum amount of *core capital* or prescribed minimum ratio of *liquid capital* to *total risk requirement* is not satisfied.

The reason for the notification requirement is that it serves as an early warning signal for both the management of a Participant and ASX Clear that there may be a possible capital shortfall in the organisation and hence provide time for it to inject additional funds to support its business activities before this occurs.

The cause of a shortfall of *liquid capital* or *core capital* will vary between organisations and may result in varying periods of shortfall. The reporting requirements may not automatically result in action being taken by ASX Clear other than to establish the reason for the reduction and to review the daily or weekly reports provided. However any action taken by ASX Clear will depend on the circumstances leading to the Participant falling below the minimum requirement.

(2)   **Procedures for Reporting**

When reporting either the fall in *core capital* or the ratio of *liquid capital* to *total risk requirement*, Participants are required to advise ASX Clear immediately (by telephone) they become aware of the conditions set out in Rule S1.2.2(1) and to follow up this verbal advice by submitting an Adhoc Return. (Further details on the returns are provided in the guidance section to Rule S1.2.10 and in Section 4 of this Handbook).

The initial telephone advice may be made direct to the Manager, Counterparty Risk Assessment or any of the ASX Counterparty Risk Assessment staff. The Adhoc Return should be submitted via the Return Lodgement & Monitoring (RLM) system.

Submission of the Adhoc Return must initially be made no more than one Business Day after the time of the verbal notification. Subsequently, for those Participants whose ratio of *liquid capital* divided by *total risk requirement* is 1.1 or less, an Adhoc Return must be submitted by no later than 10:00 am on each Business Day for so long as the ratio remains at or less than 1.1. For those Participants whose ratio of *liquid capital* divided by *total risk requirement* is 1.2 or less but greater than 1.1, an Adhoc Return must be submitted by no later than 10:00 am on each Monday, reporting balances and positions as at close of business on the previous Friday, for so long as the ratio remains at or less than 1.2 but greater than 1.1.

Participants may be required to submit a Summary Capital Liquidity Return instead of an Adhoc Return if more detailed information on the Participant's financial position is needed.

(iii)   S1.2.3 - Requirements and Risk Amounts

(A)   Rule

S1.2.3   Risk Requirements And Risk Amounts

(1)   A Participant must calculate:

(a)   its Operational Risk Requirement; and

(b)   an operational risk amount, as the sum of:

(i)   the amount of $100,000;

(ii)   8% of the sum of the Participant's:

A.   Counterparty Risk Requirement;

B.   Position Risk Requirement; and

C.   Underwriting Risk Requirement; and

(iii)   a Secondary Requirement.

(2)   A Participant must calculate in accordance with Annexure 1:

(a)   its Counterparty Risk Requirement; and

(b)   a counterparty risk amount for each of its Positive Credit Exposures to a Counterparty for:

(i)   transactions in Financial Instruments referred in Annexure 1 except those transactions which relate to Excluded Assets; and

(ii)   other transactions in Financial Instruments as prescribed by ASX Clear.

(3)   A Participant must calculate in accordance with Annexure 2:

(a)   its Large Exposure Risk Requirement; and

(b)   its large exposure risk amount for each:

(i)   Counterparty;

(ii)   Equity Net Position and Debt Net Position relative to:

A.   Liquid Capital; and

B.   an issue or issuer.

(4)   A Participant must calculate in accordance with Annexure 3:

(a)   its Position Risk Requirement;

(b)   a position risk amount for all positions in Financial Instruments, except those positions which are Excluded Assets; and

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       (c)   a position risk amount for other assets and liabilities which are denominated in a currency other than Australian dollars except for those assets which are Excluded Assets.

(5)   A Participant must calculate in accordance with Annexure 4:

       (a)   its Underwriting Risk Requirement; and

       (b)   an underwriting risk amount for each Underwriting.

(6)   A Participant must calculate a Non-Standard Risk Requirement in accordance with Rule S1.2.9.

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(B)   Formula

The **total risk requirement** is the sum of all the individual risk type requirements plus the Rule S1.2.9 requirement, however where an asset or liability is an **excluded asset** or **excluded liability**, a risk requirement otherwise applicable does not have to be calculated.

$$TRR = ORR + CRR + LERR + PRR + URR + NSRR$$

and

$$ORR = \$100{,}000 + 0.08 \times (CRR + PRR + URR) + \textbf{secondary requirement} \text{ (if any)}$$

where:

ORR   = operational risk requirement
CRR   = counterparty risk requirement - Annexure 1
LERR   = large exposure risk requirement - Annexure 2
PRR   = position risk requirement - Annexure 3
URR   = underwriting risk requirement - Annexure 4[16]
NSRR   = non-standard risk requirement - Rule S1A/S1.2.9

(C)   Guidance

(1)   General

The purpose of this Rule is to impose on each Participant the obligation to calculate the:

⇒ **operational risk requirement,**
⇒ **counterparty risk requirement,**
⇒ **large exposure risk requirement,**
⇒ **position risk requirement,**
⇒ **underwriting risk requirement,** and
⇒ **non-standard risk requirement**

and associated risk amounts.

Each of the calculations for the:

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[16] A rule for an **underwriting risk requirement** has been deferred.

> ⇒ *counterparty risk requirement,*
> ⇒ *large exposure risk requirement,*
> ⇒ *position risk requirement,* and
> ⇒ *underwriting risk requirement*

are detailed in Annexures 1, 2, 3 and 4 respectively and the requirements of these Annexures are detailed later in this Handbook.

(2)   Operational Risk Requirement

(a)   Definition of Operational Risk

"Operation" is the processing, settlement, reporting and overall management of a transaction from order receipt, deal execution until final settlement.

Operational risk is the risk that improper operation of trade processing or management systems will result in financial loss. Operational risk encompasses the risk of loss due to the breakdown in controls within the firm including, but not limited to, unidentified limit excesses, unauthorised trading, fraud in trading or in back office functions including inadequate books and records and a lack of basic internal accounting controls, inexperienced personnel, and unstable and easily accessed computer systems.

(b)   Discussion

The calculation of the *operational risk requirement* is specified in this Rule rather than in a separate Annexure, and is reviewed below.

The *operational risk requirement* includes one fixed and two variable components.

The fixed component is set at $100,000 and this must be added to the two variable components. The first variable component is calculated by taking 8% of the sum of a Participant's *counterparty risk requirement, position risk requirement* and *underwriting risk requirement*. In some instances this amount may be zero but this would, in normal circumstances, be unusual.

The second variable component is the *secondary requirement.* In normal circumstances this amount would be zero as it is an amount that is imposed by ASX Clear to cover unusual levels of operational risk or where a Participant is experiencing continued losses. The *secondary requirement* may not necessarily require a calculation by the Participant (that is, a fixed dollar amount may be imposed) but must be included in the *operational risk requirement* where it is imposed by ASX Clear.

Details on the *secondary requirement* and circumstances under which a *secondary requirement* may be imposed are detailed in the guidance section to Rule S1.3.3.

Participants should always calculate the *operational risk requirement* after all other risk requirements have been determined.

(c) **Example**

A Participant has calculated the following risk requirements:

Risk Type	Risk Amount
counterparty risk requirement	1,200,000
large exposure risk requirement	100,000
position risk requirement	5,600,000

In addition, the Participant has experienced some significant operational control problems and a *secondary requirement* of $250,000 has been imposed.

Therefore, the *operational risk requirement* is:

Component	Calculation	Amount
base amount		100,000
counterparty risk component	1,200,000 @ 8%	96,000
position risk component	5,600,000 @ 8%	448,000
secondary requirement		250,000
operational risk requirement		894,000

and the *total risk requirement* is:

Risk Type	Risk Amount
operational risk requirement	894,000
counterparty risk requirement	1,200,000
large exposure risk requirement	100,000
position risk requirement	5,600,000
underwriting risk requirement	n/a
non-standard risk requirement	0
total risk requirement	7,794,000

(3) **Non-Standard Risk Requirement**

The *non-standard risk requirement* is discussed in the guidance to Rule S1.2.9.

(iv)   S1.2.4 - Approved Subordinated Debt

(A)   Rule

S1.2.4	**Approved Subordinated Debt**
(1)	A Participant entering into a subordination arrangement may only include an amount owing under such an arrangement in its Liquid Capital if:
	(a) the subordination arrangement has the prior approval of ASX Clear under Rules S1.2.4(2) and (3); and
	(b) the amount is notified to and approved by ASX Clear prior to being drawn down under the subordination arrangement and complies with Rule S1.2.4(4) where relevant.
(2)	ASX Clear will not approve a subordination arrangement unless in the opinion of ASX Clear:
	(a) subject to Rule S1.2.4(6), the amount owing to the lender under the subordination arrangement will not be repaid until all other debts which the Participant owes to any other persons are repaid in full; and
	(b) the obligation to pay any amount owing under the subordination arrangement is suspended if Rule S1.2.1(1) is no longer complied with.
(3)	ASX Clear will not approve a subordination arrangement unless the Participant has executed an Approved Subordinated Loan Deed in respect of the subordination arrangement.
(4)	[Deleted]
(5)	A Participant must comply with the terms of the Approved Subordinated Loan Deed and any associated agreement to which it, ASX Clear, and the lender are parties and must ensure the lender's compliance with these documents.
(6)	Prior to its Bankruptcy, a Participant may repay an amount owing under an approved subordination arrangement only with the prior approval of ASX Clear.
(7)	ASX Clear will not withhold its approval under Rule S1.2.4(6) if, in the opinion of ASX Clear, the Participant's Liquid Capital divided by its Total Risk Requirement is capable of continuing to be greater than 1.2 on repayment.

(B)   Guidance

(1)   General

The general principle associated with this Rule is that a Participant may only initially include an amount owing under a subordination arrangement in *liquid capital* if the arrangement is appropriately documented and that documentation is approved by ASX Clear. Subsequent to this initial approval, all advances and payments must be approved by ASX Clear before the amount can be included or removed from *liquid capital.* There are no limits on the amount of *approved subordinated debt* that can be included in *liquid capital*.

Approved subordinated debt cannot be included in *core capital.*

(2)   Establishing and Maintaining an Approved Subordinated Debt Facility

Further details on establishing and maintaining an *approved subordinated debt* facility are provided in Section 5, Approved Subordinated Debt Documentation.

(v)   S1.2.5 - Redeemable Preference Shares

(A)   Rule

S1.2.5	**Redeemable Preference Shares**
(1)	A Participant must not redeem any redeemable Preference Shares issued by it in whole or in part without the prior approval of ASX Clear.
(2)	ASX Clear will not withhold its approval under Rule S1.2.5(1) if in the opinion of ASX Clear the Participant's Liquid Capital divided by its Total Risk Requirement is capable of continuing to be greater than 1.2 on redemption.

(B)   Guidance

The general principle associated with this Rule is that a Participant must not redeem its *preference shares* without the prior approval of ASX Clear.

A Participant must provide a completed Preference Shares Redemption Approval Request form which is available on ASX Online. The amount entered in the approval request form needs to reflect the Participant's position <u>after</u> the redemption of *preference shares* and should be reflective of the Participant's most recent capital and risk figures. The Participant may provide additional comments related to the request for ASX Clear's consideration. The approval request form must be signed by one director. The signed form must be scanned and emailed to CRAteam@asx.com.au. The form should be provided within 24 hours of the expected redemption date but with sufficient time to allow ASX Clear to review the request. ASX Clear will advise the Participant in writing once the redemption request has been approved.

Redemption will only be approved by ASX Clear if it is of the opinion that the ratio of *liquid capital* to *total risk requirement* is capable of continuing to be greater than 1.2 on redemption. The principles set out in Section 5 of this Handbook on what constitutes "capable of continuing" will also apply to a redemption of *preference shares*.

(vi)   S1.2.6 - Guarantees and Indemnities

(A)   Rule

S1.2.6   Guarantees And Indemnities
(1)   A Participant may only give a guarantee or indemnity:
(a)   for the purposes of these Rules, the operating Rules of ASX or the ASX Settlement Operating Rules;
(b)   in the ordinary course of the conduct of its securities or derivatives business;
(c)   outside the ordinary course of its securities or derivatives business if a maximum liability is specified in the guarantee or indemnity at the time it is entered into; or
(d)   to settle legal proceedings that have been threatened or issued against it,
and must not give a cross guarantee.

(B)   Guidance

The general principle associated with this Rule is that a Participant may give a guarantee or indemnity for the purposes of the ASX Operating Rules, the ASX Clear Operating Rules, the ASX Settlement Rules or where that guarantee or indemnity relates to its securities or derivatives business (ie, the entity that is ~~supervised~~monitored by ASX Clear for capital purposes), with no financial impact on its *liquid capital*.

A Participant may give a guarantee or indemnity outside of its securities or derivatives business but only if a maximum liability is specified in the guarantee or indemnity at the time it is entered into. However, the full amount of such a guarantee or indemnity will be classified as an *excluded liability* and hence will be a **100% deduction** from *liquid capital*.

Cross guarantees may not be given.

While a guarantee may be provided to a Participant, the "amount" of the guarantee may not be included as *liquid capital* or as a substitute for *liquid capital*.

(1)   Example – Guarantees or Indemnities

The phrase "ordinary course of the conduct of its securities or derivatives business" should be interpreted by application of the ordinary meaning of the words and terms contained in the phrase.

Hence the "ordinary course of the conduct of its securities or derivatives business" would include, but is not limited to, the following examples of guarantees or indemnities given:

1.   to lessors for lease rental commitments on premises, computer equipment and other property, plant and equipment by the service company of the Participant where those premises and equipment are for use exclusively or predominantly by the Participant;

2.   to financial institutions for withdrawal of funds by the Participant against uncleared cheques;

3.   to the Australian Securities and Investments Commission to support the issuance of a financial services licence to the Participant;

4.   to lessors for lease rental payments on a residence for a member of staff, normally based overseas, who is temporarily located in Australia to perform their duties; and

5.   for the purposes of the Operating Rules of Chi-X Australia Pty Ltd, NSX Market Business Rules or the ASIC Market Integrity Rules (Securities Markets) 2017.

Examples of guarantees or indemnities that ASX Clear would normally view as **not** being in the ordinary course of business are:

1.   charges, guarantees or indemnities given over the financial performance of a subsidiary or **_related/associated person_** such as a separately incorporated futures broker; and

2.   charges, guarantees or indemnities given to support **_underwriting_** activities that are not booked in the Participant.

In the negative examples above, and for all charges, guarantees or indemnities given which are not in the ordinary course of business, the issue is that a Participant which is exposed to potential financial risk from an entity that is not regulated by ASX Clear may threaten the financial stability of the ASX market place. Such a risk is not considered reasonable nor in the interests of other participants of ASX Clear.

(2)   Examples – Cross Guarantees

(a)   Australian Securities and Investments Commission Corporations (Wholly-owned Companies) Instrument 2016/785

Whilst the Rule clearly states that cross guarantees may not be given by a Participant, it is worth noting an example of a cross guarantee that has, in error, been entered into by a number of Participants. On each occasion that this came to the attention of ASX Clear, the Participant was requested to immediately cancel its participation in the cross guarantee.

In summary, the Australian Securities and Investments Commission (ASIC) Corporations (Wholly-owned Companies) Instrument 2016/875 provides certain companies which are wholly owned entities with relief from the preparation and lodgment of audited financial statements.

An essential requirement for relief under this instrument is the execution of a deed of cross guarantee between the holding entity and each of the wholly owned entities receiving relief. The rationale behind this relief is that wholly owned subsidiaries are only reporting to the holding company and hence there are no external shareholders disadvantaged by the non-preparation of financial statements. The deed of cross guarantee is put in place to protect creditors, given that there are no financial statements available for them to assess the financial soundness of the entity.

As the deed of cross guarantee required under this instrument exposes a Participant to a potential financial risk from an entity that is not regulated by ASX Clear, and this risk may threaten the financial stability of the ASX market, Participants are not permitted to sign the deed of guarantee required under the ASIC Corporations (Wholly-owned Companies) Instrument 2016/785.

(b)   Consolidated Tax Groups

Under the New Business Tax System (Consolidation) Act (No. 1) 2002, a head company and its wholly owned subsidiaries can elect to become a consolidated group. Once the election is made, the head company is liable for the consolidated group's tax. If the head company were to default in paying the tax due, all companies in the consolidated group would normally be jointly and severally liable to pay the tax incurred.

Under Rule S1.2.6, a Participant is prohibited from giving cross guarantees and therefore would normally be prohibited from assuming the potential joint and several liability that arises from being part of a consolidated group under these general conditions.

However, there is a specific exclusion from the joint and several liability under subsection 721-15(2) of the Income Tax Assessment Act 1997. On 29 September 2004 the Australian Taxation Office issued Taxation Ruling TR 2004/12: "Income tax: whether the exclusion under subsection 721-15(2) of the Income Tax Assessment Act 1997 can extend to a participant in a licensed financial market or licensed clearing and settlement facility".

In summary, the impact of the Ruling is that a Participant will not be in breach of Rule S1.2.6 if it is part of a consolidated tax group.

Where a Participant is part of a consolidated tax group and while TR 2004/12 remains current:

1.   the Participant will not be in breach of Rule S1.2.6;

2.   the Participant is not prohibited from entering into a tax sharing agreement and tax funding agreement by the ASX Clear Operating Rules;

3.   the Participant must continue to ensure its financial position and returns are prepared in accordance with generally accepted accounting standards and, in particular, any standards on consolidated tax groups; and

4.   the Participant must provide the following information when applying for admission and then report any subsequent changes in the additional comments section of its capital liquidity return:

(a)   the date its group elected to become a consolidated tax group;

(b)   the date it entered into a tax sharing agreement (if applicable);

(c)   the date it entered into a tax funding agreement (if applicable); and

(d)   any other information that may be relevant in assessing the Participant's financial position as a result of it being part of a consolidated tax group.

(vii)   S1.2.7 - Records and Accounts

(A)   Rule

S1.2.7	**Records and Accounts**
(1)	A Participant must maintain records and working papers in sufficient detail to show continuous compliance with Rule S1.2.1 for seven years.
(2)	A Participant must prepare its accounts and returns in accordance with accounting standards which are generally accepted in Australia unless ASX Clear approves or prescribes otherwise.
(3)	A Participant must record a transaction in its accounts on the date on which it enters into an irrevocable commitment to carry out the transaction.

(B)   Guidance

(1)   General

The general principle associated with this Rule is that a Participant must keep its books and records in accordance with the Corporations Act, Accounting Standards and the ASX Clear Operating Rules.

(2)   Rule S1.2.7(1)

The purpose of this Rule is to ensure that a Participant can, on request, produce records in sufficient detail to support its *liquid margin* calculations for a period of seven years.

Sufficient detail will vary in nature between Participants however it is expected that the records would at a minimum:

1.   show the nature of the outstanding transactions and commitments for which the Participant was liable;

2.   disclose the financial position of the Participant at any point in time;

3.   detail and support the calculations required to quantify the *total risk requirement* and demonstrate that the Participant was complying with the Risk Based Capital Requirements; and

4.   permit the Participant to prepare an ASX Clear prescribed return using those records if so requested.

While it is not expected that a Participant keep records to enable it to produce a calculation of its *liquid capital* or *total risk requirement* at any time during the day in the seven year period, it is expected that the Participant could reproduce a calculation at the close of business on each day in that period and demonstrate compliance at all times. Refer to the section "Compliance at all Times" earlier in this section of the Handbook.

Records do not need to be kept on-site and may be archived.

This Rule essentially mirrors Section 1101C(2) of Chapter 7 of the Corporations Act 2001 which requires a financial record to be maintained for 7 years after the transactions covered by the record are completed.

Further, Section 988B states that financial records must be kept in such a way that allows annual accounts to be prepared and audited.

(3) Rule S1.2.7(2)

(a) General

The purpose of this Rule is to ensure that all Participants' accounts are prepared in a consistent manner. As a general starting point this means that those accounts should be prepared in accordance with accounting standards which are generally accepted in Australia.

In some instances, however, it may not be considered appropriate that all accounting standards are applied for the purposes of the returns lodged with ASX Clear. Where such a situation arises, specific guidance will be provided to Participants.

(b) Marking to Market Investments Held as Principal – Taxation Treatment

Any amounts arising from the marking to market of trading investments should be taken to a Participant's profit and loss account immediately and included in the Participant's overall accounting for taxation.

ASX Clear is of the opinion that the appropriate tax provision should be raised by a Participant to provide sufficient capital to cover its taxation liability at any time. If inadequate provisions are raised then a Participant's financial strength is not clearly reflected in its returns to ASX Clear and management does not have the necessary information on which to base its decisions concerning the business.

A Participant may argue that it is not appropriate to raise a taxation provision to cover unrealised gains in investment positions. However, due to the nature of the investment, i.e. a current asset that can be realised in 31 days, ASX Clear believes that it is appropriate in a prudential supervision context. A Participant would also receive the benefit of reducing its taxation provision in the ASX Clear returns when unrealised losses are also included in the calculation of its taxation provision prior to realisation of the investment.

(c) Participant's Internal Accounting Policy

A Participant shall prepare its ASX Clear returns in accordance with the requirements of Rule S1 and with the policy of ASX Clear, even though this treatment may be different to the treatment under the Participant's own internal accounting policies. Therefore, it may be necessary for a Participant to prepare two sets of accounts and a reconciliation of the differences between the two sets, where its accounting policies differ from the requirements of ASX Clear.

It is important that each Participant's accounts are prepared in a consistent manner as this is a fundamental requirementaspect of ASX Clear's prudential supervision systemRisk Based Capital Requirements. All returns lodged by Participants are confidential to ASX Clear, although ASX Clear is subject to the requirements of the law.

(4)   Rule S1.2.7(3)

The purpose of this Rule is to clarify that all transactions should be recorded on the date on which a Participant enters into an irrevocable commitment. In general, this would mean transaction/execution date and not settlement date.

(viii)   S1.2.8 - Valuations and Foreign Currencies

(A)   Rule

S1.2.8   **Valuations and Foreign Currencies**

(1)   A Participant must mark to market each of its principal positions in Financial Instruments unless Rule S1 provides otherwise:

    (a)   at least once every Business Day; and

    (b)   in the following manner:

        (i)   subject to paragraphs (ii) to (iv), a position must be valued at its closing market price:

            A.   which is the current bid price for a long position; and

            B.   which is the current offer price for a short position;

        or in the manner prescribed by ASX Clear;

        (ii)   an Option or rights position may be valued using a value derived from an option pricing model approved by ASX Clear for use in the contingent loss matrix method;

        (iii)   an Option or rights position which does not have a published market price under subparagraph (i) of this Rule or which cannot be valued using an options pricing model under subparagraph (ii) of this Rule must be valued as follows:

            A.   for a purchased Option or right, the In the Money amount multiplied by the quantity underlying the Option; and

            B.   for a written Option, the sum of the In the Money amount multiplied by the quantity underlying the Option and the initial premium received for the Option;

        (iv)   a Swap or a Forward Rate Agreement must be valued:

            A.   having regard to the net present value of the future cash flows of the contract; and

            B.   using current interest rates relevant to the periods in which the cash flows will arise;

(2)   If a Participant holds a Financial Instrument denominated in a foreign currency then it:

    (a)   must calculate a risk amount for each risk type in that foreign currency; and

    (b)   convert the risk amount in paragraph (a) to Australian dollars at the Market Spot Exchange Rate,

in all cases other than where the Participant is calculating risk amounts for the purposes of Part 3 of Annexure 3 or where Rule S1 expressly provides otherwise.

(B)   Guidance

(1)   Rule S1.2.8(1)

The purpose of this Rule is to clarify the requirement that all Participants' principal positions should be valued at market value and this should be done at least once a day. The manner in which market value is to be determined is also set out in this Rule to ensure consistency across all Participants.

Rule S1.2.8(1)(b)(i) requires *financial instruments* to be valued at the current bid or offer price or in the manner prescribed by ASX Clear. The alternative bases of valuation prescribed by ASX Clear are last price, closing price and mid-price.

Option positions must be valued using the bid/offer price, last price, closing price or mid-price (as per Rule S1.2.8(1)(b)(i)) or, if the Participant has been authorised to use the contingent loss matrix method, using the value obtained from the option pricing model which has been approved by ASX Clear (as per Rule S1.2.8(1)(b)(ii)).

An acceptable alternative, which may only be used for valuing exchange traded *option* positions, is the "fair value" as published by a reputable information source. This is deemed to be acceptable because the "closing price, last price or mid price" is accepted as the fair value of an *equity* and an *option* relies on the closing value of the *equity* to derive its price. Where the *option* has not traded for a number of days but the underlying *equity* has, then the "current" *equity* price and hence the *option*'s "fair value" based on this price is relevant for market valuation purposes. The use of this method of valuation is, however, subject to the following conditions:

1.   applies to exchange traded *option* positions only;

2.   "fair value" must be obtained from a reputable independent information source; and

3.   this "fair value" source must be used consistently across all exchange traded *option* positions at all times.

Option positions which cannot be valued using any of the above must be valued in accordance with Rule S1.2.8(1)(b)(iii).

With respect to Rule S1.2.8(1)(b)(iii)(B) in particular, if a written *option* was *in the money* at the time the contract was written, the *in the money* amount for the purposes of this Rule may be taken to be the current *in the money* amount less the *in the money* amount at the time the contract was written. This means, for example, that if a Participant sold a call *option* on day 1 that had an *in the money* amount of $2 per share and on day 2 the *in the money* amount was $2, for the purposes of this Rule, the *in the money* amount is zero. If on day 3 the *in the money* amount was $3, for the purposes of this Rule, the *in the money* amount is $1.

(2)   Rule S1.2.8(2)

Participants may have positions in, or exposures related to, *financial instruments* that are denominated in a currency other than Australian Dollars. In calculating the risk amounts required by the Rule as detailed in Annexures 1 to 4, individual risk amounts must first be calculated in the currency of denomination. Specific guidance is provided in each Annexure for the calculation of the risk amounts under each method of calculation.

Generally, risk amounts are required to be calculated in each currency or each method prior to aggregation by risk requirement category (i.e. counterparty risk amount, large exposure risk amount, equity position risk amount and so on).

It is important to note that Participants that have positions in, or exposures related to, *financial instruments* that are denominated in a currency other than Australian Dollars will generally be required to calculate a position risk amount related to the foreign exchange risk inherent in those positions. For example, a Participant that has no principal positions but has assets denominated in a foreign currency will have a *position risk requirement* (foreign exchange position risk amount) relating to those foreign denominated assets. Guidance on this is provided in the guidance sections for the relevant Annexures in this Handbook.

The risk amounts calculated and denominated in each currency must be converted to Australian Dollars at the daily *market spot exchange rate*. This rate is the "closing" rate of exchange (mid-rate) between each currency and the Australian dollar and can be sourced from either the daily financial press or from providers of foreign exchange markets information such as Reuters. It is possible that closing rates from alternate sources may differ but this is acceptable. Those organisations that subscribe to market information providers that supply 24 hour market data (ie, the foreign exchange market runs 24 hours and there is no "closing" rate) should establish a procedure whereby the rate is taken at the close of business each day at, for example, 4:00 pm.

(ix)   S1.2.9 - Unusual or Non-Standard Exposures

(A)   Rule

S1.2.9	**Unusual Or Non-Standard Exposures**
(1)	If a Participant has an exposure arising from a transaction which is not:
(a)	specifically described in Rule S1 and interpretation issued by ASX Clear in relation to Rule S1; or
(b)	is not in a form which readily fits within Rule S1,
	then it must contact ASX Clear for guidance.
(2)	The risk requirement of a Participant in relation to an exposure under Rule S1.2.9(1) is the full market value of the transaction unless ASX Clear approves otherwise.

(B)   Guidance

The purpose of this Rule is to clarify what a Participant must do where an exposure arises, or a transaction is entered into, that is not specifically covered by the Risk Based Capital Requirements. Such an exposure may arise, for example, where a Participant commences trading a product that has only recently been developed or a new area of business is commenced within the Participant (for example, commodities).

Simply stated, it is the responsibility of each Participant to contact ASX Clear for guidance if such a situation exists. As the capital charge for any transaction that is not specifically covered by the Rule is the full market value of the transaction, unless ASX Clear approves otherwise, it is clearly in the interests of the Participant to contact ASX Clear as soon as possible.

(1)   Example

Summarised below is one example of where a *non-standard risk requirement* has been approved.

(a)   Margin Lending

Whilst the majority of margin lending business in Australia is conducted in entities that are not supervised by ASX Clear, there are a small number of Participants who do transact this business.

As margin lending creates a counterparty exposure with respect to unpaid margin calls that is not specifically covered by a method within the Risk Based Capital Requirements, a *non-standard risk requirement* is necessary.

(i) Method

Accordingly, ASX Clear has determined the following to be appropriate, where a Participant has appropriate documentation in place to operate this business:

1.   The *non-standard risk requirement* is equal to 100% of the margin call that a Participant makes on a client, where that margin call has either not been paid by the client, or sufficient of the

underlying securities have not been sold by the Participant to cover the margin call. This applies from the time the margin payment was due.

Therefore, when a margin call is made, it should be included in that day's calculation of risk if it remains unsettled by the client (or underlying securities have not been sold). If the margin call is large, and has not been settled by the client, a Participant should assess the impact of it on its *liquid capital* immediately.

Where the client's actual gearing level exceeds the maximum permitted gearing level by more than 5 per cent, the full amount needed to bring the loan balance back to the maximum permitted gearing level must be taken as the *non-standard risk requirement* immediately, regardless of whether or not the Participant has made a margin call on the client.

(ii)   Example

A Participant has given a client a margin loan. The maximum permitted gearing level is 70% and the loan amount is $70,000. The market value of the client's portfolio is originally $100,000 but then falls to $93,300. The Participant has not made a margin call on the client.

The actual gearing level is 75.02% (ie, $70,000/$93,300). Since this exceeds the permitted gearing level of 70% by more than 5%, a *non-standard risk requirement* must be calculated even though the Participant has not made a margin call on the client.

The loan balance needs to be $65,310 (ie, 70% x $93,300) for the loan to be restored to the maximum permitted gearing level of 70%.

Therefore, the *non-standard risk requirement* is $4,690 (ie, $70,000 - $65,310) until the client pays that amount or sufficient of the underlying securities have been sold by the Participant to cover that amount.

(x)   S1.2.10 - Returns and Registers

(A)   Rule

S1.2.10   Returns and Registers

(1)   A Participant must ensure that it prepares returns:

    (a)   in accordance with Rule S1 and in the manner and form prescribed by ASX Clear; and

    (b)   which accurately reflect its accounts, financial position and business activities, as appropriate.

(2)   A Participant must ensure that it lodges returns prepared under Rule S1.2.10(1):

    (a)   within the times prescribed by ASX Clear;

    (b)   certified by such number of directors as prescribed by ASX Clear, as having been prepared in accordance with Rule S1; and

    (c)   containing any attestations required by ASX Clear relating to its identification of key risks and including the ability of its internal systems to monitor and manage these risks effectively.

(3)   A Participant must maintain a register of its Underwritings which records:

    (a)   the date of commencement, crystallisation and termination of each Underwriting and the parties to each Underwriting;

    (b)   the identity, number and price of the Equities or Debt Instruments the subject of each Underwriting;

    (c)   the amount underwritten by the Participant under each Underwriting; and

    (d)   any reduction in the amount underwritten under each Underwriting due to an amount being:

        (i)   sub-underwritten; or

        (ii)   received under a client placement,

    and the date that this reduction occurs.

(B)   Guidance

(1)   General

The purpose of this Rule is to clarify the obligations of Participants in relation to the returns that are required to be lodged and the registers that are required to be maintained.

Simply stated, all prescribed returns lodged with ASX Clear should be accurate, lodged on a timely basis and be authorised by the prescribed number of directors. Similarly, all registers should be accurately maintained.

(2)   Prescribed Returns

Section 4 of this Handbook contains a summary of the returns that are required to be lodged by all Participants that comply with the Risk Based Capital Requirements.

Under the Risk Based Capital Requirements, there are five prescribed return formats that require lodgment at various times or under different circumstances. The returns are available in the Return Lodgement & Monitoring (RLM) system, except for the Business Activities Return which is available on ASX Online.

1.   Adhoc Return
2.   Summary Capital Liquidity Return
3.   Capital Liquidity Return
4.   Annual Audited Return
5.   Business Activities Return

General instructions on completing these returns, return deadlines and details of late lodgement fees are provided in Section 4.

(3)   Rule S1.2.10(1)

(a)   General

The purpose of this Rule is to ensure Participants prepare all financial returns to ASX Clear on a consistent basis and that these returns accurately reflect the financial position and business activities, as appropriate, of the Participant.

In the normal course of business, Participants lodge an unaudited Capital Liquidity Return with ASX Clear on a monthly basis and a Business Activities Return on a quarterly basis.

In addition to the abovementioned returns, under Rule S1.3.1, ASX Clear has prescribed that each Participant is required to lodge an Annual Audited Return as at the end of its financial year.

(b)   The Objective of Prescribing Returns

There are clear supervisory objectives of having Participants provide ASX Clear with a regular update of their financial position and business activities and these include the following:

1.   The information provides ASX Clear with the financial data needed to determine whether or not the organisation is in compliance with the ASX Clear capital requirements. This is important for several reasons, not least of which is to protect ASX Clear and the ASX market more generally.

2.   The success with which ASX Clear can compete in domestic and international markets is correlated to its ability to ensure the integrity of its market. Maintaining a profile of the financial strength of participants allows it to monitor and assess a Participant's ability to remain as a going concern, thereby protecting the integrity of the market and the reputation of ASX Clear as a supervisor.

3.   The information also facilitates the identification of trends in the industry, whether it be in a specific sector or across the industry. This is important as it provides valuable input into the assessment of systemic risk.

4.	The information provides ASX Clear with the business activity information needed to determine a Participant's minimum *core capital* requirement.

The data collected is used to determine areas of weakness that could potentially have a detrimental impact on an individual Participant, or the market generally. ASX Clear must therefore have confidence in the accuracy of that data. There are two key supervisory considerations that drive this. Firstly, ASX Clear needs to have confidence that the Participant's monitoring of its *liquid capital* requirement is adequate and may be relied upon at all times. Secondly, the validity of decisions and conclusions reached based on this information is compromised where the information ASX Clear receives does not present a true and fair assessment of the financial position of Participants.

For example, an analysis of the data could result in the conclusion that selected Participants need to be monitored closely over a specified period, or that additional reporting is required from them, but that overall, the industry is healthy. However, if the information for one of the "watch closely" Participants was incorrect, and had ASX Clear's analysis included the correct financial position, which for the purpose of this illustration is far worse than reported, an alternate decision might have been, in the extreme case, to suspend the organisation.

In addition, the ~~Exposure~~Clearing Risk ~~Management~~Oversight unit assesses a Participant's risk based on the ratio of its *liquid capital* to the assessed risk on its *derivatives* and cash market positions. Therefore, the accuracy of the *liquid capital* figures is of prime importance in ASX Clear's management of risk. Inaccurate *liquid capital* figures could result in an inaccurate assessment of ASX Clear's exposure and as such, ASX Clear could be at risk.

Accordingly, it is fundamental that the information relied upon to achieve the above objectives presents a true and fair view of the state of affairs of the Participant.

ASX Clear recognises that it is important, however, to adopt policies that reflect commercial realities. The policies must be balanced between mandating the reporting of information that provides an accurate assessment of the state of affairs of the Participant, and accepting that differences will arise given the type and nature of the reporting requirements. The challenge is to recognise that the information reported, to some degree, is generated manually or from detached systems applications and given the relatively short reporting deadlines, an element of estimation will be necessary. It then becomes a question of tolerance: those cases that do not compromise the objectives, and those that do. However, it is also important to recognise that one of the obligations that comes with gaining access to the market as a Participant is mandatory oversight and a reporting framework that adopts a "near enough is good enough" benchmark compromises the integrity of the whole system.

### (c)	Policy on Inaccurate Returns

Participants are encouraged to approach ASX Clear as soon as possible if they have identified that the information contained within a lodged return does not present a true and fair view of the financial state or business activities of the organisation.

There will generally be three distinct levels of regulatory response to an inaccurate return depending on the degree of seriousness of the inaccuracy and on potential consequences of the inaccurate reporting:

1.	**No escalation**. There may be verbal or email advice to the Participant to highlight the regulatory objectives of accurate reporting and to point out areas for improvement.

2. An **inaccurate return letter** may be sent to the Participant from ASX Counterparty Risk Assessment pointing out the regulatory objectives of accurate reporting and the possibility of further disciplinary action or referral to ASX Participants Compliance.

3. **Referral to ASX Participants Compliance** for possible disciplinary action which may include a ~~management~~warning letter being sent to the Participant, a referral to ASX Enforcement or a referral to ASIC.

It is not possible to prescribe a precise definition of "accurate" and some discretion must be applied, on a case by case basis, in determining which of the above regulatory responses is appropriate.

(d) Factors Considered When Assessing if a Return is Inaccurate

The following factors and issues need to be assessed when determining which of the above responses is appropriate:

1. the intentional misreporting of information to present a false or misleading statement of the financial position or business activities of the Participant will automatically lead to a referral to ASX Participants Compliance for potential disciplinary action;

2. if the error or adjustment was reported by the Participant (i.e. it was not discovered by ASX Clear in a subsequent review), it is a mitigating circumstance that demonstrates that the Participant's internal controls and other checks and balances are effective and that the Participant has an open working relationship with ASX Clear;

3. if the error or adjustment is in respect to a past reporting period, it may be more serious than if it was in relation to the current reporting period. The rationale for this is that the length of time it takes for an error to be detected could indicate a more serious breakdown in control. However, this is not to say that current issues are necessarily less important. Generally, it should not be expected that errors surface from past financial years;

4. if the error or adjustment or the circumstances giving rise to the error or adjustment is the first instance of such an error, adjustment, or circumstance, it is likely to be less serious than if that same error, adjustment or circumstance has occurred in the recent past (within the last 6 months for Capital Liquidity Returns), and it does not matter that ASX Clear may not have raised a concern with the Participant in relation to the previous occurrences;

5. if the error or adjustment is the first instance of that type of error or adjustment, notwithstanding paragraph 4, it may be considered more serious if the Participant has had several one-off errors or adjustments in the returns over the past 6 Capital Liquidity Returns. This could indicate that the Participant has internal difficulties in producing and checking the returns;

6. with respect to paragraphs 4 and 5, it is not necessary for the Participant to have been "warned" about a past error or adjustment (i.e. a "no escalation" response) for those past errors or adjustments to be used to elevate the regulatory response with respect to a current matter;

7. if the Participant had no control over the cause of the adjustment, it is less serious than if the Participant should have had control, or been aware of the circumstances surrounding the adjustment. This is particularly relevant when assessing the impact of adjustments to provisions

or accruals. It is important to assess whether the Participant has failed to make reasonable accruals throughout the year and/or prior to lodging a return with ASX Clear;

8. if the error or adjustment is in respect to matters that have previously been the subject of disciplinary proceedings or the subject of previous inaccurate return letters or management letters, it will be treated more seriously;

9. if the error or adjustment does not impact on the Participant's *liquid margin* (i.e. it has neither a negative nor positive effect on the value of *liquid margin*), it is likely to be less serious than if it does. In addition, recognition may be given to the instance where the error or adjustment results in an improvement in the capital position of the Participant rather than a worsening of its position; and

10. the size of the adjustment relative to the Participant's *liquid margin* and relative to the relevant balance sheet or profit and loss category is also a relevant consideration. The greater the impact, the more serious the response is likely to be.

(4)   Rule S1.2.10(2)

The purpose of this Rule is to ensure all Participants lodge the prescribed returns on time and that these returns are appropriately authorised by the number of directors prescribed by ASX Clear. Details of return lodgement times and authorisation requirements are set out in Section 4 of this Handbook.

(5)   Rule S1.2.10(3)

The purpose of this Rule is to ensure each Participant records all of its *underwriting* commitments.

This is necessary to ensure a Participant can measure its contingent liabilities (arising from its *underwriting* commitments) at all times. The maintenance of such a register may also be useful in determining a Participant's potential exposure in the event of a market downturn occurring during the offer period of the *underwriting*.

The requirement to maintain the *underwriting* register is independent of the *underwriting risk requirement* which, as noted earlier, has not been implemented at this time.

Participants are not required to lodge their *underwriting* register with ASX Clear but are required to make it available if requested.

(xi)   S1.2.11 – Core Capital – Further Requirements

(A)   Rule

S1.2.11   Core Capital – Further Requirements [Deleted]

(xii)   S1.2.12 - Core Capital – Further Requirements Upper Limit

(A)   Rule

S1.2.12   **Core Capital – Further Requirements Upper Limit [Deleted]**

(b)   Rule S1.3 Powers of ASX Clear

(i)   S1.3.1 - Returns, Annexure 5 and Other Matters

(A)   Rule

S1.3.1	**Returns, Annexure 5 and Other Matters**
(1)	ASX Clear may prescribe the number and form of returns to be lodged by a Participant including, but not limited to, self assessment forms.
(2)	ASX Clear may prescribe the time for lodgement of returns and other documents under Rule S1.3.1(1) and the manner of their completion.
(3)	ASX Clear may prescribe new or amended details in respect of the Tables in Annexure 5 and a Participant must apply these new or amended details when using these Tables.
(4)	ASX Clear may prescribe the various other matters described in Rule S1 provided that it does so in writing, whether by circular to Participants or otherwise.

(B)   Guidance

The purpose of this Rule is to clarify the method by which ASX Clear may administer the returns, Annexure 5 and other matters. Refer to Section 4 of this Handbook for a discussion on the returns required to be lodged.

(ii)   S1.3.2 - Requests by ASX Clear

(A)   Rule

S1.3.2	**Requests by ASX Clear**
(1)	ASX Clear may request any information, document or explanation from a Participant to enable ASX Clear to be satisfied that the Participant is, has been and will continue to comply with Rule S1.
(2)	A Participant receiving a request under Rule S1.3.2(1) must respond by providing the information, document or explanation within the time specified by ASX Clear.

(B)   Guidance

The purpose of this Rule is to enable ASX Clear to obtain further information should it require to be satisfied that a Participant is in compliance with the Risk Based Capital Requirements.

A Participant must respond to such information requests by the given deadline.

(iii)   S1.3.3 - Secondary Requirement

(A)   Rule

S1.3.3   Secondary Requirement ASX Clear may impose a Secondary Requirement on a Participant to cover unusual levels of operational risk provided that ASX Clear notifies the Participant in writing of: (a)   the additional amount; and (b)   the time by which the additional amount must be obtained by the Participant.

(B)   Guidance

The purpose of this Rule is to enable ASX Clear to require an additional capital amount where it is evident that the risks a Participant is exposed to are not adequately measured by the **total risk requirement**. These additional risks could come from any area but are more likely to arise out of operational issues or doubt over the ongoing financial stability of the Participant as measured by, for example, continuing losses.

The existence of the **secondary requirement** reflects the fact that the ability to calculate a capital liquidity charge under the Risk Based Capital Requirements is only one part of a Participant's ability to continue to operate effectively. Equally important is the ability of a Participant to demonstrate it has the appropriate internal systems and controls, management and liquidity management to participate in the market place.

The circumstances that lead ASX Clear to impose a **secondary requirement** may not easily identify the amount and, therefore, any **secondary requirement** imposed by ASX Clear and the length of time that it is required to be maintained may be subjective in nature. However, the decision to impose a **secondary requirement**, and the amount of that **secondary requirement**, will be made following internal review of the associated issues by ASX Counterparty Risk Assessment staff who may be assisted by external consultants such as the Participant's external auditors.

(1)   Matters to be considered by ASX Clear

Listed below are examples of some of the matters that may be considered in determining whether a **secondary requirement** is necessary. Many of the issues relate to the organisation's internal systems, controls, policies and procedures.

(a)   Internal Systems and Controls

A Participant may be required to demonstrate that, given the diversity of its business activities, the volume, size and frequency of transactions and the degree of risk arising there from, it has established and maintained effective systems and methods of internal control.

In considering this, the following factors may be taken into account:

1.   the existence and effectiveness of standard operating procedures approved by management and adhered to by staff setting out the way in which activities are performed;

2.   the existence of standard operating procedures approved by management and adhered to by staff setting out who may and to what the Participant may be committed;

3.   the methods for recording and processing transactions and the production of management information;

4.   how frequently these operating procedures are reviewed to ensure that they continue to address the activities of the Participant;

5.   the existence of risk management systems which, based on the nature, size and complexity of the business, measure the risks incurred in all their activities including market, credit, operational and legal risks and include control mechanisms to alert management where risks become unacceptably high;

6.   staff are sufficient in number, have appropriate experience, skill levels and specialised knowledge to manage the risks of processing, reporting and controlling the business undertaken;

7.   the existence of management information which allows management to determine whether the Participant is meeting its strategic plans, budget, forecasts, etc.;

8.   the degree of centralisation of control procedures and systems;

9.   the Participant's commitment to staff training;

10.   where appropriate, the effective use of an internal audit function;

11.   an independent review procedure to assess the risks arising from new and ongoing business activities;

12.   the frequency of external verification of data held relating to, for example prices, debtors, creditors, balances with depositories and clearing houses;

13.   the existence of documented systems specifications;

14.   the existence of adequate back-up facilities and disaster recovery plans;

15.   the availability of maintenance and programming expertise;

16.   the age, degree of automation and integration of a Participant's systems and the ability of a Participant's systems to process additional data; and

17.   the existence of insurance cover appropriate to the Participant's activities.

(b)   Management

A Participant may be required to demonstrate that, given the nature and size of the business, effective management control is exercised.

In considering this the following factors may be taken into account:

1.   the level of product awareness and managerial experience of senior management;

2.   the number and location of senior managers in the context of the type and size of Participant;

3.   where appropriate, the independence of senior management, including the possible existence of an internal audit function;

4.   the extent to which senior management monitors and controls the day to day activities of the Participant including, for example, the setting and monitoring of limits governing credit and market exposures;

5.   the integrity and attitude towards regulation of senior management; and

6.   the existence of a clearly defined business strategy laid down by the Participant's senior management and the extent to which this has been communicated to the appropriate staff, including, for example, consideration of products, markets, client base, staffing and systems.

(c)   Liquidity Management

A Participant may be required to demonstrate that it has procedures to manage its current and future cash flows and capital requirements and has planned routes to obtain additional capital liquidity at short notice if required.

In considering this the following factors may be taken into account:

1.   the frequency and detail with which cash flow forecasting is performed;

2.   the ability to monitor the mismatch of cash flows, in particular the effect of individual transactions on a Participant's liquidity;

3.   the availability of banking facilities;

4.   the existence of excess capital in group companies and/or the financial standing of a Participant's parent company, substantial shareholder or similar entity/person; and

5.   the Participant's gearing ratio.

(d)   Unusual or Continuing Losses

Where a Participant experiences an unusual loss in a month or a series of losses over a period of months it may be required to detail the remedial action it intends to take or has taken to address these losses and the consequential reduction of capital.

In considering the losses and remedial action, the following factors may be taken into account:

1.   the cause of the loss;

2.   the likelihood of the loss recurring;

3.   the size of the loss relative to *liquid margin*;

4.   the action plan prepared to prevent such losses recurring and its effectiveness; and

5.   the state of the overall market and the trend of the individual Participant's share of that market.

(2)   Implications if unable to meet the Secondary Requirement

If a Participant is unable to satisfy the *secondary requirement* imposed by ASX Clear, the Participant would be in breach of the Risk Based Capital Requirements. This breach may result in disciplinary action which, depending on the circumstances, may result in a referral to ASX Enforcement and/or ASIC for appropriate consideration or, if necessary, consideration of suspension under ASX Clear Operating Rule 15.2.1.

Where a *secondary requirement* is imposed, it is expected that a Participant would continue to maintain its ratio of *liquid capital* divided by its *total risk requirement* above 1.2.

(c)   Rule S1.4 Transitional Arrangements

(i)   S1.4.1 - General

(A)   Rule

S1.4.1   General

(1)   ASX Clear may publish transitional procedures for amendments to Rule S1 that involve systems or operational changes for Participants.

(2)   ASX Clear may give Participants a transition period, of up to 6 months, to comply with those amendments referred to in Rule S1.4.1(1) from the date the amended Rule comes into effect.

(3)   During the transition period under Rule S1.4.1(2) a Participant will be deemed to comply with the amended Rule, if it has complied with the transitional procedures published by ASX Clear in relation to the amended Rule.

(4)   If a Participant fails to comply with the transitional procedures during the transition period which apply to an amended Rule, it will be in breach of this Rule S1.4.1 and the amended Rule.

(5)   After the transition period under Rule S1.4.1(2) expires a Participant must comply with the amended Rule.

(B)   Guidance

(1)   General

The purpose of this Rule is to facilitate transitional procedures in the event of ASX Clear implementing amendments to the Risk Based Capital Requirements which require Participants to make systems or operational changes. As discussed in Section 1 of this Handbook, ASX Clear will update the Risk Based Capital Requirements from time to time in response to future developments in the markets and changes in the markets that Participants become involved in. ASX Clear acknowledges that where the Risk Based Capital Requirements amendments require systems or operational changes, a certain amount of time is necessary for these changes to be made.

Therefore, ASX Clear will, where appropriate, allow a transition period for Participants to make the necessary changes in order to comply with the amended Rule. The transition period allowed will vary depending on the nature of the amendments and will be advised through publication of the transition procedures for those particular Rule amendments. The transition period will commence from the date the amended Rule comes into effect and will be for a maximum period of 6 months.

During the transition period Participants must either comply with the amended Rule or comply with the published transition procedures. At the end of the transition period all Participants must be in compliance with the amended Rule.

SECTION 3C – RULE S1 ANNEXURE 1 COUNTERPARTY RISK REQUIREMENT

(a)   Clause 1 – Counterparty Risk Requirement

(i)   Rule

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1   COUNTERPARTY RISK REQUIREMENT

1.1   Nature of counterparty risk amount

For each type of counterparty risk that gives rise to a Positive Credit Exposure, a counterparty risk amount:

(a)   must be calculated in accordance with the methods set out in this Annexure 1; and

(b)   may be reduced by a counterparty risk weighting in accordance with clause 8 of this Annexure 1.

1.2   Overview

There are separate methods for measuring counterparty risk amounts for each of the following transaction types:

Transaction Type			
Non Margined Financial Instrument	Free Delivery		Securities Lending and Borrowing
Margined Financial Instrument	OTC Derivative or a Warrant held as principal	Sub-Underwritten Position	

(ii)   Formula

$$CRR = \max\left[0\,,\left(\sum\left|cra_{method}\right| - P\right)\right]$$

Where:

cra_{method} = counterparty risk amount as calculated for each method of Annexure 1
P   = provision for doubtful debts

(iii)   Guidance

(A)   General

(1)   Principle

The general principle associated with the calculation of the **counterparty risk requirement** is to ensure the Participant has a level of capital against the default of a client or **counterparty** where that client or **counterparty** owes the Participant money. That is, in general, capital is required where, if the client or **counterparty** were to default on their obligations, the Participant would incur a financial loss (that is, a **positive credit exposure** exists). This principle applies to all markets the Participant transacts business in, not only the ASX markets.

In addition, the method for calculating the counterparty risk amount for non-margined *financial instruments* (clause 2) is also intended to act as a "hand brake" on the amount of business that can be written by a Participant and therefore, notwithstanding the above paragraph, in some cases the capital required to be held against a client position may seem excessive relative to the underlying risk.

(2)　　Definition of Counterparty Risk

Counterparty risk, for the purposes of the Risk Based Capital Requirements, is the risk of financial loss arising from the failure of a client or *counterparty* to a financial contract or transaction to honor its payment/settlement obligations under that contract. Counterparty risk is often split into three distinct types:

(a)　　Credit Risk

Credit risk is the risk of financial loss due to an issuer or borrower defaulting and failing to honor its obligations under the contract to pay interest and to repay principal. The value of the loss would be the full value of the amount lent plus any interest due.

Included under this definition would be situations where a Participant extends credit to a client who defaults on the repayment of the amount lent.

(b)　　Counterparty Risk

Counterparty risk is the risk of financial loss from having to replace a contract in the market prior to settlement, at a loss, as a result of the *counterparty* failing. The value of the loss would be the positive mark to market of the transaction. That is, the difference between the contract rate or price and the current market rate or price.

(c)　　Settlement Risk

Settlement risk is the risk of financial loss from a *counterparty* failing to complete the settlement process or due to differences in the quality of assets being exchanged.

(3)　　Client or Counterparty Explained

(a)　　Non Related/Associated Persons

The term *counterparty* refers to a party to a transaction that the Participant is also a party to, whether that other party is a *counterparty* or a client. A *counterparty* may be a client, another participant of ASX and/or ASX Clear (e.g. as a result of a third party clearing arrangement or referral arrangement), some other party or another participant of ASX and/or ASX Clear that is a client for the purposes of a particular transaction (e.g. as a result of an agency trade transacted on behalf of another participant of ASX and/or ASX Clear trading as principal or as a market maker).

Generally speaking, the term client or *counterparty* refers to a legal entity, individual, trust etc. that a Participant deals with and should be identified at a contractual level.

For example, where one customer is dealing through say a private company, a trust, a private super fund and as an individual, notwithstanding that a Participant may treat them all as one customer from a relationship perspective, each "body" should be considered as a separate client or *counterparty* for the

purposes of the Risk Based Capital Requirements. The reason for this is that as the Participant is likely to only have a legal right of action against each **counterparty** individually, the **counterparty risk requirement** should reflect this.

(b)   Related/Associated Persons

For the purposes of calculating a **counterparty risk requirement,** clients or **counterparties** also include **related/associated persons** where the transaction has been entered into on an arm's length basis. This is specifically recognised in the defined term **related/associated person balance**. The comments noted in (1) above apply equally to **related/associated persons** with "one" exception as noted below.

Whilst arm's length transactions in **financial instruments** with **related/associated persons** are treated as if they were executed with a non **related/associated person,** this "concessionary" treatment does not extend to any <u>sundry</u> amounts arising from these same transactions. Accordingly any sundry amounts owing on these transactions should be treated as **excluded assets**. Brokerage owing on securities transactions are not treated as **excluded assets** as this is included in the **client balance** in calculating a counterparty risk amount.

For example, in a **securities lending and borrowing** transaction any interest or other fee amounts due from the **related/associated person** should be treated as **excluded assets**.

(c)   Fund Managers

This section seeks to provide guidance on who a Participant's **counterparty** is, for the purposes of determining a **client balance**, when dealing with a fund manager.

A fund manager for the purpose of this capital guidance includes any licensed responsible entity, agent of a responsible entity, trustee or manager whose ordinary business it is to buy or sell **financial instrument**s and make investment decisions on behalf of an independent third party.

While a fund manager and a Participant have a dealing relationship, from a credit risk perspective, the Participant's **counterparty** is unlikely to be the fund manager.

Where a fund manager is placing an order, it is generally on behalf of another person/body, such as a super fund, and it would be the super fund that the trade is ultimately booked to and in whose name the stock would be registered.

Accordingly, if the fund manager is:

1.   acting within its mandate, then the super fund will be liable to complete the transaction with the Participant notwithstanding the order was placed by the fund manager. (In practice, it is considered unlikely that, in this case, an order placed by a fund manager on behalf of its underlying client would not settle).

2.   acting outside of its mandate, and the trade is disputed between the fund manager and its underlying client then it is likely the fund manager would be liable to complete the transaction with the Participant. (While in this instance it is technically more likely that an order placed in these circumstances may not settle, in practice, the chance of this occurring is not considered high).

ASX Clear acknowledges that it is difficult, in practice, for a Participant to determine whether a fund manager is acting within or outside its mandate on a trade-by-trade basis and the answer to the question of who is the Participant's **counterparty**, it is the entity that is contractually obliged to perform in the event of a settlement failure.

For the purposes of the Risk Based Capital Requirements, if the Participant is dealing with a fund manager, the Participant's **counterparty** should be determined as follows:

1. If the Participant is immediately provided with the underlying client details by the fund manager, or if the Participant has a standing instruction for the underlying client details to be provided, then the Participant must treat the underlying client as the **counterparty**.

2. If the Participant books trades directly to the fund manager or its nominee company and the fund manager does not provide details of the underlying client, then the Participant is entitled to treat the fund manager as the **counterparty**.

Guidance on how to apply counterparty risk weightings for dealings with fund managers is provided in the guidance for Annexure 1, clause 8.

(4)   Timing of Counterparty Risk Requirements

To assist all Participants to calculate the **counterparty risk requirement** in a consistent manner, the following calendar has been included in the guidance section for each method, where relevant.

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S	M	T	W	T	F	S
		T_0 1	T_{+1} 2	T_{+2} 3	T_{+3} 4	5
6	T_{+4} 7	T_{+5} 8	T_{+6} 9	T_{+7} 10	T_{+8} 11	12
13	T_{+9} 14	T_{+10} 15	T_{+11} 16	T_{+12} 17	T_{+13} 18	19
20	T_{+14} 21	T_{+15} 22	T_{+16} 23	T_{+17} 24	T_{+18} 25	26
27	T_{+19} 28	T_{+20} 29	T_{+21} 30			

Note: Participants should note that the methods within the **counterparty risk requirement** refer to Business Days, not calendar days.

A Business Day is defined in the ASX Clear Operating Rules as follows:

"**Business Day**" means a day other than:

(a) a Saturday, Sunday, New Year's Day, Good Friday, Easter Monday, Christmas Day, Boxing Day; and

(b) any other day which ASX Clear notifies Participants is not a Business Day.

(5)   Third Party Clearing and Referral Arrangements

The capital requirements for an ASX Clear Participant that is a Trading Participant (TP) and that uses the services of a third party clearer will be dependent on the terms of the third party clearing agreement and the *financial instruments* that are cleared by that clearer.

Similarly, the capital requirements for an ASX Clear Participant that refers trades (RP) to another participant of ASX and/or ASX Clear will be dependent on the terms of the referral agreement and the *financial instruments* that are traded and cleared by the trader and clearer.

Accordingly, when a TP or RP is considering entering into a third party clearing or referral arrangement, it should contact ASX Counterparty Risk Assessment for specific guidance on the capital requirements that will apply. In general, however, the following guidance is applicable.

It should be clarified that, in the context of the guidance and diagrams provided in this section:

a) **TP refers to the specific case of an ASX Clear Participant that has entered, as a Trading Participant, into a third party clearing arrangement with another Clearing Participant, such that the other Clearing Participant will clear trades in certain *financial instruments* executed by TP;**

b) **RP refers to the specific case of an ASX Clear Participant that refers trade in certain *financial instruments* to another participant of ASX and/or ASX Clear for execution and clearing; and**

c) **CP refers to the specific case of a Clearing Participant that the TP/RP has entered into a third party clearing or referral arrangement with for certain *financial instruments*.**

(a)   Client Agency Trades

The requirement for the TP or RP to calculate a *counterparty risk requirement*, and the timing of this, will be dependent on the terms of the third party clearing agreement or referral agreement. It is possible that the TP or RP may not be required to calculate a counterparty risk amount in respect of client agency trades or, where a counterparty risk amount is required to be calculated, the timing of this may be delayed.

(b)   Principal Trades

Where the TP or RP undertakes a trade as principal (note that "as principal" includes TP error trades) which is cleared by its clearer, the TP or RP will have to calculate counterparty risk amounts on such trades, in addition to position risk amounts. This differs from the situation where a principal trade is undertaken by a Participant that both executes and clears that trade. The reason for the counterparty risk amount in the case where a clearer is used is that the TP or RP is exposed to the risk of the clearer defaulting on its obligations to settle with the TP or RP. The TP's or RP's *counterparty* is the clearer and not ASX Clear Pty Limited (ASX Clear). (Note that a Participant that does not use a third party clearer would not be required to calculate a counterparty risk amount for exposures to ASX Clear and this is explained later in Section 3.)

Therefore, the TP or RP must calculate a counterparty risk amount on the clearer for its principal securities trades under the non-margined financial instruments method (Annexure 1, clause 2). This means that the TP or RP will have to calculate a "*client balance*" for all of its principal trades. The counterparty risk amount will apply from T_0 until the clearer has settled. A 20 per cent counterparty risk weighting may be applied by the TP or RP (if it chooses) since the clearer is an ASX Clear Participant.

If the TP or RP undertakes principal trades in exchange traded **derivative**s that are cleared by its third party clearer, the TP or RP must calculate a counterparty risk amount on the clearer under the margined financial instruments method (Annexure 1, clause 5). The counterparty risk amount will equal the amount owed to the TP or RP from the clearer and will apply from close of business on the day the payment is due until the clearer has paid. A 20 per cent counterparty risk weighting may be applied by the TP or RP (if it chooses) since the clearer is an ASX Clear Participant.

The clearer must treat the TP or RP as it would treat any other client and calculate a counterparty risk amount on the TP or RP. A 20 per cent counterparty risk weighting may be applied by the clearer (if it chooses) since the TP or RP is an ASX Market Participant.

(c)   Security Deposits

As stated in the guidance for Rule S1.2.1, the TP or RP will generally need to treat any deposit it lodges with the clearer as an **excluded asset**, unless approved otherwise by ASX Clear.

(d)   Brokerage

The TP or RP is entitled to accrue any amounts (brokerage, fees, etc.) owing from the clearer on a daily basis (adjusted for any client defaults if applicable) for the purposes of the Risk Based Capital Requirements if it so chooses or alternatively may accrue the fee on a monthly basis. Amounts due from the clearer may be treated by the TP or RP as a sundry debtor and hence do not require the calculation of a counterparty risk amount.

(e)   Third Party Clearing and Referral Arrangements Illustrated

(i)   Clearer has a direct relationship with clients

The following diagram illustrates a typical third party clearing or referral arrangement where the Clearing Participant (CP) has a direct relationship with the TP's/RP's clients. Payments/deliveries may be owed to a Participant from:

(i)   CPs if the Participant is a TP that uses a third party clearer for its principal trades or if the Participant undertakes referral business;

(ii)   TPs/RPs if the Participant is a CP and clears the TP's/RP's principal trades;

(iii)   if the Participant is a CP, "normal agency clients" that have traded through a TP but settle directly with the CP.

The dark lines represent payments/deliveries where a counterparty risk amount is required while dotted lines represent payments/deliveries where a counterparty risk amount is not required and the numbers correspond to the circumstances described in (i) to (iii) above.
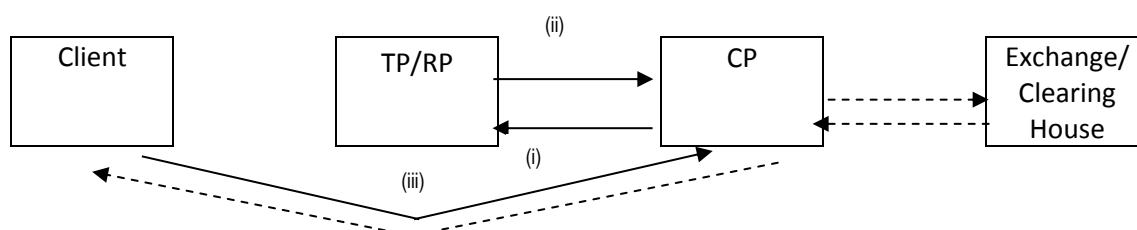
(ii) Clearer has no direct relationship with clients

The following diagram illustrates a typical third party clearing or referral arrangement where the clearer has no direct relationship with the TP's/RP's clients. Payments/deliveries may be owed to a Participant from:

(i)   CPs if the Participant is a TP that uses a third party clearer for its agency and principal trades or if the Participant undertakes referral business;

(ii)   TPs (or a Participant that undertakes referral business) if the Participant is a CP and clears the other participant's agency and principal trades;

(iii)   if the Participant is a TP or undertakes referral business, "normal agency clients" that have traded through the TP or referral participant and settle directly with that Participant.

The dark lines represent payments/deliveries where a counterparty risk amount is required while dotted lines represent payments/deliveries where a counterparty risk amount is not required and the numbers correspond to the circumstances described in (i) to (iii) above.
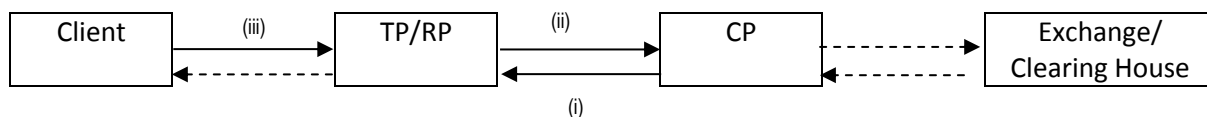
(B) Method

(1) General

This Rule requires that for each of the transaction types outlined and where a **positive credit exposure**[17] exists for a client or **counterparty**, a counterparty risk amount must be calculated. The sum of the counterparty risk amounts for each of the transaction types, less any provision for doubtful debts (general and specific provisions), equals the **counterparty risk requirement**. Calculation of each counterparty risk amount for each of the transaction types is detailed in the sections that follow.

(2) Counterparty Risk Amounts

In general, a four step sequential process can be followed in calculating the counterparty risk amount for an individual client or **counterparty**:

Step 1
Calculate the exposure to a particular **counterparty**.

Step 2
At the option of the Participant, adjust the exposure to a **counterparty** by the value of cash or scrip (including participant sponsored CHESS holdings) under the direct control of the Participant, or by the market value of collateral, as allowed under each method and as set out in each section that follows (refer to the "Reducing the Counterparty Risk Amounts" section below).

Step 3
Calculate the counterparty risk amount by applying the prescribed risk factors.

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[17] Note: a **positive credit exposure** is deemed to exist at all times and regardless of whether the client or **counterparty** is a net buyer or seller with respect to the non-margined financial instruments method (clause 2) for transactions up to T_{+10}. This is because the Participant can always suffer a financial loss on a client or **counterparty** default regardless of whether the client is buying or selling.

Step 4

At the option of the Participant, adjust the counterparty risk amount by applying the prescribed counterparty risk weightings as described in the "Reducing the Counterparty Risk Amounts" section below.

(**Note** : The above steps would be followed for each currency in which the Participant has counterparty balances. Resulting counterparty risk amounts should be converted to Australian Dollars in accordance with Rule S1.2.8(2).)

The above steps are not mandatory. An alternate procedure can be followed as long as the same results are achieved.

It is important to note that the calculation of a counterparty risk amount in relation to agency securities trades (i.e. non-margined financial instruments method - refer to clause 2) is based on **client balance** which is the net of client/**counterparty** securities purchases and sales. A **positive credit exposure** exists on a **client balance** regardless of that balance being positive (i.e. the client/**counterparty** has net purchased securities) or negative (i.e. the client/**counterparty** has net sold securities). Even though a net sold **client balance** implies the Participant owes money to the client/**counterparty**, there is still a **positive credit exposure** arising from the obligation of the client/**counterparty** to deliver the securities that have been sold.

The calculation of a counterparty risk amount in relation to all other transaction types is based on a unique calculation method for each type and is only required to be calculated where those transactions generate a **positive credit exposure** to the Participant.

(3) Provision for Doubtful Debts

As noted above, the provision for doubtful debts may be deducted from the sum of the counterparty risk amounts. To do this, however, the provision must relate to a specific counterparty receivable for which a counterparty risk amount has been calculated under one of the methods in Annexure 1 or the provision must have been raised to cover the possibility of a **counterparty** or **client balance** becoming doubtful. If the provision for doubtful debts exceeds the sum of the counterparty risk amounts, the **counterparty risk requirement** can only be reduced to zero, i.e. the **counterparty risk requirement** can never be less than zero.

It is not permissible to deduct a provision amount from an individual counterparty risk amount (i.e. the counterparty risk amount for each method should be calculated and reported in the capital return before the provision for doubtful debts amount is deducted).

(C) Reducing the Counterparty Risk Amounts

In general, there are several alternatives that a Participant can, **at its option**, implement to reduce the counterparty risk amounts:

1. client settlement upon execution;

2. application of ASX Clear Operating Rule 7.2;

3. collateralisation; and

4. counterparty risk weighting.

It is important to note that while the application of ASX Clear Operating Rule 7.2, collateralisation and counterparty risk weightings increases the complexity of the calculation of the ***counterparty risk requirement***, a Participant is under no obligation to apply any of these provisions and accordingly the methods of Annexure 1 remain relatively simple.

Each of these alternatives is explained, where relevant, within the guidance for each available method.

(D)   Netting

Some netting of a Participant's exposures to an individual ***counterparty*** is permitted <u>within</u> a particular method of Annexure 1. A Participant is, however, currently not permitted to net its exposures to an individual ***counterparty*** <u>across</u> the different methods in Annexure 1.   This is explained in the table below.

Client	CRR Method			Exposure
ABC	**Non-Margined Financial Instruments Method**			Equity, Debt, other $\leq$ 10 business days: **client balance** is a net figure. > 10 business days: Netting is **not** permitted.
	Free Delivery Method			Equity, Debt, other Netting **not** permitted
	Securities Lending and Borrowing Method	Netting not permitted across methods under the Risk Based Capital Requirements		Equity, Debt, other Netting not permitted within the method or across **financial instrument** types unless supported by a written legal agreement
	Margined Financial Instruments Method			Counterparty Exposure Netting not permitted within the method or across exchange/clearing house exposures[18] unless supported by a written legal agreement
	OTC Derivatives and Warrants Executed as Principal Method			OTC options, Swaps, other Netting not permitted within the method or across **financial instrument** types unless supported by a written legal agreement
	Sub-Underwritten Method			Equity, Debt, other Netting – Not Applicable

(E)   Switching Between Annexure 1 Methods

It is possible for a transaction that may have initially been covered by one Annexure 1 method to subsequently be required to be included in another method. For example, if the securities associated with a client purchase are subsequently transferred to the client without the client first paying for those securities, the transaction becomes a *free delivery* transaction. That is, prior to settlement with the market, the Participant would initially calculate a counterparty risk amount based on the non-margined financial instruments method in clause 2. Once the Participant transfers the underlying securities to the client, it becomes a *free delivery* transaction and a counterparty risk amount for that transaction must be calculated in accordance with the free delivery method as set out in clause 3.

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[18] Within the margined financial instruments method, the term "Counterparty Exposure" refers to the amounts owed to a Participant from clients or other participants in the market in respect of trades in margined *financial instrument*s such as *future*s and exchange traded *options*.
For example, if a client owed a Participant $100 for a margin call due to ASX Clear (Futures) and the Participant owed the same client $100 for a profit on an *option*s position that it had with ASX Clear, the two amounts could not be netted unless there is a legally enforceable netting agreement with the client.

A further example of switching between methods is where an exchange traded **option** or Low Exercise Price Option, which would initially be covered by the margined financial instruments method in clause 5, upon exercise becomes an **equity** securities trade subject to the requirements of the non-margined financial instruments method in clause 2. The switch to the non-margined financial instruments method upon exercise is applicable regardless of whether an exchange traded **option** or Low Exercise Price Option continues to be margined post-exercise.

(F)   Exchange Traded Funds and Other Managed Funds

The following sets out the treatment of exchange traded funds and other managed funds for the purposes of Annexure 1. Exchange traded funds (ETFs) have been divided into two distinct types – classical ETFs and hybrid ETFs – and each has a different treatment.

Classical ETFs, hybrid ETFs and other managed funds are defined in the guidance for Annexure 3, Part 1, clause 9.

(1)   Classical ETFs

(a)   Primary Market Subscription for/Redemption of Units

For the purposes of assessing counterparty risk, it has been determined that the subscription for and redemption of classical ETF units is similar to subscriptions in an initial public offering. Accordingly, the subscription for and redemption of classical ETF units will not at this time require the calculation of a counterparty risk amount on the issuer.

ASX Clear will monitor the classical ETF market going forward in order to assess and test the ongoing appropriateness of this treatment. Accordingly, Participants are given notice that ASX Clear may require the calculation of a counterparty risk amount on the subscription for and redemption of classical ETF units in the future.

It should also be noted that in the event of a default in the settlement of a primary market transaction (where the Participant transfers underlying securities (in the case of a subscription for classical ETF units) or classical ETF units (in the case of a redemption), and does not receive the corresponding classical ETF units or underlying securities, or some other cash consideration), a counterparty risk amount under the free delivery method must be calculated from the time those assets or cash were due to be settled.

(b)   Secondary Market

Although classical ETF units are classified as **equity derivatives** for the purposes of the Risk Based Capital Requirements, as they are traded in the same manner as warrants, all secondary market transactions in classical ETF units should be treated under the various counterparty risk methods of Annexure 1 (including, for example, the non-margined financial instruments method, the free delivery method and the securities lending and borrowing method).

(2)   Hybrid ETFs

(a)   Primary Market Subscription for/Redemption of Units

For the purposes of assessing counterparty risk, it has been determined that the subscription for and redemption of hybrid ETF units is similar to subscriptions in an initial public offering. Accordingly, the subscription for and redemption of ETF units will not at this time require the calculation of a counterparty risk amount on the issuer.

ASX Clear will monitor the hybrid ETF market going forward in order to assess and test the ongoing appropriateness of this treatment. Accordingly, Participants are given notice that ASX Clear may require the calculation of a counterparty risk amount on the subscription for and redemption of hybrid ETF units in the future.

It should also be noted that in the event of a default in the settlement of a primary market transaction (where the Participant transfers cash (in the case of a subscription for hybrid ETF units) or hybrid ETF units (in the case of a redemption), and does not receive the corresponding hybrid ETF units or cash), a counterparty risk amount under the free delivery method must be calculated from the time those assets or cash were due to be settled.

(b)   Secondary Market

Hybrid ETFs will be classified as either *equity* or *debt instruments* for the purposes of the Risk Based Capital Requirements[19]. Accordingly all secondary market transactions in hybrid ETF units should be treated under the various counterparty risk methods of Annexure 1 (including, for example, the non-margined financial instruments method, the free delivery method and the securities lending and borrowing method).

(3)   Other Managed Funds

(a)   Primary Market Subscription for/Redemption of Units

For the purposes of assessing counterparty risk, it has been determined that the subscription for and redemption of other managed funds units is similar to subscriptions in an initial public offering. Accordingly, the subscription for and redemption of other managed funds units will not at this time require the calculation of a counterparty risk amount on the issuer.

ASX Clear will monitor the other managed funds market going forward in order to assess and test the ongoing appropriateness of this treatment. Accordingly, Participants are given notice that ASX Clear may require the calculation of a counterparty risk amount on the subscription for and redemption of other managed funds units in the future.

If a Participant has applied and paid for other managed funds units on behalf of clients, the Participant will be required to calculate a counterparty risk amount for clients that are yet to pay. This applies from the time that the Participant outlays the funds to the issuer or issuer's agent. Until such time as the units are issued, this is to be calculated under the non-margined financial instruments method.

If the other managed funds units are issued and registered in the Participant's nominee account (and hence remain under the Participant's control), the amount owing from the client is to continue being treated under the non-margined financial instruments method.

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[19] Refer to the definition and classification of hybrid ETFs in the guidance for Annexure 3, Part 1, clause 9.

If the other managed funds units are issued in the client's name prior to the client paying, this would be considered a **free delivery** and hence a counterparty risk amount would have to be calculated under the free delivery method.

(G)   Foreign Currency

(1)   General

Participants may have counterparty related exposures that are denominated in a currency other than Australian Dollars. Where this is the case, in calculating the risk amounts required under the methods of Annexure 1, Participants must first calculate the risk amount under each method in the currency of denomination prior to converting to Australian Dollars. This is to facilitate the reporting of a Participant's **counterparty risk requirement** by currency of denomination.

The risk amounts calculated and denominated in each currency must be converted to Australian Dollars at the daily **market spot exchange rate**. This rate is the "closing" rate of exchange (mid-rate) between each currency and the Australian dollar and can be sourced from either the daily financial press or from providers of foreign exchange markets information such as Reuters. It is possible that closing rates from alternate sources may differ but this is acceptable. Those organisations that subscribe to market information providers that supply 24 hour market data (i.e. the foreign exchange market runs 24 hours and there is no "closing" rate) should establish a procedure whereby the rate is taken at the close of business each day at, for example, 4:00 pm.

(2)   Relationship to Annexure 3

It is important to note that Participants that have counterparty related exposures that are denominated in a currency other than Australian Dollars will generally be required to calculate a position risk amount related to the foreign exchange risk inherent in those positions. Further details of this calculation are provided in the guidance section for Annexure 3, Part 3 in this Handbook.

However, where a Participant executes a trade in a foreign currency and immediately fully hedges the foreign currency exposure associated with that trade, there will be no need to calculate a foreign exchange position risk amount.

(H)   Excluded Assets

(1)   Related/Associated Person Balances

It is important to note that any counterparty **related/associated person balance** recorded on the Participant's balance sheet that falls within the definition of **excluded asset** is not subject to a counterparty risk amount under Annexure 1, but rather must be excluded from **liquid capital** to the extent required by the definition of **excluded asset,** unless explicitly directed to the contrary.

(2)   Other Counterparty Balances

Where a **counterparty risk requirement** method adequately captures the risk of a transaction that remains outstanding for greater than 30 calendar days, it is not necessary to treat that transaction as an **excluded asset**. For example, a non-margined **financial instrument**s transaction that is outstanding for more than 30

days would not have to be treated as an **excluded asset** as the risk is captured by the non-margined financial instruments method.

Some amounts however, are not captured by the **counterparty risk requirement** methods of Annexure 1 and accordingly if they remain outstanding for greater than 30 calendar days must be treated as **excluded assets.** These amounts would include at a minimum:

1.   **underwriting** fees;

2.   fees due for managing a client portfolio;

3.   corporate advisory fees; and

4.   other sundry debtors.

(I)   Rule S1.2.9 Unusual or Non-Standard Exposures

If a Participant incurs a **positive credit exposure** that is not covered by a method prescribed in clauses 2 to 7 of Annexure 1, it must contact ASX Clear to determine the appropriate treatment in accordance with Rule S1.2.9.

To date ASX Clear has addressed the "counterparty risk" arising from margin lending under this Rule. Details of the appropriate capital treatment for this are in the guidance for Rule S1.2.9 that appears earlier in this Handbook.

(b)   Clause 2 – Non-Margined Financial Instruments Method

(i)   Rule

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2   NON-MARGINED FINANCIAL INSTRUMENTS METHOD

(a)   For unsettled trades in Financial Instruments which are not margined and not covered by one of the other methods in this Annexure, and for unsettled trades in margined Equities, Debt Instruments and warrants, the counterparty risk amount is 3% of the Client Balance, where this balance does not include trades which remain unsettled with the Counterparty for greater than 10 Business Days following the transaction date.

A Participant may reduce the Client Balance by the amount of Financial Instruments held by the Participant on behalf of the Counterparty if they specifically relate to the sale trades pending settlement with the market or by the amount of collateral held by the Participant on behalf of the specific Counterparty if the collateral is Liquid, valued at the mark to market value and the collateral arrangement is evidenced in writing between the Participant and the Counterparty.

(b)   For unsettled trades in Financial Instruments which are not margined and not covered by one of the other methods in this Annexure, and for unsettled trades in margined Equities, Debt Instruments and warrants, the counterparty risk amount for trades remaining unsettled for greater than 10 Business Days following the transaction date is at the choice of the Participant:

(i)   either:

A.   3% of the contract value; or

B.   the excess of:

I.   the contract value over the market value of each Financial Instrument in the case of a client purchase; and

II.   the market value of each Financial Instrument over the contract value in the case of a client sale,

whichever is the greater; or

(ii)   100% of the contract value for a client purchase or 100% of the market value for a client sale.

A Participant may reduce the contract values and the excesses by the amount of collateral held by the Participant on behalf of the Counterparty if the collateral is Liquid, valued at the mark to market value or another value approved by ASX Clear and the collateral arrangement is evidenced in writing between the Participant and Counterparty.

(c)   A Participant need not include credit amounts included in a Client Balance where such amounts represent an amount of cash held in the Participant's trust and/or segregated account.

(d)   This method does not apply to OTC Derivatives but does apply to warrants which also may be covered by the method in clause 6.

(ii) Formula

$$cra_{nmfi} = \sum_{ccy=1}^{n} \left[\sum_{c=1}^{m} \left[\left[(CB \times 0.03) + \max(\{CV \times 0.03\}, + MTM) \right] \times CRW \right]_c \right]_{ccy}$$

or, at the option of the Participant,

$$cra_{nmfi} = \sum_{ccy=1}^{n} \left[\sum_{c=1}^{m} \left[\left[(CB \times 0.03) + CV_p + MV_s \right] \times CRW \right]_c \right]_{ccy}$$

Where:

cra_{nmfi}	= counterparty risk amount under the non margined financial instruments method
c	= client or **counterparty**
m	= number of clients/**counterparties**
n	= number of currencies
ccy	= currency
CB	= client balance (T_0 to T_{+10})
CV	= contract value (transactions remaining unsettled for more than 10 Business Days following transaction date)
CV_p	= contract value of client purchase transactions remaining unsettled for more than 10 Business Days following transaction date
MV_s	= market value of client sale transactions remaining unsettled for more than 10 Business Days following transaction date
MTM	= mark to market value
CRW	= counterparty risk weighting

(iii) Guidance

(A) General

The general principle associated with this method is that a counterparty risk amount must be calculated for those non-margined securities transactions in which a Participant acts as agent for a client or, in certain circumstances, as principal for itself and where a **client balance** arises as a result of this. A **client balance** is the net of all outstanding non-margined (and certain margined) securities trades, up to the close of business on T_{+10} irrespective of whether or not the **counterparty** is issuer or participant sponsored.

Securities transactions can include both **equity** and **debt instrument**s.

The following diagram illustrates a typical on market agency arrangement whereby amounts may be owed to a Participant from "normal agency clients" and other participants in the relevant market that have traded as principal through the Participant as "clients".

The dark lines represent payments/deliveries where a counterparty risk amount is required while dotted lines represent payments/deliveries where a counterparty risk amount is not required.
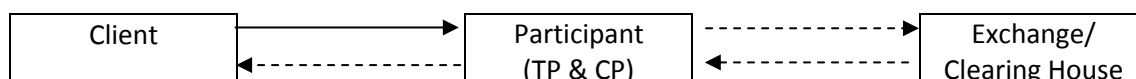
(B) Amounts to be Considered

For the purposes of calculating a counterparty risk amount under this method, the following, at a minimum, should be considered:

1. agency or principal[20] transactions in <u>non-margined</u> **financial instruments** (i.e. **equity** securities, debt securities, warrants, ETF units, listed company **option**s, etc.) and margined **equity, debt instruments** or warrants, including brokerage;

2. agency transactions in unlisted securities or through foreign brokers;

3. trades sitting in client suspense accounts;

4. amounts owing as a result of day trading losses, failed transactions fees, interest charged on failed trades;

5. application monies owing, allocation interest units and instalment receipts;

6. other participants of ASX and/or ASX Clear;

7. deferred settlement market and forward transactions;

8. short selling on behalf of clients and margin lending activities; and

9. fund managers.

These are discussed further below.

(1)   Agency or Principal Transactions

The following provides guidance in relation to a number of transactions that are normally associated with client business. The guidance is not restricted to transactions executed on the ASX market and, as an example, there is no difference between the treatment for trades executed on the ASX market and trades executed on the Chi-X Australia ~~market~~<u>and NSX markets</u>.

The focus of the guidance is on the counterparty risk amounts that apply, although any requirement to calculate a position risk amount is also highlighted. Guidance on the **position risk requirement**s for these transactions is provided in the guidance for Annexure 3.

(a)   Purchase or Sale as Agent

Where a Participant has entered into a purchase or sale transaction as agent for a client, the Participant will be required to calculate a counterparty risk amount on its exposure to that client from the time that the trade is executed.

(b)   Purchase or Sale as Principal by a Trading Only or Referral Participant

Where a Participant has entered into a purchase or sale transaction as principal, no counterparty risk amount is required if the Participant clears its own trades (see the section "Other Participants of ASX and/or ASX Clear" below for an explanation of the reason for this). If this is not the case, the Participant trading as principal will have to calculate a counterparty risk amount on its exposure to its clearing participant.

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[20] In certain circumstances, principal transactions require a counterparty risk amount to be calculated. See the "Third Party Clearing and Referral Arrangements" section in the guidance for Annexure 1, clause 1.

(c) Purchase or Sale Effected as a Special Crossing[21]

A purchase or sale may be undertaken either as agent or as principal and the following guidance applies to Clearing Participants only.

1. Where the transaction is done on an agency basis, the Participant will have two clients (the buyer and the seller) and will have to calculate counterparty risk amounts on both clients from the time that the trade is executed.

2. Where one side of the transaction is done as principal, the Participant will have one client only. If the client is buying, the Participant will be selling as principal and if the client is selling, the Participant will be buying as principal. The Participant will have to calculate a counterparty risk amount on its exposure to the client from the time that the trade is executed. A position risk amount will also have to be calculated.

Note: If the Participant is a Trading Participant that uses the services of a third party clearer, the principles previously set out in the "Third Party Clearing and Referral Arrangements" section in the guidance for Annexure 1, clause 1 will apply.

(d) Client Facilitation Effected as a Special Crossing[22]

Client facilitation involves the Participant agreeing to transact as principal with its client and then seeking to close its principal position by transacting with other clients. The following guidance applies to Clearing Participants only.

Where the client is selling stock, the Participant will be buying the stock as principal. The Participant will be required to calculate a counterparty risk amount on its exposure to that client (seller) from the time that the trade is executed. A position risk amount will also apply from this time.

If the Participant seeks to close the principal position by selling the stock to other clients, the Participant may have any number of **counterparties** (i.e. it may sell the stock to one client or multiple clients). The Participant will have to calculate counterparty risk amounts on its exposures to all buying clients from the time that these trades are executed. A position risk amount will cease to be required from the time that the position is closed out.

Note: If the Participant is a Trading Participant that uses the services of a third party clearer, the principles previously set out in the "Third Party Clearing and Referral Arrangements" section in the guidance for Annexure 1, clause 1 will apply.

(e) Underwritten Placement of Existing Shares Via a Book Build

An underwritten placement of existing shares differs from client facilitation because the Participant is not obliged to buy the stock from the selling clients as principal but rather is obliged to pick up any shortfall

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[21] A crossing is a transaction (CRR) where the Participant acts:
    (a)   on behalf of both buying and selling clients to that transaction; or
    (b)   on behalf of a buying or selling client on one side of that transaction and as principal on the other side.
All crossings (including special crossings) done on an agency basis will incur counterparty exposure to both the buying client and the selling client (where one side of the crossing is done on a principal basis, there will be exposure to only one **counterparty**). Crossings are not novated to ASX Clear and hence ASX Clear is never a **counterparty** to such transactions. Crossings fall into the category of transactions that are accepted by ASX Clear for reporting but not registration.
[22] Refer to the previous footnote for information on crossings.

that it has not been able to sell to other clients. The following guidance applies to Clearing Participants only.

When the underwritten placement of existing shares via a book build agreement is signed, the Participant will incur a ***counterparty risk requirement*** to the seller of the stock. As the final sale price of the stock is not known at this time, the Participant should initially use the guaranteed minimum price specified in the agreement to calculate the counterparty risk amount. This price will have to be revised when the final price is known.

Subsequent to the signing of the agreement, the Participant will incur further counterparty risk exposures as it "sells" the stock to its other clients (i.e. the buying clients). In practical terms, however, where a book build is used to determine the final price of the stock, it will not be possible to calculate a counterparty risk amount for individual buying clients as neither the final price nor the number of units that they will be allocated will be known until the finalisation of the book build. Accordingly, the counterparty risk amount for the individual buying clients should be calculated when these two details are finalised. The Participant should, however, know approximately the total of the counterparty risk amounts for the buying clients prior to this time and have adequate capital allocated to cover it when required.

When the deadline for the placement is reached, whatever stock has not been sold to buying clients must be treated as a principal position by the Participant and a position risk amount will need to be calculated from this time. At or before this time the final price will be known and this is the price that should be used to calculate both the revised counterparty risk amount for the selling client and the final position risk amount.

Note: If the Participant is a Trading Participant that uses the services of a third party clearer, the principles previously set out in the "Third Party Clearing and Referral Arrangements" section in the guidance for Annexure 1, clause 1 will apply.

(f)   Underwriting of Initial Public Offering (IPO)

Where a Participant acts as underwriter of an IPO, the Participant is not required to calculate a counterparty risk amount on the issuer.

As applications are received from buying clients, the Participant will incur counterparty exposure to the buying clients. The Participant will be required to calculate counterparty risk amounts on its exposure to each buying client from the time that the Participant pays the issuer until such time as the buying client has paid the Participant. For the purposes of the counterparty risk calculation, the market value of the securities prior to their listing and trading is the "cost" or "subscription" price.

When the closing date for applications is reached, any shortfall in applications must be treated as a principal position by the Participant and a position risk amount will need to be calculated from this time.

An ***underwriting risk requirement*** has not yet been implemented (refer to the guidance for Annexure 4).

(g)   Underwritten Placement of New Shares

The placement of new shares differs from an IPO in that an IPO is the first sale of securities when a company lists on the share market whereas the placement of new shares is the issue of new securities by a company that is already listed and has previously issued other securities.

The treatment of an underwritten placement of new shares is identical to that for an **underwriting** of an IPO.

(2) Agency Transactions in Unlisted Securities or Through Foreign Brokers

Where a Participant executes an agency transaction in unlisted securities or through foreign brokers, the Participant will have two **counterparties** and hence two **client balances**.

(3) Trades Sitting in Client Suspense Accounts

For these types of trades, each individual transaction should be treated as a **client balance** until the trade is actually booked to a client.

(4) Day Trading Losses, Failed Transactions Fees, Interest Charged on Failed Trades

These amounts may be included in the **client balance**. If the amount remains unsettled after 10 Business Days the counterparty risk amount will be 100% of the amount owing.

(5) Application Monies Owing, Allocation Interest Units and Instalment Receipts

If a Participant has applied and paid for stock, allocation interest units or instalment receipts on behalf of clients, the Participant will be required to calculate a counterparty risk amount for clients that are yet to pay. This applies from the time that the Participant outlays the funds to the issuer or issuer's agent.

If any part of the amount paid by the Participant is for stock or units for which clients have not yet been found, this is to be treated as an "other current asset" (as long as the time until the stock commences trading is less than 31 days) and is not subject to any risk requirement until the public offer closes. If the time until the stock commences trading is greater than 31 days, the amount paid must be treated as an **excluded asset** on the basis that it does not meet the definition of **liquid**.

If the stock, allocation interest units or instalment receipts are registered in the Participant's nominee account (and hence remain under the Participant's control), the amount owing from the client is to be treated under the non-margined financial instruments method. For the purposes of the counterparty risk calculation, the market value of these instruments prior to their listing and trading is the "cost" or "subscription" price.

If, however, the stock, allocation interest units or instalment receipts are registered into the client's issuer or participant sponsored account prior to the client paying, this would be considered a **free delivery** and hence a counterparty risk amount would have to be calculated under the free delivery method.

If the Participant has been given a Firm Allocation and there is a shortfall once the public offer closes, then the shortfall will become a principal position for the Participant and this will require the calculation of a position risk amount under Annexure 3. This will generally need to be calculated from the date that the Participant has outlaid the funds or the date that the public offer closes, whichever is later, but this may vary depending on the individual offer.

(6)   Other Participants of ASX and/or ASX Clear

(a)   As Clients

If a Participant executes a transaction on behalf of another participant of ASX and/or ASX Clear which is trading as principal (that is, taking a proprietary position), then the executing participant will need to establish the entity that is trading as principal as a client and, therefore, a *client balance* will exist for that entity.

Similarly, the entity that is trading as principal will need to treat the executing participant as a *counterparty* as it is exposed to the executing participant for settlement of the trade. The entity trading as principal will need to establish a *client balance* for the executing participant.

(b)   As Market Counterparties

(i)   Novated Trades

A *client balance* does not, however, need to be established between participants with respect to normal market settlement obligations for trades conducted on market in the ASX or, Chi-X Australia or NSX markets. When a trade has been novated to ASX Clear, the trade between the buyer and seller is discharged and replaced with two new trades – one between the buyer and ASX Clear and the other between the seller and ASX Clear, i.e. ASX Clear becomes the central counterparty to the trade.

A counterparty risk amount is not required to be calculated for amounts which are owing to or from ASX Clear. Therefore, for trades which have been novated to ASX Clear there will be no *client balance* for ASX Clear or the other participant that was the original *counterparty* to the trade. There will, of course, be counterparty risk to the client if the trade was done on an agency basis. The "novated" amounts should be readily identifiable in the settlement reports produced by each Participant's back office systems supplier.

This treatment also applies if the two participants have requested that the trade be excluded from set off (i.e. the netting of delivery obligations and payment obligations). This is because the trade continues to be novated and so ASX Clear is still the legal *counterparty* to each participant.

(ii)   Non-Novated Trades

It should be noted that if a trade is removed from novation[23], then a counterparty risk amount would have to be calculated for the other participant (or other clearing house if applicable). This is because when a trade is removed from novation, the two participants are taken to be in direct contractual relationship with each other on the terms of, and from the time of, the original transaction. ASX Clear has no obligation in relation to transactions which have been removed from novation. Therefore, the other participant or clearing house is the *counterparty* to the transaction, not ASX Clear.

Similarly, some trades are accepted by ASX Clear for reporting but not registration and hence are not novated to ASX Clear. Each of the participants that are *counterparty* to such a trade must calculate a counterparty risk amount on the other participant and/or client. Examples of such trades are crossings and information only or booking purpose trades.

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[23] The two participants may choose to have a trade removed from novation so that they can settle the trade directly or in another clearing house.

(7)   Deferred Settlement Market and Forward Transactions

On occasions, the ASX markets may operate on a deferred settlement basis. In general terms, a deferred settlement market exists where the normal settlement period (i.e. T_{+2}) is extended by ASX for a particular security and the extension applies to all market transactions in that security and all participants of ASX and/or ASX Clear.

A forward transaction is one where the two parties to a transaction have agreed to a time for settlement that is later than the normal settlement period for that type of transaction.

The counterparty risk amount for a transaction executed in a deferred settlement market or a forward transaction should be calculated in accordance with the requirements of the non-margined financial instruments method. This applies even if the time until settlement date is greater than 30 days (i.e. such a transaction is not treated as an *excluded asset*).

(8)   Short Selling on Behalf of Clients

If a Participant executes a short sale on behalf of a client, this should be treated the same as a standard client share sale transaction. The counterparty risk amount for a client short sale should be calculated in accordance with the requirements of the non-margined financial instruments method.

If a Participant borrows stock to meet its obligations on the short selling arrangement, the Participant will also have an exposure to the lender of the stock. This will be subject to a counterparty risk amount under the securities lending and borrowing method in Rule S1, Annexure 1, clause 4.

(9)   Margin Lending Activities

The counterparty exposures arising from margin lending, where the Participant is the financier (i.e. if the Participant is not the financier, the agency transactions for the client should be included as a normal agency trade), have been identified as exposures not specifically covered by a method within the Risk Based Capital Requirements. Accordingly they have been treated as non-standard exposures and an explanation of the capital treatment for these has been included in the guidance for Rule S1.2.9 earlier in this Handbook.

(10)   Fund Managers

Information on how to treat agency *equity* orders placed by a fund manager has been provided elsewhere in this Handbook. Guidance on who a Participant's *counterparty* is for the purposes of calculating a *client balance* is provided in the guidance for clause 1. Guidance on how to apply counterparty risk weightings for dealings with fund managers is provided in the guidance for clause 8.

(C)   Method

(1)   Timing

There are two basic components to the calculation of the counterparty risk amount for non-margined *financial instruments*. The first component is based on transactions that remain unsettled with the client or *counterparty* up to and including 10 Business Days following transaction date (i.e. from T_0 to T_{+10}) and which are included in the *client balance*. The second component is based on transactions that remain unsettled with the client or *counterparty* for a period greater than 10 Business Days from execution (i.e. from close of business on T_{+10}).

(a) From T_0 to T_{+10}

The counterparty risk amount for transactions that remain **unsettled with a client or *counterparty*** for up to 10 Business Days following transaction date is calculated as 3% of the *client balance* which is the net of unsettled buy and sell transactions with that client or *counterparty*.

(b) Past T_{+10}

The counterparty risk amount for transactions that remain **unsettled with a client or *counterparty*** for a period greater than 10 Business Days following transaction date is calculated in one of two ways at the option of the Participant. Under both approaches, however, the calculation is based on individual transactions as opposed to the *client balance*. The calculation applies from close of business on T_{+10}.

As both approaches adequately address the risk and liquidity issues associated with the outstanding transaction, it is not necessary to treat or disclose any amounts calculated as *excluded assets*.

(i) Approach 1

The first approach equates the counterparty risk amount to **the greater of** 3% of the contract value and the *positive credit exposure* (mark to market loss) created by the mark to market of the transaction.

It is important to note that the calculation of the mark to market amount is dependent on whether the transaction is a purchase or sale from the perspective of the client or *counterparty* (not from the Participant's own perspective). For a client or *counterparty* purchase, the mark to market loss is the excess of the contract value over the market value. For a client or *counterparty* sale, the mark to market loss is the excess of the market value over the contract value.

(ii) Approach 2

The second approach, which is the easiest but usually the most capital intensive, is to take 100% of the contract value for a client purchase or 100% of the market value for a client sale as the counterparty risk amount.

The contract value is the maximum loss for a Participant if a client fails to settle a purchase transaction. While technically the maximum loss for a client sale is the excess of the market value over the contract value, the market value is deemed as the counterparty risk amount because the point of Approach 2 is to provide a simple methodology for Participants that do not choose to use Approach 1.

(2) Securities Subject to Trading Halts or Suspension

For transactions outstanding greater than 10 Business Days following transaction date where the security underlying the transaction becomes subject to a trading halt, the last market value is acceptable in calculating the counterparty risk amount. This is because trading halts are only placed on securities for two days.

If, however, the security underlying the transaction is subject to suspension, the market value should be taken as nil on the basis that the security is not *liquid*.

(D) Reducing the Counterparty Risk Amount

(1) General

At the option of the Participant, the counterparty risk amounts calculated in accordance with the non-margined financial instruments method as explained above can be reduced. This can be achieved through:

1. client settlement upon execution;

2. application of ASX Clear Operating Rule 7.2;

3. collateralisation; and

4. counterparty risk weighting.

(2) Client Settlement upon Execution

(a) General

The *client balance* for a particular client or *counterparty* can be adjusted by the amount of cash received or held from that client or *counterparty* with respect to a specific buy transaction or by the value of scrip delivered to the Participant with respect to a specific sell transaction.

The *client balance* is adjusted by removing from the *client balance* that portion of the contract value that is covered by cash or scrip. If the transaction is fully covered, the full contract value is removed from the *client balance*. However, if the Participant controls cash or scrip in excess of the contract value, only the contract value can be removed from the *client balance*.

(b) Cash Management Accounts, Trust Accounts and Participant Sponsored Holdings

(i) Cash Management Accounts

Client funds in cash management accounts can also be used to adjust the *client balance* with respect to a specific buy as long as the Participant has <u>sole and unconditional control</u> over those funds. A Participant that has the ability to sweep a client's account to pay for purchases may only reduce the counterparty risk amount prior to the settlement date if this ability means that the funds are "locked" in favour of the Participant or if the funds are actually removed from the cash management account.

(ii) Trust Accounts

Amounts held in a Participant's trust account would generally be reflected in a *client balance* in accordance with the above treatment. If that trust money is in relation to unsettled transactions, it may be used to reduce the *client balance* for the purposes of calculating the counterparty risk amount as long as that money in the trust account is in respect of the relevant transactions or as otherwise agreed by the client.

Further, if the *client balance* relates solely to trust money (i.e. the client does not have any unsettled transactions and has left the money in trust pending future transactions), there is no requirement to calculate a counterparty risk amount on that *client balance* (i.e. it does not represent a *positive credit exposure*).

(iii)   Participant Sponsored Holdings

Where a selling client has the scrip which is the subject of the sale transaction in a participant sponsored account and the Participant has either locked that scrip from the client or has strong internal controls to prevent that client recalling the scrip prior to settlement, the value of the scrip may be removed from the *client balance*.

The following table summarises the above three counterparty risk amount reduction methods.

Table 1 – counterparty risk amount reduction methods – client has settled

Period Post Execution	Client Balance / Transaction	Settlement Upon Execution		
		Cash in Trust or Cash Management Account [1]	Scrip Under the Participant's Control[2]	CHESS Participant Sponsored Holding[3]
T$_0$ - T$_{+2}$	Net Buy	purchases deducted from *client balance*	N/A	N/A
	Net Sell		sales deducted from *client balance*	sales deducted from *client balance*

[1]   assumes all purchase orders are only taken if there are sufficient cleared funds in the cash management account to cover the transactions and that those funds are "locked" at the time of placing the orders such that they cannot be accessed by the client.

[2]   assumes that the client has delivered sufficient scrip to cover the full amount of the sale orders.

[3]   assumes that the client has sufficient underlying stock in their participant sponsored CHESS holding to cover the full amount of the sale order and that the holding is "locked" at the time of placing the order such that it cannot be removed by the client.

(iv)   Optimisation

In certain instances, the removal from the *client balance* of a contract value in the manner noted above may result in an increased counterparty risk amount. The reason for this is that the method set out for the T$_0$ to T$_{+10}$ period is not strictly risk based. In recognition of this, Participants may optimise, that is, choose the minimum counterparty risk amount where a strict interpretation of the Rule may cause dichotomous results. However, for a Participant to do this, it requires a system capable of recognising these anomalies and of applying optimisation in a manner that is consistent with the spirit of the Rule.

The following two examples seek to clarify how optimisation is meant to work.

Example 1
Assume a Participant has undertaken a $30,000 buy transaction and $20,000 sell transaction for a single client where the stock being sold is participant sponsored and both trades are in the T0 to T+10 period.

The *client balance* without applying client settlement upon execution is $10,000. If the Participant applies client settlement upon execution and removes the value of the stock from the *client balance* this gives an adjusted *client balance* of $30,000.

As the removal of the sell transaction from the *client balance* results in a larger counterparty risk amount, the Participant could choose to optimise and not remove the $20,000 sell transaction from the *client balance*.

Example 2
Assume that a Participant has undertaken four buy transactions for $10,000 each and six sell transactions for $10,000 each for a single client.

If all of the securities being sold are participant sponsored, the Participant could use optimisation to selectively eliminate two of the $10,000 sell transactions and arrive at a $0 *client balance*.

If, however, there was a mix of participant sponsored and issuer sponsored securities being sold, selective elimination of two of the $10,000 sells would not be allowed as this type of cherry picking would not be within the spirit of the Rule. The *client balance* would be $20,000 in this case.

(c) Chess 101 Dual Entry Settlement Notification (101 Message)

It should be noted that if a settlement has been scheduled via a 101 message this cannot be used to reduce a counterparty risk amount. The reason for this is that this 101 message does not guarantee settlement by the other party and the Participant will still have the responsibility to settle the transaction should the other party fail to do so. The 101 message is a promise only, it does not guarantee settlement.

(3) Application of ASX Clear Operating Rule 7.2

Under ASX Clear Operating Rule 7.2, if a client fails to settle a trade with a Participant, the Participant may exercise any rights it has, including any rights under the ASX Clear Operating Rules or the client agreement.

For the purposes of the Risk Based Capital Requirements, ASX Clear Operating Rule 7.2 may be applied to reduce the *client balance* but only if the Participant's client agreement gives the Participant the right to close out the trade if a client has not honoured its contractual obligation to settle. This applies regardless of whether or not the Participant has made a demand on a client and may only be applied from settlement date, only up to and including T_{+10} and only in the manner detailed below. Where a client fails to complete a specific contract whether it be a purchase or a sale, the contract value included in the *client balance* may be reduced by the market value of the security underlying that contract[24] but the reduction cannot exceed the contract value[25].

Thus, for a client purchase, if the market value of the stock underlying the purchase is less than the contract value, there will be a portion of the contract value remaining in the *client balance*. If the market value of the stock underlying the purchase is greater than the contract value, the transaction is effectively removed from the *client balance*.

If the Participant has registered the stock into the client's account (either issuer or participant sponsored account) prior to the client paying, this would be a *free delivery* and a counterparty risk amount would have to be calculated under the free delivery method. ASX Clear Operating Rule 7.2 cannot be applied in this instance because the Participant has lost control over the stock and will not be able to liquidate it to recover the amount owing from the client.

With respect to a client sale, where the market value of the security underlying the sale is less than the contract value, the sale is effectively removed from the *client balance*. Where the market value of the securities underlying the sale is greater than the contract value, the market value should be deducted from the contract value. That is, the "credit" entry in the *client balance* will be the loss that the Participant

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[24] If the security underlying the contract is subject to a trading halt, the last market value may be used since a trading halt is only placed on a security for two days. If, however, the security is subject to suspension, the market value should be taken as nil on the basis that the security is not *liquid*.
[25] While ASX Settlement Rule 7.2.2(f) gives the right to a Sponsoring Participant to refuse to comply with a client's withdrawal instructions and to retain securities equal to 120% of the current value claimed, as it does not permit the Sponsoring Participant to actually deal with the securities held, it may not be used to reduce any counterparty risk amounts for the purposes of the Risk Based Capital Requirements (see further comment on this in the next section (D) "Collateral Arrangements").

would suffer if it were to close the position out in the market in accordance with ASX Clear Operating Rule 7.2.

Unlike client settlement upon execution, optimisation is not permitted when applying ASX Clear Operating Rule 7.2 to reduce the *client balance*. This is because ASX Clear Operating Rule 7.2 can only be applied after the client has already failed to honour its obligation to settle with the Participant and it is not appropriate to allow a further reduction in the counterparty risk amount for such a client.

Table 2 – counterparty risk reduction method – client has not settled

Period Post Execution	Client Balance / Transaction	Underlying Stock[1] (ASX Clear Operating Rule 7.2)
T_0 - T_{+2}	Net Buy	N/A
	Net Sell	
T_{+3} - T_{+10}	Buy	*client balance* includes the specific contract value less the market value of the securities underlying the contract
	Sell	*client balance* includes the market value of the securities underlying the contract less the contract value
> T_{+10}	Buy [2]	contract value less market value of the underlying securities (i.e. negative mark to market)[2]
	Sell [2]	market value of securities underlying the contract less the contract value

[1]   *Recognises the Participant's right under ASX Clear Operating Rule 7.2. See previous commentary for full details.*

[2]   *Note: The contract value less the market value of the underlying securities (negative mark to market) that the Participant now holds pending client settlement is the amount calculated in accordance with clause 2(b)(i)(B). Therefore, the underlying securities cannot be treated as "additional" collateral. The counterparty risk amount will be the greater of this amount and 3% of the contract value. In addition, if the Participant liquidates the client position (in accordance with ASX Clear Operating Rule 7.2) and realises a loss, <u>the counterparty risk amount with respect to that position will be the realised loss</u> and not 3% of the contract value or 3% of the loss.*

(4)   Collateral Arrangements

(a)   Criteria

Under some circumstances the counterparty risk amount can be reduced by the amount of collateral held by the Participant as long as the following conditions are met:

1.   the collateral must satisfy the definition of *liquid* (i.e. realisable or otherwise convertible to cash within 31 days) and therefore will generally be limited to debt or *equity* securities. Any collateral which is held in escrow and unable to be converted to cash within 31 days would not meet the definition of *liquid*;

2.   the collateral must be unrelated to a particular or specific transaction (that is, in accordance with the discussion in the "Application of ASX Clear Operating Rule 7.2" section above, the securities underlying a client purchase **<u>are not</u>** considered to be collateral);

3.   the Participant must have full control over the collateral so that if the client or *counterparty* defaults, the Participant can liquidate the collateral to recover the amount owing. This would

require, in the case of *equity* securities lodged as collateral, that the securities be lodged in a participant sponsored account. Securities lodged as collateral which cannot be accessed by the Participant without the approval of a third party or are otherwise encumbered cannot be recognised as collateral for the purposes of this Rule. Similarly, if a Participant's exposure to a *counterparty* has been guaranteed by another entity, the guarantee is not eligible as collateral for the purposes of reducing the counterparty risk amount as the Participant does not have full control and is dependent on the guarantor to realise any amounts owing to it. However, where an exposure to a *counterparty* has been guaranteed by an *approved deposit taking institution,* a counterparty risk weighting of 20 per cent can be applied instead of the risk weighting of the *counterparty* provided that certain conditions are met (refer to the guidance section for clause 8);

4.   the lodgement of the collateral must be evidenced in writing (i.e. it must be documented by a legally binding agreement between the Participant and the client or *counterparty*). The Participant must have established that the client or *counterparty* and the persons signing have the legal capacity to enter into the agreement and to provide the nominated collateral (e.g. the client or *counterparty* is an appropriately registered company and the person executing the agreement has the authority to enter into the agreement on behalf of that company). The collateral agreement must provide for the Participant to deal with that collateral in the event that the client or *counterparty* defaults on its settlement of the relevant transactions to recover any amounts owed to the Participant. Alternatively, if an ASX Clear Operating Rule permits a Participant to deal with a "collateral" type amount in the event of a client default, then there is no need to have a separate written collateral agreement covering the same transaction for the purposes of the Risk Based Capital Requirements. Separate written collateral agreements are, however, always recommended to ensure the client is aware of the actions that the Participant may take in the event of a default (also see comment below on ASX Settlement Rule 7.2.2). ASX Clear recommends that independent legal advice be obtained to assist the Participant with the documentation of collateral arrangements; and

5.   the collateral must be valued at market value or at another value approved by ASX Clear.

Collateral must satisfy the above criteria and may only be applied in accordance with the conditions specified in the collateral agreement and to the extent allowed under the following guidance.

(b)   Guidance

For the purpose of this guidance, references to collateral are limited to securities. It is assumed that cash lodged as collateral would be placed by the Participant in either a client cash management account or the participant's trust account and any reduction of the counterparty risk amount arising from such monies would be according to the guidance provided above that deals with cash management accounts and trust accounts.

If the security lodged as collateral is subject to a trading halt, the last market value may be used since a trading halt is only placed on a security for two days. If, however, the security is subject to suspension, the market value should be taken as nil on the basis that the security is not *liquid*.

If the collateral in its entirety is not considered *liquid*, it cannot be used to reduce the counterparty risk amount. If only a percentage of the collateral can be considered *liquid*, only that percentage can be applied to reduce the counterparty risk amount. The guidance given for Rule S1.2.1 in the section on Excluded Assets (Principal Positions in Financial Instruments) in relation to identifying if a position is *liquid* should also be applied to determine if the collateral is *liquid*.

(i)   ≤ T$_{+10}$

In reducing a ***client balance*** or transaction value by the amount of collateral, the collateral must be marked to market and must be offset on a transaction by transaction basis. That is, prior to calculating the ***client balance***, collateral held against transactions that make up that ***client balance*** should be offset against the value of those transactions. Thus, for example, if there are several transactions that make up a ***client balance,*** the Participant must allocate the market value of collateral to the extent provided for in the collateral agreement to the individual transactions prior to calculating the overall ***client balance***.

Collateral cannot be used to directly reduce a counterparty risk amount; it can only be applied to reduce the ***client balance*** or a contract value.

(ii)   > T$_{+10}$

Where a transaction is outstanding for greater than 10 Business Days, collateral can be used to reduce the contract value and excess (i.e. loss) on the unsettled purchase or sale.

(c)   ASX Settlement Rule 7.2.2

While ASX Settlement Rule 7.2.2(f) gives the right to a Participant to refuse to comply with a client's withdrawal instructions where that client is participant sponsored, and to retain securities equal to 120% of the current value claimed, as it does not permit the Participant to deal with the securities held, it may not be used to reduce any counterparty risk amounts.

However, if a Participant has a separate legal agreement (or the appropriate clause is included in the client agreement form signed by the client) that satisfies the five criteria noted above, other stocks held by the Participant may be applied as collateral against the outstanding transaction. A Participant should obtain legal advice on this matter before it utilises this type of collateral.

(d)   Optimisation

In certain instances, the removal from the ***client balance*** of a contract value in the manner noted above may result in an increased counterparty risk amount. The reason for this is that the method set out for the T$_0$ to T$_{+10}$ period is not strictly risk based. In recognition of this, Participants may optimise, that is, choose the minimum counterparty risk amount where a strict interpretation of the Rule may cause dichotomous results. However, for a Participant to do this, it requires a system capable of recognising these anomalies and of applying optimisation in a manner that is consistent with the spirit of the Rule.

(5)   Counterparty Risk Weighting

(a)   General

Under clause 8 of Annexure 1, once the counterparty risk amount has been calculated it can be multiplied, at the option of the Participant, by the counterparty risk weighting applicable for that ***counterparty*** as specified in Annexure 5, Table 2.1 (refer to the guidance section for clause 8). This calculation must be applied to a ***counterparty*** consistently. That is, the Participant cannot selectively apply the weighting and once it weights a ***counterparty***, it must weight that ***counterparty*** consistently across all methods within Annexure 1. This process is undertaken under each of the methods in clauses 2 to 7 of Annexure 1.

(iv)   Examples

A number of examples are provided below to assist in the understanding of this Rule.

The calculations are based on **close of business** balances and would differ if calculating the risk amounts during the Business Day prior to settlement of the transactions (i.e. the capital liquidity requirements of this Rule must be satisfied at all times).

Brokerage amounts have been ignored for ease of calculation only.

Reference to this calendar may assist.

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S	M	T	W	T	F	S
		T_0 1	T_{+1} 2	T_{+2} 3	T_{+3} 4	5
6	T_{+4} 7	T_{+5} 8	T_{+6} 9	T_{+7} 10	T_{+8} 11	12
13	T_{+9} 14	T_{+10} 15	T_{+11} 16	T_{+12} 17	T_{+13} 18	19
20	T_{+14} 21	T_{+15} 22	T_{+16} 23	T_{+17} 24	T_{+18} 25	26
27	T_{+19} 28	T_{+20} 29	T_{+21} 30			

(A)   Example 1 – AUD Client Agency Trades – No collateral held

(1)   Buy and Sell, < 2 Business Days

Transaction Details
Client XYZ is an *approved institution* (and the Participant has the documentation to support this) and both trades remain unsettled.

Current Date	Transaction Date	Buy / Sell	Stock Details	Units	Amount
2/11/16	1/11/16	Buy	ABC @0.57	25,000	$14,250
2/11/16	1/11/16	Sell	DEF @ 0.61	27,936	($17,041)
				client balance=	($2,791)

Calculation

Current Date	*client balance* less collateral	Risk Amount @ 3%	Transactions unsettled > 10 Business Days			Counterparty Risk Amount	Risk Weighted Counterparty Risk Amount (@ 50%)
			3%	MTM	risk amount		
	1	2 (1 × 3%)	3	4	5 (max {3 , 4})	6 (2 + 5)	7 (6 × 50%)
2/11/16	$2,791	$84	-	-	-	$84	$42

RECONCILIATION - before applying the counterparty risk weighting

1/11/16 transactions
As at close of business 2/11/16 these transactions have been outstanding for 1 Business Day following transaction date.

Accordingly, the counterparty risk amount is 3% of the *client balance*:
client balance * 3 % = 2,791 * 3% = 84

      (2)   **Buy and Sell Outstanding < 2 Business Days – cash management account access and participant sponsored**

Transaction Details
Client XYZ is an **approved institution** (and the Participant has the documentation to support this) and both trades remain unsettled. The client has a cash management account that the Participant has access to and the Participant is able to lock the funds required to settle the purchase. The client is also participant sponsored and has the stock subject to the sale in its sponsored account and the Participant is able to lock that stock or has internal controls in place to prevent its release.

Current Date	Transaction Date	Buy / Sell	Stock Details	Units	Amount
2/11/16	1/11/16	Buy	ABC @0.57	25,000	$14,250
2/11/16	1/11/16	Sell	DEF @ 0.61	27,936	($17,041)
				client balance=	($2,791)

Calculation

Current Date	*client balance less collateral* 1	Risk Amount @ 3% 2 $(1 \times 3\%)$	Transactions unsettled > 10 Business Days			Counterparty Risk Amount 6 (2 + 5)	Risk Weighted Counterparty Risk Amount (@ 50%) 7 $(6 \times 50\%)$
			3% 3	MTM 4	risk amount 5 (max {3 , 4})		
2/11/16	$2,791	-	-	-	-	-	-

RECONCILIATION - before applying the counterparty risk weighting

1/11/16 transactions

As at close of business 2/11/16 these transactions have been outstanding for 1 Business Day following transaction date.

As the Participant has access to and total control over the funds for the purchase and stock for the sale, the counterparty risk amount is $0.

> **(3)** **Buy and Sell Outstanding > 2 and ≤ 10 Business Days (ASX Clear Operating Rule 7.2 IS NOT applied)**

Transaction Details

Client XYZ is an *approved institution* (and the Participant has the documentation to support this) and all trades remain unsettled.

Current Date	Transaction Date	Buy / Sell	Stock Details	Units	Amount
11/11/16	1/11/16	Buy	ABC @0.57	25,000	$14,250
11/11/16	1/11/16	Sell	DEF @ 0.61	27,936	($17,041)
11/11/16	2/11/16	Buy	ABC @0.61	27,936	$17,041
				client balance=	$14,250

Calculation

Current Date	client balance less collateral	Risk Amount @ 3%	Transactions unsettled > 10 Business Days			Counterparty Risk Amount	Risk Weighted Counterparty Risk amount (@ 50%)
			3%	MTM	risk amount		
	1	2 (1 × 3%)	3	4	5 (max {3 , 4})	6 (2 + 5)	7 (6 × 50%)
11/11/16	$14,250	$428	-	-	-	$428	$214

RECONCILIATION - before applying the counterparty risk weighting

1 and 2/11/16 transactions

As at close of business 11/11/16 these transactions have been outstanding for 8 and 7 Business Days respectively.

Accordingly, the counterparty risk amount is 3% of the **client balance**:

client balance * 3 % = 14,250 * 3% =   428

> **(4)**   **One Buy Outstanding > 2 and ≤ 10 Business Days (ASX Clear Operating Rule 7.2 IS applied) and One Buy Outstanding > 10 Business Days**

Transaction Details

Client XYZ is an **approved institution** (and the Participant has the documentation to support this) and both trades remain unsettled.

Current Date	Transaction Date	Buy / Sell	Stock Details	Units	Amount
15/11/16	1/11/16	Buy	ABC @0.57	25,000	$14,250
15/11/16	2/11/16	Buy	ABC @0.61	27,936	$17,041
					$31,291

Calculation

Current Date	client balance less collateral	Risk Amount @ 3%	Transactions unsettled > 10 Business Days			Counterparty Risk Amount	Risk Weighted Counterparty Risk Amount (@ 50%)
			3%	MTM	risk amount		
	1	2 [1] (1 × 3%)	3	4	5 (max {3 , 4})	6 (2 + 5)	7 (6 × 50%)
15/11/16	$17,041	$75	$428	$1,250	$1,250	$1,325	$663

[1]   *ASX Clear Operating Rule 7.2 has been applied, as the transaction has been outstanding for more than 2Business Days but not more than 10 Business Days.*

RECONCILIATION - before applying the counterparty risk weighting

1/11/16 transaction
As at close of business 15/11/16 this transaction has been outstanding for greater than 10 Business Days following transaction date and the Participant has elected to follow the mark to market approach permitted within the Rule rather than taking 100% of the contract value. The market price of the stock is $0.52 on 15/11/16 so the market value of the stock is $13,000 (25,000 units @ 0.52).

Accordingly, the counterparty risk amount is the greater of:
loss = contract value – market value = 14,250 – 13,000=   1,250
or
contract value * 3 % = 14,250 * 3% =   428

2/11/16 transaction
As at close of business 15/11/16 this transaction has been outstanding for more than 2 Business Days but less than 10 Business Days following transaction date and the Participant has chosen to apply ASX Clear Operating Rule 7.2.

Accordingly, the counterparty risk amount is 3% of the mark to market loss:
contract value =   17,041
market value= 27,936 units @ 0.52 =   14,526
loss = 2,515 * 3% =   75

(B)   **Example 2 – AUD Client Agency Trades – Collateral held**

(1)   **Buy and Sell Outstanding < 2 Business Days**

Transaction Details
Client XYZ is an *approved institution* (and the Participant has the documentation to support this) and both trades remain unsettled, however a separate collateral agreement exists and $1,000 scrip is currently held (assume the market value of the scrip does not change).

Current Date	Transaction Date	Buy / Sell	Stock Details	Units	Amount
2/11/16	1/11/16	Buy	ABC @0.57	25,000	$14,250
2/11/16	1/11/16	Sell	DEF @ 0.61	27,936	($17,041)
			client balance before collateral		($2,791)
			client balance after collateral		($1,791)

Calculation

Current Date	*client balance less collateral* 1	Risk Amount @ 3% 2 (1 × 3%)	Transactions unsettled > 10 Business Days			Counterparty Risk Amount 6 (2 + 5)	Risk Weighted Counterparty Risk Amount (@ 50%) 7 (6 × 50%)
			3% 3	MTM 4	risk amount 5 (max {3 , 4})		
2/11/16	$1,791	$54	-	-	-	$54	$27

RECONCILIATION - before applying the counterparty risk weighting

1/11/16 transactions

As at close of business 2/11/16 these transactions have been outstanding for 1 Business Day following transaction date. The Participant may optimise the allocation of the collateral and this is achieved by applying the collateral against the contract value for the sell rather than the buy.

Accordingly, the counterparty risk amount is 3% of the adjusted *client balance*:
adjusted *client balance* * 3 % = 1,791 * 3% =   54

(C)   **Example 3 – Foreign Currency Client Agency Trades**

(1)   **Introduction**

(a)   **General**

The principles for calculating a counterparty risk amount outlined in the examples above should also be applied to any foreign currency client agency trades. However, as noted earlier in this section of the Handbook, these types of trades have an additional risk component to them and this is the foreign currency risk.

Whilst the calculation of a foreign exchange position risk amount will not be discussed here (refer to the guidance section for Annexure 3, Part 3 in the Handbook) a number of types of foreign currency client agency trades will be briefly considered to illustrate the interaction between the two risk requirements (i.e. the *counterparty risk requirement* and the *position risk requirement*).

(2)   **Examples**

(a)   **Client buys or sells a US security and settles in USD**

If a client buys a US security and settles in USD, then the Participant would be long the USD coming from the client and short the USD to be paid to the market.

These two amounts can be offset and if they equal each other then there would be no foreign exchange *position risk requirement*.

A client sell would be the reverse of the above.

(b)   Client buys or sells a US security settling in EUR

If a client buys a US security and settles in EUR, then the Participant would be long EUR and short the USD to be paid to the market.

To hedge these amounts the Participant would sell EUR to cover the client amount and buy USD to cover the market.

If the amounts arising from the contract are fully hedged immediately then there would be no foreign exchange *position risk requirement*. If, however, the amounts are not hedged, then the long EUR and short USD positions would have to be included in the calculation of a foreign exchange *position risk requirement*. A client sell would be the reverse of the above.

(c)   Client buys or sells ASX security settling in USD

If a client buys an ASX security and settles in USD, then the Participant would be long USD from the client and short the AUD.

To hedge the USD amount the Participant would sell USD. There is no need to consider the AUD as there is no foreign exchange risk on AUD (assuming that the Participant's base currency is AUD).

If the USD amount arising from the contract is fully hedged immediately then there would be no foreign exchange *position risk requirement*. If, however, the amount is not hedged, then the long USD position would have to be included in the calculation of a foreign exchange *position risk requirement*.

A client sell would be the reverse of the above.

(d)   Client buys or sells US security settling in AUD

If a client buys a US security and settles in AUD, then the Participant would be long AUD from the client and short the USD to be paid to the market.

To hedge the USD amount the Participant would buy USD. There is no need to consider the AUD as there is no foreign exchange risk on AUD (assuming that the Participant's base currency is AUD).

If the USD amount arising from the contract is fully hedged immediately then there would be no foreign exchange *position risk requirement*. If, however, the amount is not hedged, then the short USD position would have to be included in the calculation of a foreign exchange *position risk requirement*.

(c) **Clause 3 – Free Delivery Method**

(i) **Rule**

3	**FREE DELIVERY METHOD**

For a Free Delivery in a Financial Instrument, the counterparty risk amount for the Counterparty is:

(a) 8% of that part of the contract value subject to a Free Delivery, where payment or delivery of the Financial Instrument which is the subject of a Free Delivery remains outstanding for less than 2 Business Days following the settlement date; and

(b) 100% of that part of the contract value subject to a Free Delivery, where payment or delivery of the Financial Instrument remains outstanding for greater than 2 Business Days following the settlement date.

A Participant may reduce the contract value by the amount of collateral held by the Participant on behalf of the Counterparty if the collateral is Liquid, valued at the mark to market value or another value approved by ASX Clear and the collateral arrangement is evidenced in writing between the Participant and Counterparty.

(ii) **Formula**

$$cra_{fd} = \sum_{ccy=1}^{n}\left[\sum_{c=1}^{m}\left[\left[\left(0.08 \times CV_{<2}\right) + \left(CV_{\geq 2}\right)\right] \times CRW\right]_c\right]_{ccy}$$

Where:

cra_{fd} = *counterparty risk amount under the free delivery method*
c = *client or **counterparty***
m = *the number of clients or **counterparties** (c) with whom the Participant has **free delivery** transactions.*
n = *number of currencies*
ccy = *currency*
CV = *the unpaid or undelivered portion of the contract value of unsettled trades*
<2 = *refers to less than 2 business days, and ≥ 2 refers to greater than or equal to 2 business days*
CRW = *counterparty risk weighting*

(iii) **Guidance**

(A) **General**

The general principle associated with this method is that where a Participant has made a ***free delivery***, the Participant is required to hold a greater amount of capital than is required under the non-margined financial instruments method.

A ***free delivery*** is where:

1. in the case of a client purchase, the Participant has delivered the stock to the client or ***counterparty*** but the client or ***counterparty*** has not yet paid the Participant (or has only made a partial payment); or

2.   in the case of a client sale, the Participant has paid the client or *counterparty* (either in full or in part) but the client or *counterparty* has not yet provided any of the stock that is the subject of the transaction (or has only provided some of the stock).

The above applies regardless of whether the client or *counterparty* is issuer sponsored or participant sponsored. For a client purchase, once the Participant has registered the stock into the client's account, whether it be an issuer sponsored or participant sponsored account, the Participant has lost control of the stock as it has no right to sell the stock to recover the amount owing without the client or *counterparty's* agreement.

A *free delivery* may be made prior to or after the Participant has settled with the market. For example, for an ASX market trade, a *free delivery* may be made by a Participant prior to T_{+2}, on T_{+2} or after T_{+2}.

(B)   Exchange Traded Funds

As noted in the guidance for Annexure 1, clause 1, in the event of a default in the settlement of a primary market transaction (where the Participant transfers underlying securities (in the case of a subscription for ETF units) or ETF units (in the case of a redemption), and does not receive the corresponding ETF units or underlying securities, or some other cash consideration), a counterparty risk amount under the free delivery method must be calculated from the time those assets or cash were due to be settled.

(C)   Method

(1)   Partial Free Delivery

It is possible that a Participant may make a partial *free delivery* whereby, for a client purchase, the Participant delivers stock to the client or *counterparty* when the client or *counterparty* has made a partial payment or, for a client sale, the Participant makes either full or part payment to the client or *counterparty* when the client or *counterparty* has not provided any or all of the particular stock.

Only that part of the contract value that is subject to a *free delivery* is included in the calculation under the free delivery method, ie, that portion of the contract value that the Participant has settled with the client or *counterparty* but which the client or *counterparty* has not yet settled with the Participant.

Any portion of the contract value that the Participant has not yet settled with the client or *counterparty* continues to form part of the *client balance* and continues to be subject to a counterparty risk amount under the non-margined financial instruments method.

The following tables show the possible scenarios and the approach to be followed in each case.

Table 1 - Unsettled client purchases

Criteria	Method
Stock is registered in client's account prior to the client paying any of the money owed.	Free Delivery Method (based on full contract value)
Stock is registered in client's account and the client has made a partial payment.	Free Delivery Method (based on proportion of contract value that the client has not yet settled)

Table 2 - Unsettled client sales

Criteria	Method
Client is paid in full prior to the Participant receiving any of the stock from the client.	Free Delivery Method (based on full contract value)
Client is paid in full and the client has delivered some but not all of the stock required.	Free Delivery Method (based on proportion of contract value that the client has not yet settled)
Client is paid in part prior to the Participant receiving any or all of the stock from the client.	Free Delivery Method (based on excess of amount paid to the client over the amount settled by the client) **and** Non-Margined Financial Instruments Method (based on amount not yet settled by either party)

(2) Timing

Once a Participant has made a *free delivery*, that portion of the transaction subject to a *free delivery* no longer forms part of the *client balance.*

In the context of the free delivery method, T_S is the day that the Participant makes the *free delivery*, i.e. the day that the Participant settles with the client or *counterparty*. It is not the market settlement date (e.g. T_{+2} for "normal" ASX market trades).

(a) From T_S to T_{S+2}

The counterparty risk amount on these transactions is 8% of that part of the contract value that is subject to a *free delivery.* This applies from the date the *free delivery* is made and up to 2 Business Days after that date.

(b) Past T_{S+2}

If the client or *counterparty* has still failed to settle after 2 Business Days the counterparty risk amount on the transaction will be 100% of that part of the contract value that is subject to a *free delivery*. This commences from close of business on T_{S+2}.

(D) Reducing the Counterparty Risk Amount

At the option of the Participant, the counterparty risk amounts calculated in accordance with the free delivery method can be reduced. This can be achieved through:

1. collateralisation; and

2. counterparty risk weighting.

(1)   Collateral Arrangements

(a)   Criteria

Under some circumstances the counterparty risk amount can be reduced by the amount of collateral held by the Participant as long as the following conditions are met:

1.   the collateral must satisfy the definition of *liquid* (i.e. realisable or otherwise convertible to cash within 31 days) and therefore will generally be limited to debt or *equity* securities. Any collateral which is held in escrow and unable to be converted to cash within 31 days would not meet the definition of *liquid*;

2.   the collateral must be unrelated to a particular or specific transaction (that is, the securities underlying a client purchase **are not** considered to be collateral);

3.   the Participant must have full control over the collateral so that if the client or *counterparty* defaults, the Participant can liquidate the collateral to recover the amount owing. This would require, in the case of *equity* securities lodged as collateral, that the securities be lodged in a participant sponsored account. Securities lodged as collateral which cannot be accessed by the Participant without the approval of a third party or are otherwise encumbered cannot be recognised as collateral for the purposes of this Rule. Similarly, if a Participant's exposure to a *counterparty* has been guaranteed by another entity, the guarantee is not eligible as collateral for the purposes of reducing the counterparty risk amount as the Participant does not have full control and is dependent on the guarantor to realise any amounts owing to it. However, where an exposure to a *counterparty* has been guaranteed by an *approved deposit taking institution,* a counterparty risk weighting of 20 per cent can be applied instead of the risk weighting of the *counterparty* provided that certain conditions are met (refer to the guidance section for clause 8);

4.   the lodgement of the collateral must be evidenced in writing (i.e. it must be documented by a legally binding agreement between the Participant and the client or *counterparty*). The Participant must have established that the client or *counterparty* and the persons signing have the legal capacity to enter into the agreement and to provide the nominated collateral (e.g. the client or *counterparty* is an appropriately registered company and the person executing the agreement has the authority to enter into the agreement on behalf of that company). The collateral agreement must provide for the Participant to deal with that collateral in the event that the client or *counterparty* defaults on its settlement of the relevant transactions to recover any amounts owed to the Participant. Alternatively, if an ASX Clear Operating Rule permits a Participant to deal with a "collateral" type amount in the event of a client default, then there is no need to have a separate written collateral agreement covering the same transaction for the purposes of the Risk Based Capital Requirements. Separate written collateral agreements are, however, always recommended to ensure the client is aware of the actions that the Participant may take in the event of a default (also see comment below on ASX Settlement Rule 7.2.2). ASX Clear recommends that independent legal advice be obtained to assist the Participant with the documentation of collateral arrangements; and

5.   the collateral must be valued at market value or at another value approved by ASX Clear.

Collateral must satisfy the above criteria and may only be applied in accordance with the conditions specified in the collateral agreement and to the extent allowed under the following guidance.

(b)   Guidance

In reducing the contract value by the amount of collateral, the collateral must be marked to market and must be offset on a transaction by transaction basis.

If the security lodged as collateral is subject to a trading halt, the last market value may be used since a trading halt is only placed on a security for two days. If, however, the security is subject to suspension, the market value should be taken as nil on the basis that the security is not *liquid*.

If the collateral in its entirety is not considered *liquid*, it cannot be used to reduce the counterparty risk amount. If only a percentage of the collateral can be considered *liquid*, only that percentage can be applied to reduce the counterparty risk amount. The guidance given for Rule S1.2.1 in the section on Excluded Assets (Principal Positions in Financial Instruments) in relation to identifying if a position is *liquid* should also be applied to determine if the collateral is *liquid*.

(c)   ASX Settlement Rule 7.2.2

While ASX Settlement Rule 7.2.2(f) gives the right to a Participant to refuse to comply with a client's withdrawal instructions where that client is participant sponsored, and to retain securities equal to 120% of the current value claimed, as it does not permit the Participant to deal with the securities held, it may not be used to reduce any counterparty risk amounts.

However, if a Participant has a separate legal agreement (or the appropriate clause is included in the client agreement form signed by the client) that satisfies the five criteria noted above, other stocks held by the Participant may be applied as collateral against the outstanding transaction. A Participant should obtain legal advice on this matter before it utilises this type of collateral.

(2)   Counterparty Risk Weighting

(a)   General

Under clause 8 of Annexure 1, once the counterparty risk amount has been calculated it can be multiplied, at the option of the Participant, by the counterparty risk weighting applicable for that *counterparty* as specified in Annexure 5, Table 2.1 (refer to the guidance section for clause 8). This calculation must be applied to a *counterparty* consistently. That is, the Participant cannot selectively apply the weighting and once it weights a *counterparty*, it must weight that *counterparty* consistently across all methods within Annexure 1. This process is undertaken under each of the methods in clauses 2 to 7 of Annexure 1.

(iv)   Examples

A number of examples are provided below to assist in the understanding of this Rule.

The calculations are based on **close of business** balances and would differ if calculating the risk amounts during the Business Day prior to settlement of the transactions (i.e. the capital liquidity requirements of this Rule must be satisfied at all times).

Reference to this calendar may assist.

NOVEMBER 2016

S	M	T	W	T	F	S
		T_0 1	T_{+1} 2	T_{+2} 3	T_{+3} 4	5
6	T_{+4} 7	T_{+5} 8	T_{+6} 9	T_{+7} 10	T_{+8} 11	12
13	T_{+9} 14	T_{+10} 15	T_{+11} 16	T_{+12} 17	T_{+13} 18	19
20	T_{+14} 21	T_{+15} 22	T_{+16} 23	T_{+17} 24	T_{+18} 25	26
27	T_{+19} 28	T_{+20} 29	T_{+21} 30			

(A) Example 1 – Full Settlement

(1) Transaction Details

On 1/11/16 the client purchases, on market, $500,000 of *equity* securities.

On 3/11/16, the Participant settles the transaction with the market and transfers the securities to the issuer sponsored client. The client does not pay the Participant. The Participant has a credit line to the client and this transaction exposure is within the credit limit. The client is risk weighted at 50%. The client does not settle this transaction until 10/11/16.

(2) Calculation

Date	Transaction Value	Risk Factor	Risk Amount	Risk Weight	Weighted Risk Amount
1/11/16 [1]	$500,000	3%	$15,000	50%	$7,500
3/11/16	$500,000	8%	$40,000	50%	$20,000
4/11/16	$500,000	8%	$40,000	50%	$20,000
7/11/16	$500,000	100%	$500,000	50%	$250,000
8/11/16	$500,000	100%	$500,000	50%	$250,000
9/11/16	$500,000	100%	$500,000	50%	$250,000
10/11/16 [2]	$500,000	100%	$500,000	50%	$250,000

[1]   *The transaction should be treated under the non-margined financial instruments method until the date of the **free delivery.***

[2]   *Capital required up until the time of client settlement on 10/11/16 (i.e. no capital required as at cob on 10/11/16).*

(B) Example 2 – Partial Settlement

(1) Transaction Details

On 1/11/16 the client sells, on market, $500,000 of *equity* securities and the Participant pays the client $250,000. The client is risk weighted at 50%.

On 4/11/16, the client delivers all of the scrip subject to the sale.

(2)   Calculation

Date	Transaction Value	Free Delivery Amount	Client Balance Amount	Free Delivery Risk Factor	Client Balance Risk Factor	Total Risk Amount	Risk Weight	Weighted Risk Amount
1/11/16	$500,000	$250,000	$250,000	8%	3%	$27,500	50%	$13,750
2/11/16	$500,000	$250,000	$250,000	8%	3%	$27,500	50%	$13,750
3/11/16	$500,000	$250,000	$250,000	100%	3%	$257,500	50%	$128,750
4/11/16 [1]	$500,000	$250,000	$250,000	100%	3%	$257,500	50%	$128,750

[1]   *Capital required up until the time of client settlement on 4/11/16 (i.e. no capital required as at cob on 4/11/16).*

RECONCILIATION - before applying the counterparty risk weighting

1/11/16 to close of business 3/11/16
The transaction has been outstanding for 2 Business Days and there has only been a partial *free delivery.*
Accordingly, the counterparty risk amount is:

client balance * 3% = 250,000 * 3% =   7,500
plus
free delivery * 8% = 250,000 * 8% =   20,000
total =   27,500

From close of business 3/11/16 to settlement on 4/11/16
The transaction has been outstanding for greater than 2 Business Days and there has only been a partial *free delivery.*
Accordingly, the counterparty risk amount is:

client balance * 3% = 250,000 * 3% =   7,500
plus
free delivery * 100% = 250,000 * 100% =   250,000
total =   257,500

(d)   Clause 4 – Securities Lending and Borrowing Method

(i)   Rule

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4   SECURITIES LENDING AND BORROWING METHOD

For the purposes of this clause, counterparty exposure means the amount by which the market value of Equity or Debt Instruments or cash given by the Participant to the Counterparty exceeds the market value of Equity or Debt Instruments or cash received by the Participant from the Counterparty.

Counterparty exposure may be calculated on a net basis where the relevant transactions are subject to a written agreement that supports netting across different transactions.

For a Securities Lending and Borrowing transaction, the counterparty risk amount for a Counterparty, from the transaction date is:

(a)   zero, if across all Counterparties to Securities Lending and Borrowing transactions, the sum of each counterparty exposure is less than or equal to $10,000; or

(b)

   (i)   8% of the counterparty exposure , where:

      A.   the Securities Lending and Borrowing is subject to a written agreement that supports netting across different transactions; and

      B.   the value of the counterparty exposure is less than or equal to 15% of the market value of Equity or Debt Instruments or cash received by the Participant from the Counterparty; or

   (ii)   8% of the amount equivalent to 15% of the market value of the Equity or Debt Instruments or cash received by the Participant from the Counterparty plus 100% of the amount of the difference between the counterparty exposure and 15% of the market value of Equity or Debt Instruments or cash received by the Participant from the Counterparty, where:

      A.   the Securities Lending and Borrowing is subject to a written agreement that supports netting across different transactions; and

      B.   the value of the counterparty exposure is greater than 15% of the market value of the Equity or Debt Instruments or cash received by the Participant from the Counterparty ;

(c)   100% of the counterparty exposure, if:

   (i)   clause 4(a) and clause 4(b) do not apply; or

   (ii)   if clause 4(b) does apply but the Participant elects to calculate the amount under clause 4(c).

(ii) Formula

If $\sum\limits_{i=1}^{m}\left(CE_i\right) \leq \$10,000$, then $cra_{sl\&b}$ = 0, else

$$cra_{sl\&b} = \sum_{ccy=1}^{n}\left[\sum_{i=1}^{m}\left(0.08 \times CE \times CRW\right)_i\right]_{ccy} \quad if \ \frac{CE_i}{C_i} \leq 0.15$$

and

$$cra_{sl\&b} = \sum_{ccy=1}^{n}\left[\sum_{i=1}^{m}\left(\left[CE - \{0.92 \times 0.15 \times C\}\right] \times CRW\right)_i\right]_{ccy} \quad if \ \frac{CE_i}{C_i} > 0.15$$

or, where directed by clause 4(c),

$$cra_{sl\&b} = \sum_{ccy=1}^{n}\left[\sum_{i=1}^{m}\left(CE \times CRW\right)_i\right]_{ccy}$$

Where:

$cra_{sl\&b}$ = counterparty risk amount under the securities lending and borrowing method

i = **securities lending and borrowing** transaction i

m = the number of **securities lending and borrowing** transactions across all **counterparties**

n = number of currencies

ccy = currency

CE = counterparty exposure as determined in accordance with the requirements of clause 4

C = market value of securities or cash received by the Participant from the **counterparty**

CRW = counterparty risk weighting

(iii) Guidance

(A) General

Where **securities lending and borrowing** arrangements require the Participant to give the **counterparty** securities with a market value, or cash, in excess of the market value of securities, or cash, received by the Participant from the **counterparty**, this method requires capital to be held by the Participant against that excess. The method takes into account market practice with respect to accepted levels of excess and with respect to how Participants account for cash and securities lent and borrowed.

The Rule only requires capital against transactions with an aggregate positive counterparty exposure to all **securities lending and borrowing** transactions in excess of $10,000. Participants are provided with two alternate methods for calculating the counterparty risk amount.

(B) Related/Associated Person Balances

As noted in the definition of a **related/associated person balance,** where a **securities lending and borrowing** transaction has been conducted on terms "no more favourable to the **related/associated person** than those on which it would be reasonable to expect the Participant to make if it had entered into the transaction on an arm's length basis" then the transaction does not have to be treated as an **excluded asset.**

(C)   Methods

(1)   Timing

Once a Participant has entered in to a *securities lending and borrowing* transaction, a calculation should be made to determine if a counterparty risk amount is required.

(a)   From T_0

The counterparty risk amount under the securities lending and borrowing method commences from transaction date.

(2)   Counterparty Exposure (CE)

The key calculation for *securities lending and borrowing* transactions is to determine the counterparty exposure to each individual *counterparty.* This is the difference between the market value of the securities or cash given by the Participant to the *counterparty* and the market value of the securities or cash received by the Participant from the *counterparty*. A counterparty risk amount is only calculated where this difference is positive (ie, the *counterparty* owes the Participant). That is, if the *counterparty* were to default, the Participant would suffer a financial loss. Such a loss would occur, for example, if the *counterparty* defaulted and the market value of the securities or cash given by the Participant to the *counterparty* exceeded the market value of the securities or cash received by the Participant from the *counterparty*.

In calculating the total net CE to an individual *counterparty*, and in the event that there are several *securities lending and borrowing* transactions with that *counterparty*, positive and negative transaction level CE's can be netted if there is a legally binding and enforceable netting agreement between the Participant and the *counterparty* that covers the relevant transactions. If a Participant has a total net negative CE to a *counterparty*, it cannot be offset against the total net positive CE of another *counterparty*.

(a)   CE $\leq$ $10,000

If the sum of the <u>positive</u> CE's across all *counterparties* with which the Participant has outstanding *securities lending and borrowing* transactions is less than or equal to $10,000, there is no requirement to calculate a counterparty risk amount for *securities lending and borrowing*. In calculating this amount, only positive CE's **on a *counterparty* basis** can be taken into account.

(b)   CE > $10,000

If the total of positive CE's across all *counterparties* exceeds $10,000, the Participant has the option to calculate the counterparty risk amount in one of two ways. It can take the operationally simpler approach of taking 100% of the CE as the counterparty risk amount (clause 4(c)) or, alternatively, calculate the counterparty risk amount with reference to the value of the CE relative to the market value of the securities or cash received by the Participant from the *counterparty* (clause 4(b)).

Note, the 100% option, which is more capital intensive, is mandatory where the *securities lending and borrowing* transaction(s) are not subject to a written agreement.

Under the approach in clause 4(b), the counterparty risk amount will be 8% of the CE where the value of the CE is less than or equal to 15% of the market value of the securities or cash received by the Participant from the *counterparty*. Where this percentage exceeds 15%, the counterparty risk amount will be the sum

of 8% of 15% of the market value of securities or cash received by the Participant from the *counterparty* plus 100% of the difference between the CE amount and 15% of the market value of securities or cash received by the Participant from the *counterparty*.

The netting principles discussed earlier apply in the calculation of the total counterparty risk amount under both of these alternatives.

(3) Securities Subject to Trading Halts or Suspension

In determining the market value of securities given or received by the Participant, if the securities are subject to a trading halt, the last market value may be used since a trading halt is only placed on a security for two days. If, however, the securities are subject to suspension, the market value should be taken as nil on the basis that the securities are not *liquid*.

(D) Reducing the Counterparty Risk Amount

At the option of the Participant, the counterparty risk amounts calculated in accordance with the securities lending and borrowing method can be reduced. This can be achieved through:

1.   counterparty risk weighting.

(1) Counterparty Risk Weighting

(a) General

Under clause 8 of Annexure 1, once the counterparty risk amount has been calculated it can be multiplied, at the option of the Participant, by the counterparty risk weighting applicable for that *counterparty* as specified in Annexure 5, Table 2.1 (refer to the guidance section for clause 8). This calculation must be applied to a *counterparty* consistently. That is, the Participant cannot selectively apply the weighting and once it weights a *counterparty*, it must weight that *counterparty* consistently across all methods within Annexure 1. This process is undertaken under each of the methods in clauses 2 to 7 of Annexure 1.

(iv) Example

(A) Transaction Details

Assume a Participant has the following open *securities lending and borrowing* transactions. Also assume that the Participant has executed a *securities lending and borrowing* agreement with each *counterparty* and that those agreements support netting.

Participant Lends Securities			Participant Borrows Securities		
Market Value of Securities Lent "OUT"	Ratio %	Market Value of Securities or Cash received from the Counterparty "IN"	Market Value of Securities Borrowed "IN"	Ratio %	Market Value of Securities or Cash given to the Counterparty "OUT"
Counterparty 1					
$700,000	120	$840,000	$400,000	140	$560,000
			$200,000	105	$210,000
$700,000	120	$840,000	$600,000	128.33	$770,000
Net Securities/Cash Received ("IN") $1,440,000			Net Securities/Cash Given ("OUT") $1,470,000		
Net Positive Counterparty Exposure **$30,000**					
Counterparty 2					
$1,000,000	110	$1,100,000			
Net Securities/Cash Received ("IN") $1,100,000			Net Securities/Cash Given ("OUT") $1,000,000		
Net Negative Counterparty Exposure **$(100,000)**					
Counterparty 3					
$550,000	105	$577,500	$650,000	135	$877,500
$1,250,000	105	$1,312,500	$890,000	150	$1,335,000
$1,800,000	105	$1,890,000	$1,540,000	143.67	$2,212,500
Net Securities/Cash Received ("IN") $3,430,000			Net Securities/Cash Given ("OUT") $4,012,500		
Net Positive Counterparty Exposure **$582,500**					

(B) Calculation

In determining whether or not a counterparty risk amount needs to be calculated, determine if the sum of all counterparty exposures (CE's) exceed $10,000.

The Participant does not have a CE to Counterparty 2 as the Participant has received securities or cash from the **counterparty** with a value in excess of the value of securities or cash that it has given to the **counterparty**.

The Participant has positive CE's to Counterparties 1 and 3 totaling $612,500, which is greater than $10,000, and therefore the Participant must calculate a counterparty risk amount under the securities

lending and borrowing method. Note that the difference between amounts received in and paid out for Counterparty 2 have not been netted against the positive CE's to Counterparties 1 and 3 in determining if a counterparty risk amount is required.

Counterparty 1:

The net CE is $30,000, which as a ratio to the total market value of securities or cash received from the ***counterparty*** (in this case $1,440,000) is 2.08%. This is less than the 15% threshold and therefore the counterparty risk amount is:

$30,000 x 8% = $2,400

Counterparty 3:

The net CE is $582,500, which as a ratio to the total market value of securities or cash received from the ***counterparty*** (in this case $3,430,000) is 16.98%. This is greater than the 15% threshold and therefore the counterparty risk amount is:

$3,430,000 x 15% x 8% = $41,160
         plus
$582,500 – ($3,430,000 x 15%) = $68,000

Therefore the total counterparty risk amount to Counterparty 3 is $109,160.

Therefore the total counterparty risk amount for the Participant under the securities lending and borrowing method is:

Counterparty 1:	**$2,400**
Counterparty 2:	**0**
Counterparty 3:	**$109,160**
Total:	**$111,560**

(e)   Clause 5 – Margined Financial Instruments Method

(i)   **Rule**

5	**MARGINED FINANCIAL INSTRUMENTS METHOD**

For trades in Financial Instruments which are margined, other than unsettled trades in margined Equities, Debt Instruments and warrants, the counterparty risk amount for a Counterparty:

(a)   is the full value of the outstanding settlement amount, premium, deposit or margin call that the Counterparty is required to pay to the Participant, regardless of whether or not the Participant is required to pay that amount to an exchange, clearing house or other entity;

(b)   is the full value of the outstanding settlement amount, premium, deposit or margin call that is due from an entity with respect to client or house trades cleared by that entity;

(c)   commences at the time that amounts are normally scheduled for payment to the relevant exchange or clearing house.

A Participant may reduce the unpaid settlement amount, premium, deposit or margin call by the amount of cash paid by the Counterparty or collateral held by the Participant on behalf of the Counterparty if the collateral is Liquid, valued at the mark to market value or another value approved by ASX Clear and the collateral arrangement is evidenced in writing between the Participant and Counterparty.

(ii)   **Formula**

$$cra_{mfi} = \sum_{ccy=1}^{n} \left[\sum_{c=1}^{m} \left[\left[\max(M - cp, 0) \right] \times CRW \right]_c \right]_{ccy}$$

where:
cra_{mfi} = counterparty risk amount under the margined financial instruments method
c = client or **counterparty**
m = number of clients and **counterparties**
n = number of currencies
ccy = currency
M = amount payable by the client or **counterparty**
cp = cash or collateral paid by client or **counterparty** in respect of the specific margined transaction
CRW = counterparty risk weighting

(iii)   **Guidance**

(A)   **General**

The general principle behind the margined financial instruments method is the requirement to hold capital equal to the amounts owed to the Participant by clients in respect of transactions in margined instruments for both end of day and intra-day margin calls.

It should be noted that an OTC Options Market Transaction under the ASX Equity FlexClear service is margined and is treated no differently to transactions in margined exchange traded instruments such as

exchange traded **options.** Similarly, exposures to clients arising from **OTC derivatives** that are cleared by ASX Clear (Futures) Pty Ltd should be captured under the margined financial instruments method. However margined **equity, debt instrument** and warrant transactions are not subject to the margined financial instruments method.

There is no requirement to calculate a capital amount on amounts owed by the relevant exchange or clearing house to the Participant.

If a Participant intends to engage in any margined OTC transactions which are not cleared by ASX Clear or ASX Clear (Futures) Pty Ltd, they need to contact ASX Clear to determine the appropriate capital requirements.

(B)   Method

(1)   Amounts Subject to a Counterparty Risk Calculation

(a)   General

The counterparty risk amount under the margined financial instruments method is 100% of the amounts owed to the Participant (excluding amounts owed by the relevant exchange or clearing house).

A counterparty risk amount must be calculated for amounts due from all **counterparties**, whether they are "normal agency clients" or other participants in the relevant market.

A counterparty risk amount applies to amounts due to the Participant regardless of whether or not the Participant is required to then pay the amounts to an exchange, clearing house or other entity (eg, clearer).

For example, the Participant may be due to receive $5,000 from Client A and due to pay $5,000 to Client B. These amounts net off and the Participant has no obligation to pay any money to the exchange or clearing house (or, if applicable, its clearer). However, this does not mean the Participant's counterparty risk amount is nil. The Participant still has a counterparty risk amount in respect of the $5,000 it is owed from Client A.

In the situation where a Participant holds client option positions in a suspense account pending account allocation advice by the client, a counterparty risk amount needs to be calculated under the margined financial instruments method on any amounts due by the client on those positions.

(b)   Trading Arrangement with a Futures Broker

Initial margins lodged with a futures broker or clearer are not treated as **excluded assets** (as per part (e)(iii) of this defined term) and are not subject to a counterparty risk calculation.

Variation margins which are due to be returned to the Participant as a result of positions moving in the Participant's favour are subject to a counterparty risk calculation under the margined financial instruments method. Variation margins which are not returned to the Participant on a daily basis (ie, remain in the possession of the broker or clearer to pay for future margins as needed) are considered surplus funds and as such should be treated as **excluded assets**.

Any surplus funds held with a futures broker or clearer should be treated as **excluded assets**. However, surplus funds held with a broker or clearer that is an **approved deposit taking institution** or with ASX Clear

(Futures) Pty Limited are not considered *excluded assets* (as per parts (e)(i) and (e)(v), respectively, of that defined term).

(2) Timing

The general principle is that a Participant should be prepared to hold capital from T_0. However as a practical matter and for the purposes of satisfying this Rule, the obligation to calculate a risk amount is deemed to be as follows.

(a) Amounts Owing From "Normal Agency Clients"

The obligation to calculate a risk amount for amounts owing from "normal agency clients" excluding other participants in the relevant market will be deemed to be from the time that amounts are normally scheduled for payment to the relevant exchange or clearing house, regardless of whether the Participant actually has to make a payment to the exchange or clearing house.

For example, all "normal" payments to ASX Clear are scheduled to be made by 10:30 am each day. Therefore, the Participant would be required to calculate a risk amount from that time for amounts owing from clients in relation to *derivative* trades conducted on the ASX market. Payments must be released via Austraclear and in a "settled" state by 10.30 am. Therefore, this is considered to be the relevant time for the commencement of a counterparty risk amount.

If ASX Clear makes an intra-day margin call, the Participant would be required to calculate a risk amount from the time ASX Clear specifies the margin call is due to be paid.

(b) Amounts Owing From Other Participants

The obligation to calculate a risk amount for amounts owing from other participants in the relevant market will be deemed to be from the close of business on the day the payment is due to be received. This differs from the timing for amounts due from clients in recognition of the fact that, in practice, a Participant will be unable to readily identify if it has received payments processed electronically from other participants until the end of the day.

(c) Additional Guidance – LEPOs

In some instances an amount owed to the Participant may not represent a settlement amount, premium, deposit or margin call and hence does not represent a *derivative* exposure. Such amounts should not be included in the calculation of the risk amount under this clause but rather, should be included in the more relevant clause within this Annexure.

For example, once a Low Exercise Price Option (LEPO) is exercised by a client, the exercise amount payable from the client to the Participant reflects more closely the exposure of an agency *equity* trade rather than an *equity derivative*. In this instance the exercise amount is not in the nature of a settlement amount, premium, deposit or margin and hence does not need to be included in clause 5. It should, however, be included in the calculation of a risk amount under clause 2 for the relevant client.

(C) Reducing the Counterparty Risk Amount

At the option of the Participant, the counterparty risk amounts calculated in accordance with the margined financial instruments method can be reduced. This can be achieved through:

1.   collateralisation; and

2.   counterparty risk weighting.

(1)   Collateral Arrangements

(a)   Criteria

Under some circumstances the counterparty risk amount can be reduced by the amount of collateral held by the Participant as long as the following conditions are met:

1.   the collateral must satisfy the definition of *liquid* (i.e. realisable or otherwise convertible to cash within 31 days) and therefore will generally be limited to debt or *equity* securities. Any collateral which is held in escrow and unable to be converted to cash within 31 days would not meet the definition of *liquid*;

2.   the collateral must be unrelated to a particular or specific transaction (note, collateral **is different and in addition to** any cash or collateral paid to the relevant exchange or clearing house in respect to specific transactions);

3.   the Participant must have full control over the collateral so that if the client or *counterparty* defaults, the Participant can liquidate the collateral to recover the amount owing. This would require, in the case of *equity* securities lodged as collateral, that the securities be lodged in a participant sponsored account. Securities lodged as collateral which cannot be accessed by the Participant without the approval of a third party or are otherwise encumbered cannot be recognised as collateral for the purposes of this Rule. Similarly, if a Participant's exposure to a *counterparty* has been guaranteed by another entity, the guarantee is not eligible as collateral for the purposes of reducing the counterparty risk amount as the Participant does not have full control and is dependent on the guarantor to realise any amounts owing to it. However, where an exposure to a *counterparty* has been guaranteed by an *approved deposit taking institution,* a counterparty risk weighting of 20 per cent can be applied instead of the risk weighting of the *counterparty* provided that certain conditions are met (refer to the guidance section for clause 8);

4.   the lodgement of the collateral must be evidenced in writing (i.e. it must be documented by a legally binding agreement between the Participant and the client or *counterparty*). The Participant must have established that the client or *counterparty* and the persons signing have the legal capacity to enter into the agreement and to provide the nominated collateral (e.g. the client or *counterparty* is an appropriately registered company and the person executing the agreement has the authority to enter into the agreement on behalf of that company). The collateral agreement must provide for the Participant to deal with that collateral in the event that the client or *counterparty* defaults on its settlement of the relevant transactions to recover any amounts owed to the Participant. Alternatively, if an ASX Clear Operating Rule permits a Participant to deal with a "collateral" type amount in the event of a client default, then there is no need to have a separate written collateral agreement covering the same transaction for the purposes of the Risk Based Capital Requirements. Separate written collateral agreements are, however, always recommended to ensure the client is aware of the actions that the Participant may take in the event of a default (also see comment below on ASX Settlement Rule 7.2.2). ASX Clear recommends that independent legal advice be obtained to assist the Participant with the documentation of collateral arrangements; and

5.   the collateral must be valued at market value or at another value approved by ASX Clear.

Collateral must satisfy the above criteria and may only be applied in accordance with the conditions specified in the collateral agreement and to the extent allowed under the following guidance.

(b)   Guidance

In reducing the settlement amount, premium, deposit or margin call by applying the amount of collateral, the collateral must be marked to market.

If the security lodged as collateral is subject to a trading halt, the last market value may be used since a trading halt is only placed on a security for two days. If, however, the security is subject to suspension, the market value should be taken as nil on the basis that the security is not *liquid*.

If the collateral in its entirety is not considered *liquid*, it cannot be used to reduce the counterparty risk amount. If only a percentage of the collateral can be considered *liquid*, only that percentage can be applied to reduce the counterparty risk amount. The guidance given for Rule S1.2.1 in the section on Excluded Assets (Principal Positions in Financial Instruments) in relation to identifying if a position is *liquid* should also be applied to determine if the collateral is *liquid*.

(c)   ASX Settlement Rule 7.2.2

While ASX Settlement Rule 7.2.2(f) gives the right to a Participant to refuse to comply with a client's withdrawal instructions where that client is participant sponsored, and to retain securities equal to 120% of the current value claimed, as it does not permit the Participant to deal with the securities held, it may not be used to reduce any counterparty risk amounts.

However, if a Participant has a separate legal agreement (or the appropriate clause is included in the client agreement form signed by the client) that satisfies the five criteria noted above, other stocks held by the Participant may be applied as collateral against the outstanding amount. A Participant should obtain legal advice on this matter before it utilises this type of collateral.

(d)   Cash Management Accounts

Client funds in cash management accounts can also be used to reduce the counterparty risk amount as long as the Participant has <u>sole and unconditional control</u> over those funds.

(2)   Counterparty Risk Weighting

(a)   General

Under clause 8 of Annexure 1, once the counterparty risk amount has been calculated it can be multiplied, at the option of the Participant, by the counterparty risk weighting applicable for that *counterparty* as specified in Annexure 5, Table 2.1 (refer to the guidance section for clause 8). This calculation must be applied to a *counterparty* consistently. That is, the Participant cannot selectively apply the weighting and once it weights a *counterparty*, it must weight that *counterparty* consistently across all methods within Annexure 1. This process is undertaken under each of the methods in clauses 2 to 7 of Annexure 1.

(iv)   Examples

A number of examples are provided below to assist in the understanding of this Rule.

Reference to this calendar may assist.

NOVEMBER 2016

S	M	T	W	T	F	S
		T_0 1	T_{+1} 2	T_{+2} 3	T_{+3} 4	5
6	T_{+4} 7	T_{+5} 8	T_{+6} 9	T_{+7} 10	T_{+8} 11	12
13	T_{+9} 14	T_{+10} 15	T_{+11} 16	T_{+12} 17	T_{+13} 18	19
20	T_{+14} 21	T_{+15} 22	T_{+16} 23	T_{+17} 24	T_{+18} 25	26
27	T_{+19} 28	T_{+20} 29	T_{+21} 30			

(A)   Example 1 – Typical Agency Arrangement

(1)   Transaction Details

On 1/11/16 the client transacts the following ASX *option* trades:
> **Purchase 1, June $17.00 CBA put @$1.19**
> **Sell 2, December $15.50 CBA puts @ $0.77 each**
> **Sell 1, April $16.00 CBA call @ $0.64**
> **Sell 1, June $16.50 CBA call @ $0.49**

The Participant in this example is both executing and clearing these trades.

(2)   Calculation

On the evening of 1/11/16, ASX Clear calculates the margin payable which is the sum of the risk margin and premium margin and this amount totals $2,650.

On the morning of 2/11/16, the Participant receives a report from ASX Clear advising that the amount due to it is $2,650.

If the Participant has been authorised by the client to withdraw the funds to cover the margin from a cash management (or similar account) and these funds are immediately drawn down, the counterparty risk amount for this client transaction would be zero.

However, if the Participant has to request the $2,650 from the client or does not immediately draw them from the cash management account, the risk amount is $2,650 until the client has paid the full amount to the Participant or the Participant draws the funds from the cash management account. If the client only partially pays, the counterparty risk amount will be the difference between the amount owed and the amount paid.

The Participant should have sufficient capital to cover this amount immediately it is known.

(B)   Example 2 – Futures Business

(1)   Transaction Details

Participant A is an ASX Market Participant and ASX Clear Participant as well as an ASX 24 Trading Participant, but is not authorised to clear ASX 24 *futures* trades. Clearing Participant B (CP B) clears the *futures* trades executed by Participant A, but does not have a direct relationship with Participant A's clients.

On 1/11/16:

- Client 1 has a long open position in March SPI 200 index *futures*; and
- Client 2 has a long open position in June SPI 200 index *futures*; and
- Participant A has a short principal position in March SPI 200 index *futures*.

(2)   Calculation

On the morning of 2/11/16, Participant A calculates that the margins payable to it from its clients are $3,427 from Client 1 and $2,820 from Client 2, and that it is owed $4,155 from CP B.

Therefore, Participant A has the following counterparty risk amounts (assuming that Participant A does not apply counterparty risk weighting and does not have collateral from any of its clients or *counterparties*):

- Client 1 $3,427 until Client 1 has paid the full amount;
- Client 2 $2,820 until Client 2 has paid the full amount; and
- CP B $4,155 from cob on 2/11/16 until CP B has paid the full amount.

Participant A should have sufficient capital to cover these amounts immediately they are known.

Participant A also needs to calculate an equity position risk amount under Annexure 3, Part 1 for its principal *future*s position.

(f)   Clause 6 – OTC Derivatives and Warrants Executed as Principal Method

(i)   Rule

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6   OTC DERIVATIVES AND WARRANTS EXECUTED AS PRINCIPAL METHOD

For an OTC Derivative or warrant held as principal, the counterparty risk amount for a Counterparty is:

(a)   zero, for a written Option position where the premium due has been received;

(b)   100% of the premium for a written Option position where the premium due has not been received; and

(c)   otherwise, 8% of the aggregate of the credit equivalent amount which is calculated as the sum of:

  (i)   a current credit exposure being the mark to market valuation of all contracts with a Positive Credit Exposure; and

  (ii)   a potential credit exposure being the product of the absolute value of a contract's nominal, notional or actual principal amount and the applicable potential credit exposure factor specified in Table 2.2, Annexure 5.

A Participant may reduce the premium or credit equivalent amount by the amount of collateral held by the Participant on behalf of the Counterparty if the collateral is Liquid, valued at the mark to market value or another value approved by ASX Clear and the collateral arrangement is evidenced in writing between the Participant and Counterparty.

(ii)   Formula

clause (c) only:

$$cra_{deriv} = \sum_{ccy=1}^{n} \left[\left[\sum_{i=1}^{m} \left(\sum_{j=1}^{d} \left\{ + MTM + \left(|\alpha| \times PCEF \right) \right\}_j \right) \times CRW \right]_i \times 0.08 \right]_{ccy}$$

Where:

cra_{deriv} = *counterparty risk amount under the OTC derivatives and warrants executed as principal method*

j = **derivative** *product transaction*

d = *number of different* **derivative** *transactions with* **counterparty** i

m = *number of* **counterparties**

n = *number of currencies*

ccy = *currency*

i = **counterparty**

$+MTM$ = *positive market value*

α = *nominal, notional or actual face value of transaction*

$PCEF$ = *potential credit exposure factor*

CRW = *counterparty risk weighting*

(iii)   Guidance

(A)   General

The general principle behind the OTC derivatives and warrants method is that a capital charge applies from T_0 on all **OTC derivative** transactions and all purchased warrant transactions[26] which are executed by the Participant as principal. An **OTC derivative** means a **derivative,** other than a Derivatives CCP Contract resulting from the registration of an OTC Options Market Transaction, which is not traded on an exchange.

As principal includes where the Participant enters into an **off market** facilitation role whereby it "purchases" the **derivative**s contract from client A and "sells" it to client B and neither client A nor B are aware of the identity of the other. It is appropriate in such cases for the Participant to calculate a counterparty risk amount with respect to both clients A and B as it is intermediating the counterparty risk for clients A and B.

It should be noted that for a Derivatives CCP Contract resulting from the registration of an OTC Options Market Transaction (under the ASX Equity FlexClear service), ASX Clear is the Participant's counterparty. When a Participant enters into such a transaction as principal, a counterparty risk amount is not required to be calculated, as there is no requirement to calculate a capital amount on amounts owed by ASX Clear to the Participant.

For an **OTC derivative** entered into as principal and cleared by ASX Clear (Futures) Pty Ltd ("ASXCLF"), a counterparty risk amount is not required to be calculated. This is because the Participant's counterparty is ASXCLF and no counterparty risk amount needs to be calculated for exposures to clearing houses. Prior to the time that the transaction is novated to ASXCLF, the Participant must calculate a counterparty risk amount on its exposure to the original counterparty to the transaction.

(B)   Method

(1)   Timing

(a)   From T_0

As noted above a counterparty risk amount should be calculated from T_0.

(2)   For Written Options[27]

The counterparty risk amount for written OTC **option**s is zero only if the **counterparty** (ie, the **option** holder) has paid the **option** premium to the Participant in full and by the agreed premium settlement date.

The counterparty risk amount is 100% of the value of the premium that is owed. This requirement exists from the time the OTC **option** is dealt (ie, from T_0) until the premium is paid.

(3)   For Purchased Options and Other Derivatives

For purchased **option**s and all other **OTC derivative** transactions, the calculation of the counterparty risk amount involves two calculations.

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[26] Sold warrant transactions entered into as principal are only treated under the non-margined financial instruments method.
[27] Written **options** refer to **options** written by the Participant.

(a)   Current Credit Exposure

The first calculation is the measurement of what is often referred to as the current credit exposure (CCE). This is the replacement cost of the contract in the event that the **counterparty** defaults. For **option**s and warrants, the replacement cost is the current market value of the contract[28]. For transactions where payments to/from the parties are based on changes in the price of the underlying (such as **swap**s, contracts for difference and forward foreign exchange) the market value is based on the mark to market profit or loss.

Only those transactions with a **positive credit exposure** need be included in the calculation of the counterparty risk amount. A contract with a **positive credit exposure** is one where a financial loss will be incurred by the Participant if its **counterparty** defaults on its obligations under the transaction. The loss incurred is the amount the Participant must pay to replace the contract when its **counterparty** defaults.

All purchased **option**s and warrants will always have a positive (or zero) replacement cost as the price of such instruments cannot be negative. This means that all long **option** and warrant positions will have a **positive credit exposure** (or zero) and so will be subject to a CCE.

A negative CCE could arise in the case of other types of **derivative**s (eg, **swap**s). If the market value of a **swap** was such that it resulted in the Participant having to pay money to its **counterparty**, the **swap** would have a negative market value and hence the **swap** would not need to be included in the CCE calculation (ie, the CCE is taken to be zero for the purposes of the counterparty risk calculation).

The calculation of CCE is to be done on a transaction by transaction and **counterparty** by **counterparty** basis. However, in calculating the CCE for an individual **counterparty**, Participants may net positive and negative CCEs in the event that there are several transactions with the same **counterparty** of the same type but only if there is a legally binding and enforceable <u>netting agreement</u> between the Participant and the **counterparty** that covers the relevant transactions. If after <u>netting</u>, the CCE to the **counterparty** is negative, for the purpose of calculating the counterparty risk amount, the CCE is zero.

If the netting agreement allows for multi-currency netting, the Participant may net the positive and negative CCEs arising from transactions with the same **counterparty** that are denominated in different currencies. This is illustrated in the examples section below.

(b)   Potential Credit Exposure

The second calculation involves calculating the potential credit exposure (PCE) which is a measure of the potential exposure that may arise during the remaining life of the transaction. A PCE must be calculated on every transaction (including those transactions with a negative or zero CCE) and <u>cannot be netted</u>. The potential credit exposure is determined by multiplying the notional face value of the **OTC derivative** transaction by the potential credit exposure factor that is prescribed and detailed in Annexure 5, Table 2.2 that is relevant to the type and tenor of the transaction.

In the case of an equity **option** or warrant, the notional face value is the underlying number of shares multiplied by the strike price.

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[28] In the case of a warrant transaction, if the warrant is subject to a trading halt (due to the underlying security being subject to a trading halt), the last market value may be used since a trading halt is only placed on a security for two days. If, however, the warrant is subject to suspension, the warrant should be treated as an **excluded asset** on the basis that it is not **liquid**.

(c)   Counterparty Risk Amount

The counterparty risk amount for **OTC derivative**s is then the credit equivalent amount (ie, the sum of the current credit exposure and the potential credit exposure) multiplied by the credit risk factor of 8%.

(d)   Excluded Assets

If an **OTC derivative** that is an asset on the balance sheet cannot be realised or converted to cash within 31 days, then it will not satisfy the definition of **liquid** and will therefore have to be treated as an **excluded asset**. A warrant that has been suspended will also not satisfy the definition of **liquid** and will have to be treated as an **excluded asset**.

In the case of some OTC transactions, the 31 day liquidity requirement as specified in the definition of **liquid** may cause some problems. It may be necessary to incorporate early termination clauses in transaction documentation that provides the Participant with the unconditional right to terminate the contract within 31 days. If this is not possible, then prima facie, the transaction would have to be treated as an **excluded asset**.

If a transaction is required to be treated as an **excluded asset**, there is no requirement to calculate a counterparty risk amount on that transaction. It is acknowledged that a potential credit exposure still exists for such a transaction because there is the possibility of the **counterparty** defaulting at any time during the remaining life of the transaction. However, a pragmatic approach has been taken in only requiring the transaction to be treated as an **excluded asset** and hence deducted from **liquid capital**.

(4)   OTC Derivatives and Warrants

The Rule is intended to cover all **OTC derivative** and warrant transactions including (<u>but not limited to</u>):

> interest rate **option**s;
> foreign currency **option**s;
> single currency interest rate **swap**s;
> cross currency interest rate **swap**s;
> basis **swap**s;
> **forward rate agreement**s;
> forward foreign exchange contracts; and
> warrants.

It is important to note that foreign exchange contracts with an original maturity of 14 calendar days or less are excluded from the requirement to calculate a counterparty risk amount[29].

(C)   Reducing the Counterparty Risk Amount

At the option of the Participant, the counterparty risk amounts calculated in accordance with the OTC derivatives and warrants method can be reduced. This can be achieved through:

1. collateralisation; and
2. counterparty risk weighting.

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[29] The method for calculating the counterparty risk amount for **OTC derivative**s is consistent with the method used by banks in accordance with the Australian Prudential Regulation Authority's Prudential Standard APS 112 – Capital Adequacy: Standardised Approach to Credit Risk.

(1)   Collateral Arrangements

(a)   Criteria

Under some circumstances the counterparty risk amount can be reduced by the amount of collateral held by the Participant as long as the following conditions are met:

1.   the collateral must satisfy the definition of **liquid** (i.e. realisable or otherwise convertible to cash within 31 days) and therefore will generally be limited to debt or **equity** securities. Any collateral which is held in escrow and unable to be converted to cash within 31 days would not meet the definition of **liquid**;

2.   the collateral must be unrelated to a particular or specific transaction;

3.   the Participant must have full control over the collateral so that if the client or **counterparty** defaults, the Participant can liquidate the collateral to recover the amount owing. This would require, in the case of **equity** securities lodged as collateral, that the securities be lodged in a participant sponsored account. Securities lodged as collateral which cannot be accessed by the Participant without the approval of a third party or are otherwise encumbered cannot be recognised as collateral for the purposes of this Rule. Similarly, if a Participant's exposure to a **counterparty** has been guaranteed by another entity, the guarantee is not eligible as collateral for the purposes of reducing the counterparty risk amount as the Participant does not have full control and is dependent on the guarantor to realise any amounts owing to it. However, where an exposure to a **counterparty** has been guaranteed by an **approved deposit taking institution,** a counterparty risk weighting of 20 per cent can be applied instead of the risk weighting of the **counterparty** provided that certain conditions are met (refer to the guidance section for clause 8);

4.   the lodgement of the collateral must be evidenced in writing (i.e. it must be documented by a legally binding agreement between the Participant and the client or **counterparty**). The Participant must have established that the client or **counterparty** and the persons signing have the legal capacity to enter into the agreement and to provide the nominated collateral (eg, the client or **counterparty** is an appropriately registered company and the person executing the agreement has the authority to enter into the agreement on behalf of that company). The collateral agreement must provide for the Participant to deal with that collateral in the event that the client or **counterparty** defaults on its settlement of the relevant transactions to recover any amounts owed to the Participant. Alternatively, if an ASX Clear Operating Rule permits a Participant to deal with a "collateral" type amount in the event of a client default, then there is no need to have a separate written collateral agreement covering the same transaction for the purposes of the Risk Based Capital Requirements. Separate written collateral agreements are, however, always recommended to ensure the client is aware of the actions that the Participant may take in the event of a default (also see comment below on ASX Settlement Rule 7.2.2). ASX Clear recommends that independent legal advice be obtained to assist the Participant with the documentation of collateral arrangements; and

5.   the collateral must be valued at market value or at another value approved by ASX Clear.

Collateral must satisfy the above criteria and may only be applied in accordance with the conditions specified in the collateral agreement and to the extent allowed under the following guidance.

(b)   Guidance

In reducing the premium or credit equivalent amount, the collateral must be marked to market and must first be deducted prior to multiplying by the 8% credit risk factor.

If the security lodged as collateral is subject to a trading halt, the last market value may be used since a trading halt is only placed on a security for two days. If, however, the security is subject to suspension, the market value should be taken as nil on the basis that the security is not *liquid*.

If the collateral in its entirety is not considered *liquid*, it cannot be used to reduce the counterparty risk amount. If only a percentage of the collateral can be considered *liquid*, only that percentage can be applied to reduce the counterparty risk amount. The guidance given for Rule S1.2.1 in the section on Excluded Assets (Principal Positions in Financial Instruments) in relation to identifying if a position is *liquid* should also be applied to determine if the collateral is *liquid*.

The treatment of collateral denominated in a different currency to the *OTC derivative* transaction or where there are multiple transactions in different currencies is shown in the examples section below.

(c)   ASX Settlement Rule 7.2.2

While ASX Settlement Rule 7.2.2(f) gives the right to a Participant to refuse to comply with a client's withdrawal instructions where that client is participant sponsored, and to retain securities equal to 120% of the current value claimed, as it does not permit the Participant to deal with the securities held, it may not be used to reduce any counterparty risk amounts.

However, if a Participant has a separate legal agreement (or the appropriate clause is included in the client agreement form signed by the client) that satisfies the five criteria noted above, other stocks held by the Participant may be applied as collateral against the outstanding transaction. A Participant should obtain legal advice on this matter before it utilises this type of collateral.

(2)   Counterparty Risk Weighting

(a)   General

Under clause 8 of Annexure 1, once the counterparty risk amount has been calculated it can be multiplied, at the option of the Participant, by the counterparty risk weighting applicable for that *counterparty* as specified in Annexure 5, Table 2.1 (refer to the guidance section for clause 8). This calculation must be applied to a *counterparty* consistently. That is, the Participant cannot selectively apply the weighting and once it weights a *counterparty*, it must weight that *counterparty* consistently across all methods within Annexure 1. This process is undertaken under each of the methods in clauses 2 to 7 of Annexure 1.

(b)   Warrant Issuers

Where a Participant holds a warrant position as principal and the warrant issuer is not a bank, but the warrant issue is supported by a guarantee from a bank, the counterparty risk amount may be risk weighted according to the party providing the guarantee (i.e. the bank).

(iv)   Examples

A number of examples are provided below to assist in the understanding of this Rule.

The calculations are based on **close of business** balances and would differ if calculating the risk amounts during the business day (i.e. the capital liquidity requirements of this Rule must be satisfied at all times).

(A)   Example 1 – Interest Rate Swap

(1)   Transaction Details

On 1/11/16 a Participant enters into an Australian Dollar interest rate *swap* with Counterparty A where the Participant pays semi annual fixed and receives Bank Bill Swap Reference Rate (BBSW) quarterly. The original tenor of the *swap* is 5 years and it has 3½ years remaining to maturity. The Participant pays Counterparty A semi-annually at a rate of 7% fixed on $20,000,000 and receives from Counterparty A every quarter based on the current BBSW (set at the beginning of each 3 month period) on $20,000,000. Assume that the current market value of the *swap* results in a *positive credit exposure* of $100,000 and Counterparty A has lodged securities with the Participant under a collateral agreement and these have a current market value of $75,000.

(2)   Calculation

Notional Face Value	$20,000,000	
Remaining Time to Maturity	3½ years	
Type	Interest Rate	
Current Credit Exposure	$100,000	
Potential Credit Exposure Factor	0.5%	(per Annexure 5, Table 2.2)
Collateral	$75,000	

Therefore, the counterparty risk amount is:

[$100,000 + ($20,000,000 × 0.5%) - $75,000] × 8% = $10,000

(B)   Example 2 – Warrants

(1)   Transaction Details

On 2/11/16 a Participant purchases as principal 20,000 units of BHPVOD warrants at a price of 27¢ each and then on 3/11/16 sells 5,000 units at 32¢ each.
Details of the BHPVOD warrants:

Type:	call warrant
Underlying:	BHP ordinary shares
Strike:	$42.00
Expiry date:	24/01/17
Exercise style:	European
Issuer:	Citigroup Global Markets Australia Pty Ltd
Warrants per underlying instrument:	4.0
Warrant price at cob 2/11/16:	27.5¢
Warrant price at cob 3/11/16:	32¢

(2)   Calculation

At close of business 2/11/16:

Notional Face Value	$210,000	((20,000 x $42) / 4)
Remaining Time to Maturity	84 days	(from 2/11/16 to 24/1/17)
Type	Equity	
Current Credit Exposure	$5,500	(20,000 x 27.5¢)
Potential Credit Exposure Factor	6.0%	(per Annexure 5, Table 2.2)

Therefore, the counterparty risk amount is:

[$5,500 + ($210,000 x 6.0%)] x 8% = $1,448

At close of business 3/11/16:

Notional Face Value	$157,500	((15,000 x $42) / 4)
Remaining Time to Maturity	83 days	(from 3/11/16 to 24/1/17)
Type	Equity	
Current Credit Exposure	$4,800	(15,000 x 32¢)
Potential Credit Exposure Factor	6.0%	(per Annexure 5, Table 2.2)

Therefore, the counterparty risk amount is:

[$4,800 + ($157,500 x 6.0%)] x 8% = $1,140

(C)   Example 3 – Forward Foreign Exchange

(1)   Transaction Details

A Participant has entered into forward foreign exchange contracts on a back-to-back basis (i.e. equivalent but opposite transactions with two separate **counterparties**). The contracts have a settlement date of 30/5/16. The current date is 9/5/16. The current spot exchange rate is AUD/GBP 0.8989.

Under the transaction with Counterparty 1, the Participant will buy AUD300,000 and sell GBP100,000. Assume that the current market value of the contract is AUD13,180 (ie, the contract has a **positive credit exposure**).

Under the transaction with Counterparty 2, the Participant will buy GBP100,000 and sell AUD300,000. Assume that the current market value of the contract is –AUD13,180 (i.e. the contract does not have a **positive credit exposure**).

(2)   Calculation

Counterparty 1 Transaction:

Principal Amount	$300,000	
Remaining Time to Maturity	21 days	(from 9/5/16 to 30/5/16)
Type	Foreign Exchange	
Current Credit Exposure	$13,180	
Potential Credit Exposure Factor	1.0%	(per Annexure 5, Table 2.2)

Counterparty 2 Transaction:

Principal Amount	$111,247	(£100,000 converted into A$ at current market spot exchange rate)
Remaining Time to Maturity	21 days	(from 9/5/16 to 30/5/16)
Type	Foreign Exchange	
Current Credit Exposure	$0	
Potential Credit Exposure Factor	1.0%	(per Annexure 5, Table 2.2)

Therefore, the counterparty risk amount with respect to Counterparty 1 is:

[$13,180 + ($300,000 × 1.0%)] × 8% = $1,294

and the counterparty risk amount with respect to Counterparty 2 is:

[$0 + ($111,247 × 1.0%)] × 8% = $89

(D)   Example 4 – Multiple Currencies

(1)   Transaction Details

On 1/4/16 a Participant has 4 *swap* transactions with Counterparty B. The *swap*s are denominated in four different currencies. The table below shows the current credit exposure (CCE) and potential credit exposure (PCE) for each transaction. All amounts shown below are in AUD equivalents.

	Ccy	CCE (pay)/rec AUD	PCE AUD	Credit Equivalent Amount (no netting) AUD	Credit Equivalent Amount (with netting) AUD
Swap 1	USD	$20,000	$15,000	$35,000	$35,000
Swap 2	EUR	$(12,000)	$20,000	$20,000	$8,000
Swap 3	GBP	$52,000	$5,000	$57,000	$57,000
Swap 4	AUD	$(35,000)	$56,000	$56,000	$21,000
Gross		$72,000	$96,000	$168,000	
Net		$25,000	$96,000		$121,000

Assume that Counterparty B has lodged USD collateral with the Participant with a current market value of AUD40,000.

(2)   Calculation

(a)   No Netting Agreement

If the Participant does not have a legally binding multi-currency netting agreement with Counterparty B, the credit equivalent amounts (no netting) for each transaction as shown in the table above will apply and the counterparty risk amount is:

($72,000 + $96,000 – $40,000) x 8% = $10,240

For reporting purposes, the Participant would show:
        CCE = $72,000   (ie, $20,000 + $0 + $52,000 + $0)
        PCE = $96,000

Collateral utilised = $40,000

and the following percentages would be reported for currency exposure purposes within the **counterparty risk requirement** section of the return:

USD	16%	[ie, ($20,000 + $15,000)/$215,000] [30]
EUR	15%	[ie, ($12,000 + $20,000)/$215,000]
GBP	27%	[ie, ($52,000 + $5,000)/$215,000]
AUD	42%	[ie, ($35,000 + $56,000)/$215,000]

(b)   Netting Agreement

If the Participant does have a legally binding multi-currency netting agreement with Counterparty B, then the counterparty risk amount is:

[$25,000 + $96,000 - $40,000] x 8% = $6,480

For reporting purposes, the Participant would show:

CCE = $25,000   (ie, $20,000 - $12,000 + $52,000 - $35,000)
PCE = $96,000
Collateral utilised = $40,000

and the percentages to be reported for currency exposure purposes within the **counterparty risk requirement** section of the return are the same as in (1) above.

(c)   Outbound Collateral

Any collateral lodged by the Participant with Counterparty B would generally need to be treated as an **excluded asset**. However, if the terms of the transaction documentation are such that the collateral lodged by the Participant is considered as part settlement of any payable to Counterparty B, then the collateral paid by the Participant should be offset against the CCE.

So if the **swap**s were as shown in the table below (instead of as in the table in (A) above) with net CCE being -$25,000 and the Participant had lodged USD collateral with a current AUD market value of $30,000 and Counterparty B had no collateral lodged with the Participant and a legally binding multi-currency netting agreement is in place, then:

	Ccy	CCE (pay)/rec AUD	CCE after collateral offset (pay)/rec AUD	PCE AUD
Swap 1	USD	$(20,000)	$10,000[31]	$15,000
Swap 2	EUR	$12,000	$12,000	$20,000
Swap 3	GBP	$(52,000)	$(52,000)	$5,000
Swap 4	AUD	$35,000	$35,000	$56,000
Net		$(25,000)	$5,000	$96,000

The counterparty risk amount is:

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[30] The denominator is the sum of the absolute values of the CCEs plus the PCE amount (ie $\sum_{i} \left[|CCE_i| + PCE_i \right]$). In this case, $20,000 + $12,000 + $52,000 + $35,000 + $96,000 = $215,000.

[31] $20,000 USD payable to Counterparty B under the **swap** is offset by $30,000 collateral that has been lodged by the Participant.

[$5,000 + $96,000] x 8% = $8,080

For reporting purposes, the Participant would show:

CCE = $5,000   (i.e. $10,000 + $12,000 - $52,000 + $35,000)
PCE = $96,000
Collateral utilised = $0 (this is for inbound collateral)

and the following percentages would be reported for currency exposure purposes within the ***counterparty risk requirement*** section of the return:

USD   12%   [i.e. ($10,000 + $15,000)/$205,000] [32]
EUR   16%   [i.e. ($12,000 + $20,000)/$205,000]
GBP   28%   [i.e. ($52,000 + $5,000)/$205,000]
AUD   44%   [i.e. ($35,000 + $56,000)/$205,000]

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[32] The denominator in this case is 10,000 + 12,000 + 52,000 + 35,000 + 96,000 = 205,000.

(g)   Clause 7 - Sub-underwritten Positions Method

(i)   Rule

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7   SUB-UNDERWRITTEN POSITIONS METHOD

This clause and Annexure 4 will be inserted and effective on a date to be advised.

(ii)   Guidance

The requirement to hold capital against the counterparty risk associated with sub-***underwriting*** arrangements has been deferred. Refer to the guidance for Annexure 4 in this Handbook for further details.

(h)   Clause 8 - Counterparty Risk Weighting

(i)   Rule

8	**COUNTERPARTY RISK WEIGHTING**

(a)   Subject to clause 8(b), a Participant may choose to calculate its counterparty risk amount in relation to a Counterparty as the counterparty risk amount calculated in accordance with clauses 2 to 7 multiplied by:

     (i)   the counterparty risk weighting applicable for that Counterparty specified in Table 2.1, Annexure 5.

(b)   A Participant can only calculate its counterparty risk amount for a Counterparty in accordance with clause 8(a) above if it calculates the counterparty risk amount in this manner for that Counterparty consistently across all methods within Annexure 1.

(ii)   Guidance

(A)   General

The Risk Based Capital Requirements allows Participants to apply counterparty risk weights to the calculation of counterparty risk amounts. Counterparty risk weights are prescribed and are divided into a few broad categories which are generally consistent with other risk based capital frameworks. The principle behind counterparty risk weighting is that the risk of financial loss to a Participant arising from the default of a *counterparty* is not the same for all *counterparties*. In other words, some *counterparties* are less risky than others. Accordingly, it is appropriate that the capital liquidity requirements recognise the varying credit quality of *counterparties* and it does this by allowing the application of counterparty risk weights. The application of counterparty risk weights by Participants is not compulsory.

In most cases a Participant will need to complete some form of due diligence on a particular *counterparty* in order to confirm whether or not the *counterparty* can actually be weighted.

Prior to consideration of the application of counterparty risk weightings, it is necessary for the Participant to determine who its *counterparty* is. For the purposes of the Risk Based Capital Requirements, the term client or *counterparty* refers to a legal entity, individual, trust, etc. that a Participant deals with and should be identified at a contractual level. The *counterparty* is essentially another party to a transaction to which the Participant is a party.

Where one customer is dealing through, say, a private company, a trust, a private super fund and as an individual, notwithstanding that the Participant may treat them all as one customer from a relationship perspective, each "legal entity" should be considered as a separate *counterparty* for the purposes of calculating counterparty risk amounts under the Risk Based Capital Requirements[33]. The reason for this is that the Participant is likely to only have a legal right of action against each *counterparty* individually.

Participants are responsible for determining who their *counterparty* is for the purposes of calculating counterparty risk amounts under the Risk Based Capital Requirements and, if electing to apply counterparty risk weightings, to ensure that the *counterparty* satisfies the criteria for the weighting to be applied.

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[33] Note that a Participant must calculate its aggregate exposure to *counterparties* forming part of a *group of connected persons* for the purposes of calculating any counterparty large exposure risk amount.

Guidance on these two aspects with respect to dealings with funds managers is provided in the guidance for clause 1 (in relation to who the *counterparty* is) and further below in the discussion on the 50 per cent risk weighting (in relation to the application of counterparty risk weightings).

It is not practical to assign a unique risk weighting for every single *counterparty* and hence the risk weightings are broadly grouped into 5 categories. These are detailed in Annexure 5, Table 2.1 and this table is reproduced below.

Risk Weightings	
	Counterparty
Central Bank	0%
Central and State Government	10%

Banks
Local Governments
Approved Deposit Taking
Institutions (other than Banks)
Risk Based Capital Requirements
    - ASX Clear Participants
    - ASX Market Participants
	20%

Approved Institutions
NTA Requirements
    - ASX Clear Participants
    - ASX Market Participants
	50%

Other	100%

In Table 2.1, references to Central Banks and Governments are references to OECD Central Banks and Governments. Non-OECD Central Banks and Governments are within the 'other' category of risk weighting.

(B)   Method

As noted above, the *counterparty* to a transaction must be identified at a contractual level. Legal documentation (e.g., client agreements) entered into by the Participant should assist in identifying the legal entity with which it has transacted and from which it would seek recourse in the event of default.

If a Participant is not absolutely certain whether a particular *counterparty* meets the criteria for weighting, a 100 per cent weighting must be applied to that *counterparty*.

Participants are also reminded that if they elect to counterparty risk weight a particular *counterparty*, they must apply that weighting consistently to that *counterparty* across all methods within Annexure 1.

It is therefore recommended that only those Participants that have the internal systems to adequately support this added level of complexity should adopt the risk weighting mechanism to reduce their capital requirement.

The categories in Table 2.1 are basically self-explanatory however some further discussion on the following may assist.

(C) 0 Per Cent Weighting

A counterparty risk weighting of 0 per cent can be applied to exposures to central banks.

The 0 per cent weighting can only be applied to central banks in Organisation of Economic Co-operation and Development (OECD) countries. Exposures to non-OECD central banks must be weighted at 100 per cent.

The current OECD member countries are listed below:

Australia	Austria	Belgium
Canada	Chile	Czech Republic
Denmark	Estonia	Finland
France	Germany	Greece
Hungary	Iceland	Ireland
Israel	Italy	Japan
Korea	Luxembourg	Mexico
The Netherlands	New Zealand	Norway
Poland	Portugal	Slovak Republic
Slovenia	Spain	Sweden
Switzerland	Turkey	United Kingdom
United States		

(D) 10 Per Cent Weighting

A counterparty risk weighting of 10 per cent can be applied to exposures to Central and State Government *counterparties*. Participants should note that the 10 per cent weighting can only be applied if the *counterparty* is guaranteed by the government or receives appropriations from government revenue.

Generally, public sector entities that operate on a commercial basis would not be considered as Government unless explicitly guaranteed by the Government. The guarantee from the Government would have to state that all debts and obligations of the entity are irrevocably guaranteed by the Government.

The fact that an entity's activities may be supported by the Government or that the entity was created under an act of parliament is insufficient basis for applying the 10 per cent weighting.

All public trading enterprises in Australia which have corporate status, operate on a commercial basis (notably in significant competition with private sector enterprises) or operate on a for-profit basis must be risk weighted at 100 per cent.

The 10 per cent weighting can only be applied to Central and State Governments in OECD countries[34]. Exposures to non-OECD Central and State Governments must be weighted at 100 per cent.

(E) 20 Per Cent Weighting

A counterparty risk weighting of 20 per cent can be applied to *counterparties* that are ASX Clear Participants or ASX Market Participants complying with their respective Risk Based Capital Requirements,

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[34] Refer to the list of OECD countries in section (iii).

*approved deposit taking institution*s (including banks) or Local Governments. Each of these categories is discussed in further detail below.

(1)   ASX Clear Participants or ASX Market Participants Complying with their Respective Risk Based Capital Requirements

The 20 per cent weighting can only be applied to ASX Clear Participants or ASX Market Participants that comply with their respective risk based capital requirements.

ASX Clear Participants or ASX Market Participants that comply with the NTA Requirements do not qualify for a 20 per cent weighting, but rather are eligible for a 50 per cent risk weighting.

ASX Principal Traders are not eligible for the 20 per cent risk weighting as they are not subject to the risk based capital requirements under the ASIC Market Integrity Rules (Securities Markets – Capital) 2017. A risk weighting of 100 per cent must be applied on exposures to ASX Principal Traders.

Entities that are participants of other exchanges or clearing houses do not qualify for a 20 per cent weighting. Such entities may, however, be subject to a 50 per cent weighting if they meet the definition of *approved institution* and the Participant maintains appropriate documentation to support this (refer to section (vi) for further details on *approved institutions*).

(2)   Approved Deposit Taking Institutions

Refer to the guidance on the definition of *approved deposit taking institution*s given in Section 3, Definitions of this Handbook.

(a)   Exposures Guaranteed by Approved Deposit Taking Institutions

Where an exposure to a *counterparty* has been guaranteed by an *approved deposit taking institution*, a counterparty risk weighting of 20 per cent (i.e. the weighting applicable for *approved deposit taking institutions*) may be applied instead of the risk weighting of the *counterparty*. This only applies if all of the following conditions are satisfied:

1.   the guarantee must be from an *approved deposit taking institution*;

2.   the guarantee must be provided to the Participant performing the counterparty risk calculation;

3.   the guarantee must be in writing; and

4.   the guarantee must provide for direct, explicit, irrevocable and unequivocal recourse to the guarantor.

Indirect guarantees (e.g. guarantee of guarantee) and letters of comfort do not qualify as eligible guarantees for the above purpose.

If the amount of the guarantee is less than the amount of the exposure, only the portion of the exposure that is covered by the guarantee can be risk weighted at 20 per cent. The remainder must be weighted according to the risk weighting of the *counterparty*.

(3)   Local Governments

A counterparty risk weighting of 20 per cent can be applied to exposures to Local Government *counterparties*.

The 20 per cent weighting can only be applied to Local Governments in OECD countries[35]. Exposures to non-OECD Local Governments must be weighted at 100 per cent.

(4)   Third Party Clearing Clients

This section applies to a Participant (CP) that provides third party clearing services to a Trading Participant (TP) where the CP has a direct relationship with clients of the TP.

If the above structure is in place the CP may apply a counterparty risk weighting of 20 per cent to clients of the TP. This only applies for exposures arising from trades that are cleared by the CP under the third party clearing arrangement and only if all of the following conditions are satisfied:

1. the clearing agreement must provide the CP with direct, explicit, irrevocable and unequivocal recourse to the TP in the event of a client failing to meet its obligations to the CP;

2. the CP must still calculate counterparty risk amounts for each client separately (i.e. it cannot treat the TP as its *counterparty* instead of the clients). The TP will only be the *counterparty* in the case of the TP's principal trades or where there has been an assignment of client debt to the TP;

3. this treatment only applies for counterparty exposures to the TP's clients arising from cash market trades (where the counterparty risk amount is calculated under the non-margined financial instruments method) and exchange traded *option* trades (where the counterparty risk amount is calculated under the margined financial instruments method). It does not apply to *free delivery*, *securities lending and borrowing* or OTC transactions. If the CP has made a partial *free delivery* such that the transaction is partly included in the free delivery method and partly included in the non-margined financial instruments method, the 20 per cent weighting cannot be applied on any portion of the transaction;

4. this treatment does not apply if the TP is a Principal Trader as defined in the ASX Operating Rules;

5. the TP must be in compliance with the capital requirements that apply to it under either the ASIC Market Integrity Rules (Securities Markets – Capital) 2017 or the ASX Clear Operating Rules; and

6. the 20 per cent counterparty risk weighting no longer applies if, 10 Business Days after the CP is entitled to direct the obligation to the TP, the CP has not done so. An exception to this is in relation to client short sale transactions, whereby the 20 per cent counterparty risk weighting can be applied irrespective of the period of time that the client sell contract has been open[36].

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[35] Refer to the list of OECD countries in section (iii).
[36] Provided that all preceding conditions (1) to (5) are met.

(F)   50 Per Cent Weighting

(1)   ASX Clear Participants or ASX Market Participants Complying with their Respective NTA Requirements

ASX Clear Participants or ASX Market Participants that comply with their respective NTA requirements can be risk weighted at 50 per cent. Use of the NTA requirements is restricted to ASX Clear Participants that are authorised to clear only *future*s transactions and ASX Market Participants that only have trading permission for *future*s.

(2)   Approved Institutions

The definition of *approved institution* is as follows.

"**Approved Institution**" means:

(a)   any of the following institutions whose net assets are greater than $30 million at the date of its last published audited balance sheet (or other documentation approved by ASX Clear):

(i)   a life insurance company or general insurance company; or

(ii) an investment company, trust or other similar institution whose ordinary business is to buy and sell Financial Instruments;

(b)   any body corporate or partnership whose ordinary business is to buy and sell Financial Instruments and which is regulated by a:

(i)   Recognised non-European Union Regulator specified in Table 3.1, Annexure 5;

(ii) Recognised European Union Regulator specified in Table 3.2, Annexure 5; or

(c)   any other body corporate or partnership approved by ASX Clear,

provided that on request by ASX Clear, the Participant makes available documentation in support of paragraphs (a), (b) or (c) and ASX Clear is satisfied that the documentation provided is adequate for this purpose.

This definition requires that, in order to apply the 50 per cent weighting to a particular *counterparty*, a Participant must retain appropriate documentation supporting the fact that the *counterparty* meets the definition of *approved institution*. While it is not possible to prescribe an explicit and exact format for documentation that would be deemed appropriate, the following guidance may assist:

(a)   Clause (a) of the definition

Documentation required to satisfy clause (a) of the definition will generally be the last published audited balance sheet of the institution concerned. If the *counterparty* is a subsidiary or member of a group of companies or funds, the requirements of clause (a) apply to each individual subsidiary or member. That is, each *counterparty* must have net assets of at least A$30 million and the Participant must have a copy of the *counterparty*'s balance sheet to support this. If the Participant has dealings with more than one member of a group of companies or funds, then each of those members must satisfy these requirements.

Participants must reconfirm the classification of a **counterparty** as an **approved institution** on an annual basis. This can be achieved by retaining a copy of the most recent annual accounts of the entity and confirming that the entity continues to have net assets in excess of A$30 million. If the entity's balance sheet falls below this threshold in any particular year, it may no longer be classified as an **approved institution**.

Assessment of the A$30 million net assets criteria must be based on the **counterparty**'s own balance sheet.

Participants must also maintain documentation evidencing that the **counterparty** is a:

1. life insurance company;

2. general insurance company; or

3. investment company, trust or other similar institution whose ordinary business is to buy and sell **financial instruments**

as these are the only types of entities which can be considered as **approved institutions** under clause (a) of the definition.

(b) Clause (b) of the definition

Counterparties that fall within clause (b) of the definition of **approved institution** are those that are regulated by a recognised central regulator or other self-regulatory organisation that has implemented a capital liquidity regime that is considered to be equivalent to the capital liquidity regimes of ASX Clear. The organisations detailed in Annexure 5, Tables 3.1 and 3.2 are those regulatory organisations that have been deemed to administer such a capital liquidity regime. For this reason, there is no financial threshold associated with classifying **counterparties** in this category of **approved institution**. In other words, the A$30 million net assets criteria does not need to be applied to entities that fall within clause (b) of the definition.

With respect to the documentation conditions, Participants must maintain records documenting that the **counterparty** is in fact regulated by the regulatory body and that the **counterparty**'s ordinary business is the purchase and sale of **financial instruments**. This requirement could be satisfied, for example, by obtaining a copy of the entity's licence or certificate of membership from the regulatory organisation and by obtaining a copy of the entity's constitution or other deed of incorporation which should confirm the nature of the business the entity has the capacity to engage in.

After this initial documentation is obtained a Participant must reconfirm the classification of a **counterparty** as an **approved institution** on an annual basis. While it is up to the Participant to determine how best to do this, it may be possible to seek written confirmation from the relevant regulatory organisation that the **counterparty** remains a licensed or registered member.

(i) Investment Industry Regulatory Organization of Canada (IIROC)

As at the date of this Handbook, the Investment Dealers Association of Canada (IDAC) is included as a Recognised Non European Regulator in Annexure 5, Table 3.1. ASX Clear recognises that IIROC has taken on the functions of the former IDAC and so it is appropriate for Participants to be able to recognise IIROC as a replacement to IDAC in interpreting Table 3.1.

(ii) ASX 24 Principal Traders

ASX 24 Principal Traders are not eligible for the 50 per cent risk weighting as they are not subject to the NTA requirements under the ASIC Market Integrity Rules (Futures Markets – Capital) 2017. A risk weighting of 100 per cent must be applied on exposures to ASX 24 Principal Traders.

(c) Clause (c) of the definition

Counterparties that fall within clause (c) of the definition of **approved institution** are those that do not qualify as **approved institutions** under either clause (a) or clause (b) but have been approved by ASX Clear as warranting a risk weighting of 50%.

(i) Fund Managers

The only **counterparties** that ASX Clear has approved under clause (c) are in relation to dealings with fund managers. Guidance on who a Participant's **counterparty** is when dealing with a fund manager is provided in the guidance for Annexure 1, clause 1.

A fund manager for the purpose of this guidance includes any licensed responsible entity, agent of a responsible entity, trustee or manager whose ordinary business it is to buy or sell **financial instrument**s and make investment decisions on behalf of an independent third party.

ASX Clear will recognise both a fund manager and its underlying client under clause (c) of the **approved institution** definition where the Participant has a dealing relationship with the fund manager and the fund manager is placing orders on behalf of clients.

This approval is subject to the Participant obtaining from the fund manager an appropriate form of documentation to support the fact that:

1.   the fund manager is licensed;

2.   its ordinary business is to buy and sell **financial instrument**s; and

3.   it is placing orders on behalf of another party who has placed money with or has securities under the control of the fund manager.

This documentation may include, but would not be limited to, a signed letter, on letterhead, from the fund manager, a publicly available prospectus, or a copy of a relevant licence.

If the fund manager is trading as principal or if the underlying client were to trade direct with the Participant, the above approval would not apply. Instead the fund manager or underlying client would have to satisfy parts (a) or (b) of the definition to qualify as an **approved institution**. (Note: This situation is considered unlikely to arise, but the guidance is provided for completeness.)

The treatment above was determined in recognition of the practical difficulties of satisfying clause (a) of the definition and taking into account general market practice. ASX Clear understands that very few fund managers placing orders on behalf of clients will have net assets of greater than A$30 million in their own name, but may have significant multiples of this figure under management. Additionally, many clients such as super funds may have net assets of greater than A$30 million but it is practically difficult to obtain that information (as required by the rules) and even if a super fund has less than A$30 million, given the usual

fund manager/client relationship (ie, the fund manager deals only with the securities and cash it has control over) it is likely that most orders placed will be settled in a timely manner.

By permitting the application of a 50 per cent weighting, it is recognised that, in practical terms, there is a reduced likelihood of a failed settlement when dealing with a fund manager or its underlying client.

(d)   Application of 50 Per Cent Weighting

As noted previously, risk weighting of counterparty risk amounts is not mandatory. Accordingly, the onus is on the Participant to ensure that the conditions required by the definition of ***approved institution*** are satisfied before applying the 50 per cent weighting to a ***counterparty***. Participants do not need to approach ASX Clear for approval to apply the 50 per cent weighting (except for new types of ***counterparties*** not already approved under clause (c) of the definitioni of ***approved institution***). ASX Clear will not be responsible for monitoring the status of entities that may fall within the ***approved institution*** category. Participants must provide ASX Clear with copies of the documentation it holds in support of the weighting it has applied if requested.

SECTION 3D – RULE S1 ANNEXURE 2 LARGE EXPOSURE RISK REQUIREMENT

(a)   Introduction to Large Exposure Risk Requirement

(i)   Formula

$$LERR = \sum \left| lera_{type} \right|$$

Where:

$lera_{type}$ = *large exposure risk amount as calculated for each of the types of large exposure set out in Annexure 2*

(ii)   Guidance

(A)   General

The general principle associated with the ***large exposure risk requirement*** is that additional capital is required where a Participant has a large counterparty exposure or a large principal position in securities issued by a single issuer relative to its ***liquid capital*** or to the total value of securities on issue.

It is a widely accepted risk management principle that the less diversified the spread of risk, the greater the exposure and the longer a transaction remains unsettled, the greater is the risk that the ***counterparty*** or client will default.

Similarly, holding a significant percentage of a security on issue can increase the risk profile of the position in a number of ways. A fall in the value of those securities will have a relatively larger impact on the Participant's capital than if it was part of a more diversified portfolio and there is a greater risk of loss arising from the potential illiquidity of such positions due to the Participant holding a large percentage of the market in those securities. Further, a forced liquidation of the position can have a negative impact on the price of the security, compounding the potential loss.

In such circumstances, it is therefore appropriate for additional capital to be held against that additional risk.

(B)   Definition of Large Exposure Risk

Large exposure risk, for the purposes of the Risk Based Capital Requirements, is the risk of financial loss arising from a significant exposure to a single ***counterparty*** of the Participant or in securities issued by a single issuer relative to the Participant's ***liquid capital*** or to the total value of those securities on issue.

(C)   Method

This Rule requires that additional capital must be held where a Participant has a significant exposure (as specified in the Rule) to an individual ***counterparty*** or has a significant principal position in securities issued by an individual issuer. The sum of the large exposure risk amounts for each type of large exposure equals the ***large exposure risk requirement***. Calculation of each large exposure risk amount for each of the large exposure types is detailed in the sections that follow.

(D) Foreign Currency

Participants may have large exposures that are denominated in a currency other than Australian Dollars. Where this is the case, in calculating the risk amounts required under the methods of Annexure 2, Participants must first calculate the risk amount under each method in the currency of denomination prior to converting to Australian Dollars. This is to facilitate the reporting of a Participant's **large exposure risk requirement** by currency of denomination.

It is important to note, however, that Participants that have large exposures that are denominated in a currency other than Australian Dollars <u>will not</u> be required to calculate an "<u>additional</u>" foreign exchange position risk amount related to those large positions. This is because the **large exposure risk requirement** is only based on counterparty and principal positions in securities and any foreign exchange position risk arising out of such positions will be addressed within Part 3 of Annexure 3.

The risk amounts calculated and denominated in each currency must be converted to Australian Dollars at the daily **market spot exchange rate**. This rate is the "closing" rate of exchange (mid rate) between each currency and the Australian dollar and can be sourced from either the daily financial press or from providers of foreign exchange markets information such as Reuters. It is possible that closing rates from alternate sources may differ but this is acceptable. Those organisations that subscribe to market information providers that supply 24 hour market data (ie, the foreign exchange market runs 24 hours and there is no "closing" rate) should establish a procedure whereby the rate is taken at the close of business each day at, for example, 4:00 pm.

(b)   Clause 1 - Counterparty Large Exposure Risk Requirement

(i)   **Rule**

1   COUNTERPARTY LARGE EXPOSURE RISK REQUIREMENT

1.1   Nature of counterparty large exposure risk amount

The counterparty large exposure risk amount is the absolute sum of the individual counterparty large exposure risk amounts calculated using the method of calculation set out in this Annexure 2.

1.2   Method

(a)   The counterparty large exposure amount is:

(i)   zero, if there are no exposures to a Counterparty in respect of transactions at the times specified in Table 1;

(ii)   zero, if there are aggregate exposures to a Counterparty in respect of transactions at the times specified in Table 1 and where these aggregate exposures are less than or equal to 10% of the Participant's Liquid Capital; or

(iii)   100% of the counterparty risk amount for the exposure calculated in accordance with Annexure 1, if there are aggregate exposures to a Counterparty in respect of transactions at the times specified in Table 1 and where these aggregate exposures are greater than 10% of the Participant's Liquid Capital.

Table 1

Transaction Type	Subject to counterparty large exposure	Time of Exposure	Reference in Annexure 1
Non Margined Financial Instrument	Yes	Greater than 10 Business Days after transaction date	Clause 2(b)
Free Delivery	No	N/A	N/A
Securities Lending and Borrowing	Yes	Date the transaction is due to be closed out	Clause 4
Margined Financial Instrument	Yes	24 hours after the time that amounts are normally scheduled for payment to the relevant exchange or clearing house	Clause 5
OTC Derivative or Warrant held as principal	Yes	Date any payment or delivery is due under the transaction	Clause 6
Sub – Underwritten Positions	No	N/A	N/A

(b)   The counterparty large exposure risk amount calculated in respect of a transaction cannot exceed the maximum loss for that transaction.

(c)   To calculate aggregate exposures to a Counterparty, a Participant must:

(i)	aggregate exposures to persons forming part of a Group Of Connected Persons; and	
(ii)	not include exposures other than Positive Credit Exposures specified in Table 1.	

(ii) Formula

$$lera_c = \sum_{c=1}^{m} \left[if\left(\sum_{i=1}^{n} |cpe_{method}|_i > LC \times 0.1 , \sum_{i=1}^{n} |cpe_{method}|_i , 0 \right) \right]_c$$

Where:

$lera_c$ = counterparty large exposure risk amount

*cpe_{method} = the counterparty exposure on transaction i subject to a **counterparty large exposure risk requirement** in accordance with the criteria set out in clause 1.2 and which has been calculated by reference to the relevant calculation method for the particular transaction type from Annexure 1*

*m   = total number of **counterparties** subject to a counterparty **large exposure risk requirement***

*n   = total number of transactions subject to a counterparty **large exposure risk requirement***

*LC   = **liquid capital***

*c   = **counterparty***

i   = transaction

(iii) Guidance

(A) General

The general principle associated with the counterparty *large exposure risk requirement* is that additional capital is required where a Participant has an exposure to a *counterparty* that is large relative to the Participant's capital and is with respect to an unsettled transaction that has passed its **normal settlement date**. In the context of the *large exposure risk requirement,* an exposure to a *counterparty* must be calculated as the aggregate of the exposures to persons forming part of a *group of connected persons*.

It is important to note that, as indicated in Table 1 of clause 1, a counterparty large exposure risk amount does not have to be calculated until a transaction has exceeded the parameters of the Rule. In practical terms this means that the *counterparty* has failed to complete something they were either scheduled to do or requested to do by the Participant.

In summary, it is a widely accepted risk management principle that the less diversified the spread of risk, the greater the exposure. In addition, the longer a transaction remains unsettled, the greater is the risk that the *counterparty* or client will default. Therefore, the counterparty *large exposure risk requirement* will effectively increase the amount of capital that a Participant holds to cover this increased risk.

(B)   Method

A three step process can be used to calculate the counterparty *large exposure risk requirement* with respect to each *counterparty*:

Step 1
Isolate all transactions with a *counterparty* that remain unsettled in accordance with the times set out in Table 1 of clause 1.2.

Step 2
Calculate the exposure on the transactions identified in *step 1* which is equivalent to the counterparty risk amount calculated in accordance with the relevant methods set out in Annexure 1 - Counterparty Risk Requirement. That is, determine the counterparty risk amount that has been calculated on those transactions, across all transaction types, taking into account, if applicable, any reduction arising from collateral and counterparty risk weighting.

Step 3
Sum the exposures calculated in *step 2*. If the sum calculated for an individual *counterparty* is greater than 10% of the Participant's *liquid capital*, a counterparty large exposure risk amount must be calculated for those transactions where the maximum loss has not yet been taken up. If the sum calculated is less than or equal to 10% of the Participant's *liquid capital*, there is no counterparty large exposure risk amount with respect to that *counterparty*.

The above steps are not mandatory. An alternate procedure can be followed as long as the same results are achieved.

It is important to note that any exposure identified in *step 1* that is denominated in a currency other than Australian Dollars must be converted to Australian Dollars prior to assessing whether or not a counterparty large exposure risk amount needs to be calculated. Guidance on converting to Australian Dollars is provided in the introduction section of Annexure 2.

(C)   Is there a Limit to Counterparty Large Exposure Risk Requirement?

As stated in the Rule, the counterparty large exposure risk amount for a particular transaction cannot exceed the maximum possible loss for that transaction. Participants are not required to hold regulatory capital (counterparty risk amount plus counterparty large exposure risk amount) for a particular transaction beyond the maximum loss they are exposed to.

In practical terms, this means that consideration of the counterparty risk amount determined under Annexure 1 should be made when calculating the counterparty *large exposure risk requirement* under Annexure 2.

This is explained below in more detail using the more common transaction types and is illustrated in the examples section below.

(1)   Non-Margined Financial Instruments

(a)   Client Purchases

The maximum possible loss, and hence the maximum risk amount, for an agency purchase transaction is the contract value.

If a Participant has elected, under Annexure 1, to take the "100% of the contract value" option for an unsettled agency buy trade greater than 10 Business Days old (ie, Annexure 1, clause 2(b)(ii)) and has chosen to counterparty risk weight at 100%, then there is no need to include a counterparty large exposure risk amount under Annexure 2 because the maximum possible loss (the full contract value) has already been taken as the counterparty risk amount (ie, the Participant must still calculate a counterparty large exposure risk amount but if the maximum possible loss has already been taken up then the risk amount is zero).

However, if the counterparty risk amount calculated under Annexure 1 had been reduced by a counterparty risk weighting of less than 100% it would be necessary to include an amount equivalent to the counterparty risk amount as a counterparty large exposure risk amount under Annexure 2 since the full contract value (and in this case the maximum possible loss) had not been taken up in the calculation under Annexure 1.

If a Participant has elected, under Annexure 1, to use the mark to market approach for an unsettled agency buy trade greater than 10 Business Days old (i.e. Annexure 1, clause 2(b)(i)), then a counterparty large exposure risk amount must be included as long as the counterparty risk amount is less than the contract value.

(b)   Client Sales

The possible loss on an agency sale transaction is theoretically infinite as there is no limit to the price that the security value can go. Although in theory there is no maximum risk amount for an agency sale transaction, the market value is deemed to be the maximum loss for the purposes of the Risk Based Capital Requirements.

If a Participant has elected, under Annexure 1, to take the "100% of the market value" option for an unsettled agency sell trade greater than 10 Business Days old (i.e. Annexure 1, clause 2(b)(ii)) and has chosen to counterparty risk weight at 100%, then there is no need to include a counterparty large exposure risk amount under Annexure 2 because the deemed maximum possible loss (the market value) has already been taken as the counterparty risk amount (i.e. the Participant must still calculate a counterparty large exposure risk amount but if the maximum possible loss has already been taken up then the risk amount is zero).

However, if the counterparty risk amount calculated under Annexure 1 had been reduced by a counterparty risk weighting of less than 100% it would be necessary to include an amount equivalent to the counterparty risk amount as a counterparty large exposure risk amount under Annexure 2 since the full market value (and in this case the maximum possible loss) had not been taken up in the calculation under Annexure 1.

If a Participant has elected, under Annexure 1, to use the mark to market approach for an unsettled agency sell trade greater than 10 Business Days old (i.e. Annexure 1, clause 2(b)(i)), then a counterparty large exposure risk amount must be included as long as the counterparty risk amount is less than the market value.

(2)   Securities Lending and Borrowing

The maximum possible loss on a <u>securities borrowing</u> transaction is theoretically infinite. This is because if the **counterparty** (stock lender) defaults, the Participant will lose the value of the securities it has given the **counterparty** less the value of the borrowed securities[37].

Similarly, the maximum possible loss on a <u>securities lending</u> transaction is theoretically infinite. This is because if the **counterparty** (stock borrower) defaults, the Participant will lose the value of the securities is has lent out less the value of any securities or cash it received from the **counterparty**.

Notwithstanding this, for the purposes of calculating a counterparty large exposure risk amount, the maximum possible loss is deemed to be the counterparty exposure (i.e. the difference between the market value of securities or cash given by the Participant to the **counterparty** and the market value of securities or cash received by the Participant from the **counterparty**).

Extending this to multiple transactions, where a Participant has both securities borrowing and lending transactions with a single **counterparty** under a written agreement that allows for netting across different transactions, the maximum possible loss is also theoretically infinite. However, for the purposes of calculating a counterparty large exposure risk amount, again the maximum possible loss is deemed to be the counterparty exposure.

It is important to note that a **securities lending and borrowing** exposure only arises from the "date the transaction is due to be closed out". For clarity, this means the day the **counterparty** is scheduled to return the Participant's cash and/or securities and the **counterparty** has failed to do this.

(3)   Margined Financial Instruments

In the case of margined **financial instrument**s, such as exchange traded **option**s and **future**s, the maximum possible loss for the purposes of calculating a counterparty large exposure risk amount is deemed to be the outstanding settlement amount, premium, deposit or margin call that is owed to the Participant.

If a counterparty risk weighting of 100% is applied, there is no need to include a counterparty large exposure risk amount under Annexure 2 because the maximum possible loss (the full amount owing from the **counterparty**) has already been taken as the counterparty risk amount under Annexure 1 (ie, the Participant must still calculate a counterparty large exposure risk amount but if the maximum possible loss has already been taken up then the risk amount is zero).

However, if the counterparty risk amount calculated under Annexure 1 had been reduced by a counterparty risk weighting of less than 100% it would be necessary to include an amount equivalent to the counterparty risk amount as a counterparty large exposure risk amount under Annexure 2 since the full amount owing (and in this case the maximum possible loss) had not been taken up in the calculation under Annexure 1.

(4)   OTC Derivatives and Warrants Executed as Principal

The maximum possible loss for a written **option** position for the purposes of calculating a counterparty **large exposure risk requirement** is the full value of the premium owed to the Participant.

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[37] It is acknowledged that if cash is given to a **counterparty**, the loss is not theoretically infinite.

For purchased *option*s and other *OTC derivative* positions, the maximum possible loss for the purposes of calculating a counterparty *large exposure risk requirement* is deemed to be the current credit exposure (CCE).

Note that the CCE must be recalculated on a daily basis for as long as the transaction remains outstanding. For example, if the CCE is $1,000 on the day the *counterparty* fails to settle, the CCE must be recalculated daily until such time as funds are received from the *counterparty* and must not be taken to be a constant amount of $1,000.

(5)   Reducing the Counterparty Large Exposure Risk Requirement

(a)   Collateral

If the Participant holds collateral from the *counterparty*, it cannot be used to further reduce any counterparty large exposure risk amount as that collateral will have already been used to reduce the counterparty risk amount as calculated in Annexure 1 (i.e. *step 2* in section (B) above) and therefore will have already been factored into the calculation of the counterparty exposure upon which the counterparty large exposure risk amount is calculated.

(b)   Counterparty Risk Weighting

The counterparty *large exposure risk requirement* cannot be reduced by counterparty risk weighting as this will have already been used to reduce the counterparty risk amount as calculated in Annexure 1 (i.e. *step 2* in section (B) above) and therefore will have already been factored into the calculation of the counterparty exposure upon which the counterparty large exposure risk amount is calculated.

(iv)   Examples

A number of examples are provided below to assist in the understanding of this Rule. In each case a number of scenarios are noted in a table and the scenarios are explained in the commentary following the table.

The calculations are based on **close of business** balances and would differ if calculating the risk amounts during the Business Day prior to settlement of the transactions (i.e. the capital liquidity requirements of this Rule must be satisfied at all times).

(A)   Example 1 – Non-Margined Financial Instruments – 100% of Contract Value/Market Value Approach

(1)   Transaction Details

Assume the Participant has elected to take the "100% of contract value/market value" option when calculating its *counterparty risk requirement* for unsettled trades greater than 10 Business Days under the non-margined financial instruments method (ie, Annexure 1, clause 2(b)(ii)).

Assume the Participant has *liquid capital* of $130,000. The transaction has a contract value of $80,000 and the current market value of the securities is $100,000 and it is greater than 10 Business Days after transaction date. 10% of *liquid capital* is $13,000.

(2)   Calculation

Counterparty Large Exposure Risk (CLER)				
Applies > 10 Business Days after transaction date				
	Buy		Sell	
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Contract Value	$80,000	$80,000	$80,000	$80,000
Market Value	$100,000	$100,000	$100,000	$100,000
Counterparty Risk Weighting	100%	50%	100%	50%
Counterparty Risk Amount (CR)	$80,000	$40,000	$100,000	$50,000
CLER Assessable Amount	$80,000	$40,000	$100,000	$50,000
CLER	$0	$40,000	$0	$50,000
CR + CLER	$80,000	$80,000	$100,000	$100,000

Scenarios
1. If the transaction is a client purchase and a counterparty risk weighting of 100% is applied, the counterparty risk amount (i.e. the exposure) is $80,000 (100% of the contract value) and this is greater than 10% of *liquid capital*. As this is the deemed maximum possible loss on the transaction, there is no need to include a counterparty large exposure risk amount.

2. If the transaction is a client purchase and a counterparty risk weighting of 50% is applied, the counterparty risk amount (i.e. the exposure) is $40,000 and this is greater than 10% of *liquid capital*. As this is less than the deemed maximum possible loss on the transaction, a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $40,000.

3. If the transaction is a client sale and a counterparty risk weighting of 100% is applied, the counterparty risk amount (i.e. the exposure) is $100,000 (100% of the market value) and this is greater than 10% of *liquid capital*. As this is deemed to be the maximum possible loss on the transaction, there is no need to include a counterparty large exposure risk amount.

4. If the transaction is a client sale and a counterparty risk weighting of 50% is applied, the counterparty risk amount (i.e. the exposure) is $50,000 and this is greater than 10% of *liquid capital*. As this is less than the deemed maximum possible loss on the transaction, a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $50,000.

(B)   Example 2 – Non-Margined Financial Instruments – Mark to Market Approach

(1)   Transaction Details

Assume the Participant calculates its counterparty risk amount using the mark to market basis for unsettled trades greater than 10 Business Days (i.e. Annexure 1, clause 2(b)(i)).

Assume the Participant has *liquid capital* of $130,000. The transaction has a contract value of $900,000 and the current market value of the securities is $850,000. 10% of *liquid capital* is $13,000.

(2)   Calculation

Counterparty Large Exposure Risk (CLER)				
Applies > 10 Business Days after transaction date				
	Buy		Sell	
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Contract Value	$900,000	$900,000	$900,000	$900,000
Market Value	$850,000	$850,000	$850,000	$850,000
Counterparty Risk Weighting	100%	50%	100%	50%
Counterparty Risk Amount (CR)	$50,000	$25,000	$27,000	$13,500
CLER Assessable Amount	$50,000	$25,000	$27,000	$13,500
CLER	$50,000	$25,000	$27,000	$13,500
CR + CLER	$100,000	$50,000	$54,000	$27,000

Scenarios

1. If the transaction is a client purchase and a counterparty risk weighting of 100% is applied, the counterparty risk amount (i.e. the exposure) is $50,000 (the greater of 3% of contract value and the ***positive credit exposure***) and this is greater than 10% of ***liquid capital***. As this is less than the deemed maximum possible loss on the transaction (i.e. the contract value), a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $50,000.

2. If the transaction is a client purchase and a counterparty risk weighting of 50% is applied, the counterparty risk amount (i.e. the exposure) is $25,000 and this is greater than 10% of ***liquid capital***. As this is less than the deemed maximum possible loss on the transaction, a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $25,000.

3. If the transaction is a client sale and a counterparty risk weighting of 100% is applied, the counterparty risk amount (i.e. the exposure) is $27,000 (the greater of 3% of contract value and the ***positive credit exposure***) and this is greater than 10% of ***liquid capital***. As this is less than the deemed maximum possible loss on the transaction (i.e. the market value), a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $27,000.

4. If the transaction is a client sale and a counterparty risk weighting of 50% is applied, the counterparty risk amount (i.e. the exposure) is $13,500 and this is greater than 10% of ***liquid capital***. As this is less than the deemed maximum possible loss on the transaction, a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $13,500.

(C)   Example 3 – Securities Borrowing

(1)   Transaction Details

Assume the Participant has ***liquid capital*** of $120,000. Assume the value of securities borrowed by the Participant is $6,000,000 and the value of cash given by the Participant is $6,800,000. 10% of ***liquid capital*** is $12,000.

(2)   Calculation

Counterparty Large Exposure Risk (CLER)		
Applies from the date the transaction is due to be closed out		
	Scenario 1	Scenario 2
Counterparty exposure[38]	$800,000	$800,000
Counterparty Risk Weighting	100%	20%
Counterparty Risk Amount (CR)	$64,000	$12,800
CLER Assessable Amount	$64,000	$,12,800
CLER	$64,000	$12,800
CR + CLER	$128,000	$25,600

Scenarios
1. If a counterparty risk weighting of 100% is applied, the counterparty risk amount (i.e. the exposure) is $64,000 (8% of the counterparty exposure) and this is greater than 10% of *liquid capital*. As this is less than the deemed maximum possible loss on the transaction (i.e. the counterparty exposure of $800,000), a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $64,000.

2. If a counterparty risk weighting of 20% is applied, the counterparty risk amount (i.e. the exposure) is $12,800 and this is greater than 10% of *liquid capital*. As this is less than the deemed maximum possible loss on the transaction (i.e. the counterparty exposure of $800,000), a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $12,800.

(D)   Example 4 – Securities Borrowing and Lending

(1)   Transaction Details

Assume the Participant has *liquid capital* of $120,000. Assume the Participant has two transactions with the same *counterparty*. Under the first transaction the Participant has borrowed $4,200,000 of securities and given the *counterparty* $5,500,000 in cash. Under the second transaction the Participant has lent $2,350,000 of securities for which it has received $2,800,000 in cash. 10% of *liquid capital* is $12,000.

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[38] Counterparty exposure is the difference between the market value of securities or cash given by the Participant to the *counterparty* and the market value of securities or cash received by the Participant from the *counterparty*.

(2) Calculation

Counterparty Large Exposure Risk (CLER)		
Applies from the date the transaction is due to be closed out		
	Scenario 1	Scenario 2
Counterparty exposure[39]	$850,000	$850,000
Counterparty Risk Weighting	100%	20%
Counterparty Risk Amount (CR)	$68,000	$13,600
CLER Assessable Amount	$68,000	$13,600
CLER	$68,000	$13,600
CR + CLER	$136,000	$27,200

Scenarios

1. If a counterparty risk weighting of 100% is applied, the counterparty risk amount (i.e. the exposure) is $68,000 (8% of the counterparty exposure) and this is greater than 10% of *liquid capital*. As this is less than the deemed maximum possible loss (i.e. the counterparty exposure of $850,000), a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $68,000.

2. If a counterparty risk weighting of 20% is applied, the counterparty risk amount (i.e. the exposure) is $13,600 and this is greater than 10% of *liquid capital*. As this is less than the maximum possible loss (i.e. the counterparty exposure of $850,000), a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $13,600.

(E) Example 5 – Margined Financial Instruments

(1) Transaction Details

Assume the Participant has *liquid capital* of $200,000. Assume the amount owing to the Participant relates to *derivative*s trades conducted on the ASX market and the *counterparty* is a "normal agency client". 10% of *liquid capital* is $20,000.

A counterparty risk amount is required from 10:30 am on T_{+1} as this is the time that amounts are normally scheduled for payment to ASX Clear. A counterparty large exposure risk amount only applies from 24 hours after this time (i.e. from 10:30 am on T_{+2}).

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[39] Refer to footnote 2.

(2) Calculation

Counterparty Large Exposure Risk (CLER)				
Applies 24 hrs after counterparty risk assessable				
	T$_{+1}$ (10:30am)		T$_{+2}$ (10:30am)	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2
Deposit/Margin	$50,000	$50,000	$50,000	$50,000
Counterparty Risk Weighting	100%	50%	100%	50%
Counterparty Risk Amount (CR)	$50,000	$25,000	$50,000	$25,000
CLER Assessable Amount	n/a	n/a	$50,000	$25,000
CLER	n/a	n/a	$0	$25,000
CR + CLER	$50,000	$25,000	$50,000	$50,000

Scenarios

1. If a counterparty risk weighting of 100% is applied, the counterparty risk amount (i.e. the exposure) is $50,000 (the full value of the amount owed to the Participant) and this is greater than 10% of *liquid capital*. As this is the deemed maximum possible loss on the transaction, there is no need to include a counterparty large exposure risk amount.

2. If a counterparty risk weighting of 50% is applied, the counterparty risk amount (i.e. the exposure) is $25,000 and this is greater than 10% of *liquid capital*. As this is less than the deemed maximum possible loss on the transaction, a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $25,000.

(F) Example 6 – OTC Derivatives and Warrants Executed as Principal – Written Option

(1) Transaction Details

Assume the Participant has *liquid capital* of $200,000 and has written an *option* with a premium value of $60,000. 10% of *liquid capital* is $20,000.

(2) Calculation

Counterparty Large Exposure Risk (CLER)		
Applies from the date the premium is due to be paid		
	Scenario 1	Scenario 2
Premium	$60,000	$60,000
Counterparty Risk Weighting	100%	50%
Counterparty Risk Amount (CR)	$60,000	$30,000
CLER Assessable Amount	$60,000	$30,000
CLER	$0	$30,000
CR + CLER	$60,000	$60,000

Scenarios

1. If a counterparty risk weighting of 100% is applied, the counterparty risk amount (i.e. the exposure) is $60,000 (100% of the premium) and this is greater than 10% of *liquid capital*. As this is the deemed maximum possible loss on the transaction, there is no need to include a counterparty large exposure risk amount.

2. If a counterparty risk weighting of 50% is applied, the counterparty risk amount (i.e. the exposure) is $30,000 and this is greater than 10% of *liquid capital*. As this is less than the deemed maximum possible loss on the transaction, a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $30,000.

(G) Example 7 – OTC Derivatives and Warrants Executed as Principal – Other Positions

(1) Transaction Details

Assume the Participant has *liquid capital* of $150,000 and has an *OTC derivative* position which has a current credit exposure (CCE) of $500,000. 10% of *liquid capital* is $15,000.

(2) Calculation

Counterparty Large Exposure Risk (CLER)		
Applies from the date any payment or delivery is due under the transaction		
	Scenario 1	Scenario 2
Current credit exposure (CCE)	$500,000	$500,000
Counterparty Risk Weighting	100%	50%
Counterparty Risk Amount (CR)[40]	$40,000	$20,000
CLER Assessable Amount	$40,000	$20,000
CLER	$40,000	$20,000
CR + CLER	$80,000	$40,000

Scenarios

1. If a counterparty risk weighting of 100% is applied, the counterparty risk amount (i.e. the exposure) is $40,000 (8% of the CCE) and this is greater than 10% of *liquid capital*. As this is less than the deemed maximum possible loss on the transaction (i.e. the CCE), a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $40,000.

2. If a counterparty risk weighting of 50% is applied, the counterparty risk amount (i.e. the exposure) is $20,000 and this is greater than 10% of *liquid capital*. As this is less than the deemed maximum possible loss on the transaction, a counterparty large exposure risk amount must be included. This is equal to the counterparty risk amount of $20,000.

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[40] Note that the calculation of a counterparty risk amount for the "other positions" is 8% x CCE. There is no potential credit exposure (PCE) to be calculated in this example because PCE is a measure of the risk for the remaining life of the transaction but CLER is only applicable once the *counterparty* has failed to settle.

(c)   Clause 2 - Issuer Large Exposure Risk Requirement

(i)   Rule

2.   ISSUER LARGE EXPOSURE RISK REQUIREMENT

2.1   Nature of an issuer large exposure risk amount

The issuer large exposure risk amount is the absolute sum of the individual issuer large exposure risk amounts calculated from the transaction date using the method of calculation set out in this Annexure 2.

2.2   Overview

(a)   The issuer large exposure risk amount for an issuer is subject to two tests, measuring the net position relative to Liquid Capital and relative to the issuer.

(b)   In calculating the issuer large exposure amounts for exposures to:

(i)   equity positions, the method set out in clause 3 applies;

(ii)   debt positions, the method set out in clause 4 applies; and

(iii)   both equity positions and debt positions where no risk amount arises under clause 3 or clause 4, the method set out in clause 5 applies.

(c)   The methods referred to in clause 2.2(b) are summarised in the Tables below:

Table 2

	Equity Method				Risk amount
	Compared to Liquid Capital		**Compared to Issue**		**Risk amount**
Equity Net Position from transaction date	If equity net position is ≤25%, is a risk amount required ? No	If equity net position is >25%, is a risk amount required ? Yes **(a)**	If equity net position is ≤5%, is a risk amount required ? No	If equity net position is >5%, is a risk amount required ? Yes **(b)**	Take the greater of **(a)** and **(b)**

Table 3

	Debt Method				Risk amount
	Compared to Liquid Capital		Compared to Issue		
Debt Net Position from transaction date	If debt net position is ≤25%, is a risk amount required ? No	If debt net position is >25%, is a risk amount required ? Yes **(a)**	If debt net position is ≤10%, is a risk amount required ? No	If debt net position is >10%, is a risk amount required ? Yes **(b)**	Take the greater of **(a)** and **(b)**

Table 4

	Equity and Debt Method		Risk amount
	Compared to Liquid Capital only		
Equity Net Position and Debt Net Position from transaction date	If equity net position and debt net position is ≤25%, is a risk amount required ? No	If equity net position and debt net position is >25%, is a risk amount required ? Yes **(c)**, but only if a zero amount has been calculated in Table 2 or Table 3	Take **(c)**

2.3   Application

(a)   An issuer large exposure risk amount does not arise in relation to:

   (i)   a Financial Instrument whose value is based on Government Debt Instrument or an interest rate;

   (ii)   a Forward Rate Agreement;

   (iii)   an interest rate or currency Swap;

   (iv)   an interest rate leg of an equity Swap; and

   (v)   a Future on an index, an equity Swap based on an index or any other index-linked Derivative where that Future, equity Swap or index-linked Derivative is not broken down into its constituent positions by a Participant for the purposes of calculating a position risk amount.

(b)   An issuer large exposure risk amount must be calculated in the following manner:

   (i)   the Equity leg of an equity Swap the value of which is based on the change in value of an individual Equity is treated as an exposure to the issuer of the Equity for the face value of the equity leg of the equity Swap;

   (ii)   a Future or forward contract over:

      (A)   a Debt Instrument other than a Government Debt Instrument; or

(B)   an Equity,

is treated as an exposure to the underlying issuer for the face value of the Future or forward contract;

(iii)   a Future on a index, an equity Swap based on an index or any other index-linked Derivative where that Future, equity Swap or index-linked derivative is broken down into its constituent positions by a Participant for the purposes of calculating a position risk amount, is treated as an exposure to each underlying constituent position;

(iv)   an Option or right over a Financial Instrument(other than a Financial Instrument referred to in clause 2.3(a) above) is treated as an exposure at:

(A)   the full value of the underlying position;

(B)   the delta weighted value of the underlying instrument generated by a model approved by ASX Clear under the contingent loss matrix method; or

(C)   the delta weighted value of the underlying instrument where a delta is published by a relevant exchange, clearing house or an independent market information source.

(c)   A delta weighted value under clause 2.3(b)(iv) may be offset against the corresponding underlying instrument in calculating an Equity Net Position or Debt Net Position under clauses 3, 4 and 5.

(ii)   Formula

$$lera_{iss} = \sum \left| lera_{method} \right|$$

Where:
$lera_{method}$ = the issuer large exposure risk amount calculated in accordance with the criteria set out in clauses 2 to 5

(iii)   Guidance

(A)   General

The general principle behind the issuer *large exposure risk requirement* is that additional capital is required where a Participant has an exposure to an individual issuer that is large relative to the Participant's capital or with respect to the value of the relevant securities on issue.

It is a widely accepted risk management principle that the less diversified the spread of risk, the greater the exposure. That is, there is greater risk to the Participant if it has a large percentage of its capital in securities issued by one entity.

Holding a significant percentage of a security on issue can increase the risk profile of the position in a number of ways. A fall in the value of those securities will have a relatively larger impact on the Participant's capital than if it was part of a more diversified portfolio and there is a greater risk of loss

arising from the potential illiquidity of such positions due to the Participant holding a large percentage of the market in those securities. Further, a forced liquidation of the position can have a negative impact on the price of the security, compounding the potential loss.

(B)   Application

(1)   General

An issuer *large exposure risk requirement* only exists with respect to a Participant's principal (i.e. proprietary) positions in *financial instruments* and only where certain criteria are exceeded. The issuer *large exposure risk requirement* must be assessed from transaction (i.e. execution) date.

As a general principle, for the purpose of calculating an issuer *large exposure risk requirement,* it is the entity underlying the principal position that must be considered. Therefore, where there is no underlying entity, an issuer *large exposure risk requirement* does not have to be calculated. *Financial instruments* such as *forward rate agreement*s, interest rate *swap*s, or positions in *future*s contracts over an index which have not, for the purposes of Annexure 3, been disaggregated into its component underlying stocks have no entity underlying them and hence should not be considered in the calculation of an issuer *large exposure risk requirement*.

There is, however, one exception to this general principle and this is that a *government debt instrument* is not subject to an issuer *large exposure risk requirement*. In the Australian context, this means *debt instrument*s issued by the Australian Government or State borrowing authorities would not be subject to an issuer *large exposure risk requirement*.

It is important to note that any exposure to a particular issuer that is denominated in a currency other than Australian Dollars must be converted to Australian Dollars prior to assessing whether or not an issuer large exposure risk amount needs to be calculated. Guidance on converting to Australian Dollars is provided in the introduction section of Annexure 2.

(2)   Contingent Loss Matrix Method

Notwithstanding that a Participant calculates its position risk amounts utilising the contingent loss matrix method, an issuer *large exposure risk requirement* must still be considered on the delta weighted *equity net positions* or *debt net positions* calculated using that method.

(3)   Internal Models Approach

Participants using the internal models approach should be aware that they might still be required to calculate an issuer *large exposure risk requirement*. This may depend on the extent to which the Participant's model captures the concentration risk that the issuer *large exposure risk requirement* is intended to capture.

(4)   Inclusion of Options in Equity or Debt Net Position

The criteria for determining whether an issuer *large exposure risk requirement* exists is generally based on the *equity net position* and/or the *debt net position* related to a particular issuer or issue. The *equity net position* is as calculated in accordance with clause 9 of Annexure 3 and the *debt net position* is as calculated in accordance with clause 17 of Annexure 3 for the purposes of calculating position risk amounts. Both of these clauses state that, unless the contingent loss matrix method is used, then *option* positions

can only be offset against other positions in the underlying security for the purposes of calculating the *equity net position* or *debt net position* if the *option* is *in the money* by at least the applicable standard method *position risk factor*. In this case, the *option*'s delta will be close to 1 and hence the delta weighted value will be close to the full value of the underlying position.

For issuer large exposure purposes, if an *option* position is not sufficiently *in the money*, then it cannot be offset against other positions in the underlying security, i.e. the *option* and non-*option* positions must be summed to give the total exposure. The *option* here is taken at the full value of the underlying position (as per clause 2.3(b)(iv)(A)) which is consistent with the *equity equivalent* of an *option* as specified in clause 8.2 of Annexure 3 or the *debt equivalent* of an *option* as specified in clause 16.2 of Annexure 3.

However, an alternative to taking the *option* at the full value of the underlying position is available. The Participant may, in certain circumstances, take the *option* at the delta weighted value of the underlying position, in which case the *option* may be offset against other positions in the underlying instrument. This can only be done if the instrument underlying the *option* position is the same as the underlying instrument in which the Participant is seeking to obtain the offset and:

1.   the delta is generated by an option pricing model which has been approved by ASX Clear under the contingent loss matrix method; or

2.   the delta is published by a relevant exchange, clearing house or an independent market information source (i.e. this does not apply to OTC *option*s).

If the *option* is taken at the delta weighted value it may be offset against other positions in the underlying instrument in calculating an *equity net position* or *debt net position* for the purposes of calculating an issuer *large exposure risk requirement*. **This does not apply for the purposes of calculating *position risk requirement*s under Annexure 3.**

The reason for requiring an *option* that is not sufficiently *in the money* to be taken at the full value of the underlying position and not offset against other positions in the underlying security is that using the full value does not correctly reflect the risk associated with an *option*. Since the delta weighted value represents the quantity of the underlying securities required in order to replicate the *option* holding, it is the delta weighted value that is an "equivalent" measure to the value of the physical position and hence only this delta weighted value can be offset for the purposes of calculating the *equity net position* or *debt net position* under Annexure 2.

An example of calculating the *equity net position* is given in the example section below.

(5)   Excluded Assets

Principal positions which are classified as *excluded asset*s are not subject to an issuer *large exposure risk requirement*.

Where only a portion of a principal position is treated as an *excluded asset*, only the portion that is not treated as an *excluded asset* is subject to an issuer *large exposure risk requirement*.

(6)   Exchange Traded Funds and Other Managed Funds

Participants with principal positions in exchange traded funds (ETFs) and other managed funds will need to assess if an issuer *large exposure risk requirement* needs to be calculated.

Definitions of classical ETFs, hybrid ETFs and other managed funds are provided in the guidance for Annexure 3, Part 1, clause 9, along with details of how these products are to be classified for the purposes of the Risk Based Capital Requirements.

(a) Classical ETFs

Annexure 2, clause 2.3(a)(v) states that where an index linked *derivative* (such as a classical ETF) is not broken down into its constituent positions, an issuer *large exposure risk requirement* does not arise.

However, where a classical ETF is broken down, an issuer *large exposure risk requirement* does arise and should be calculated in accordance with Annexure 2, clause 2.3(b)(iii).

(b) Hybrid ETFs and other managed funds

Only the test against *liquid capital* needs to be applied for positions in hybrid ETFs or other managed funds. If a Participant has positions in different hybrid ETFs or other managed funds issued by the same issuer, this test must be done separately for each hybrid ETF or managed fund.

The test against the amount on issue does not apply for positions in hybrid ETFs or other managed funds. This reflects the fact that this test is directed towards direct holdings of securities rather than indirect holdings via a hybrid ETF or other managed fund. It is, in fact, likely that the issuer breakdown of the hybrid ETF or other managed fund may not be identifiable. The test against *liquid capital* remains relevant as this reflects the greater risk to a Participant from having a large percentage of its capital invested in a single "location".

(C) Method

The method used by a Participant to assess its issuer *large exposure risk requirement* depends on the composition of its exposure to a particular issuer. If the exposure is only with respect to *equity* securities, the equity method applies (refer to guidance for clause 3 below). If the exposure is only with respect to debt securities, then the debt method applies (refer to guidance for clause 4 below). If the composition of the exposure is with respect to both *equity* securities and debt securities, and no amount has been calculated under the equity method or the debt method, then the equity and debt method applies (refer to guidance for clause 5 below).

That is, if the exposure comprises positions in both *equity* securities and debt securities, the positions must first be assessed under the equity method and the debt method. If a large exposure risk amount is calculated under either or both of these methods, the exposure does not need to be assessed under the equity and debt method. If a large exposure risk amount is calculated under both the equity method and the debt method, the large exposure risk amount will be the absolute sum of the two.

(iv) Example

(A) Transaction Details

Assume a Participant holds the following positions:

Instrument	Quantity of Underlying Shares	Current Price of Underlying Share	Strike Price	Delta	Equity Equivalent
XYZ shares	10,000	$1.00	-	1	-
Long 10 put options over XYZ shares (ETOs)	1,000 per option	$1.00	$1.05	-0.4	($10,000)

Also assume that XYZ is in a *recognised market index* and that the Participant does not use the equity contingent loss matrix method.

Note that the long put *option* position represents a short position in the underlying security because if the Participant exercises the *option*, it will be selling XYZ shares.

(B) Calculation

To determine if the *option* position can be offset against the physical position for the purposes of calculating the *equity net position* as per clause 9 of Annexure 3, it is necessary to check whether the *option* is *in the money* by the applicable standard method *position risk factor*. Since XYZ is in a *recognised market index*, then in accordance with Annexure 5, Table 1.1, the relevant standard method *position risk factor* is 12%. The *option* position is *in the money* by:

$$\frac{1.05 - 1.00}{1.05} = 4.76\%$$

and therefore cannot be offset against the physical position.

The Participant then calculates its *position risk requirement* for the physical position under the equity standard method and separately for the *option* position under the equity margin method or equity basic method.

However, for the purposes of calculating its issuer *large exposure risk requirement*, the Participant can either take the *option* at the full value of the underlying position or the delta weighted value (since the delta is published).

(1) Full Value

Assume the Participant takes the *option* at the full value of the underlying position.

Value of physical position = 10,000 x $1.00 = $10,000

Value of *option* position = *equity equivalent* of *option* = ($10,000)

Equity net position for the purposes of calculating an issuer large exposure risk amount
= $10,000 + $10,000 (i.e. no offsetting allowed)
= $20,000

The following illustrates why offsetting is not allowed in this instance. If offsetting were allowed, then the **equity net position** for issuer large exposure purposes = $10,000 - $10,000 = $0. This suggests that there is no exposure to movements in the underlying share price, but this is not actually the case. If, for example, the XYZ share price were to fall by 2%, the value of the **option** position would only rise by around 0.8% (0.4 x 2%). In other words, the position is not fully hedged against changes in the share price which is what is suggested by a zero **equity net position**.

(2)   Delta Weighted Value

Assume the Participant takes the **option** at the delta weighted value.

Value of physical position = 10,000 x $1.00 =$10,000

Value of **option** position = -0.4 x 10 x 1,000 x $1.00 = ($4,000)

Equity net position for the purposes of calculating an issuer large exposure risk amount
= $10,000 - $4,000 (ie, offsetting allowed as per clause 2.3(c))
= $6,000

(d)   Clause 3 – Equity Method

(i)   Rule

3.   EQUITY METHOD

(a)   A Participant's issuer large exposure risk requirement in relation to an issuer is the greater of the following amounts:

(i)   the risk amount calculated by comparing the Equity Net Position to Liquid Capital under clause 3(b); and

(ii)   the risk amount/s calculated by comparing the Equity Net Position to the issue/s under clause 3(c).

(b)   If the absolute value of an Equity Net Position to an issuer is greater than 25% of the Participant's Liquid Capital the risk amount is:

(i)   12% for each single Equity in a Recognised Market Index; and

(ii)   16 % for any other single Equity,

of the amount in excess of 25% of Liquid Capital.

(c)   If the absolute value of an Equity Net Position to an individual issue/s is greater than 5% of that issue, the risk amount/s is:

(i)   12% for each single Equity in a Recognised Market Index; and

(ii)   16% for any other single Equity,

of the amount in excess of 5% of the issue/s.

(ii)   Formula

$$EQUITY\ lera_{iss} = \sum_{iss=1}^{n}\left[\max\left[LCB, IB\right]\right]_{iss}$$

Where:

$$LCB = \max\left[(E_{LC} \times \sigma_i), 0\right]$$

$$IB = \sum_{i=1}^{m}\max\left[(E_I \times \sigma_i), 0\right]$$

$$E_{LC} = |\Pi_{iss}| - (LC \times 0.25)$$

$$E_I = \left[|\Pi_i| - (\vartheta_i \times 0.05)\right]_i$$

Where:

n   = *the number of issuers against which an issuer large exposure risk amount must be calculated*

m   = *the number of individual issues issued by issuer iss in which principal positions are held*

σ = **position risk factor**

Π_{iss} = *net position in issuer iss*

Π_i = *net position in security i*

LC   = **liquid capital**

ϑ_i = *total value of security i on issue*

iss   = *issuer*

(iii)   Guidance

(A)   General

The principle associated with this method is that an issuer large exposure risk amount is required to be calculated where the Participant has an *equity* based principal position that is deemed to be large relative to the Participant's *liquid capital* or to the market value of the security on issue.

Prior to assessing the requirement to calculate an issuer large exposure risk amount Participants will need to determine their exposure to an individual issuer for the purposes of clause 3 in two ways:

1.   exposure to an issuer relative to a Participant's *liquid capital*; and

2.   exposure to a particular issue relative to the market value of that security on issue.

It should be noted that if a Participant has calculated a position risk amount under Annexure 3, Part 1, clause 7.3(b) of the arbitrage method, then there is no need for any of the positions to be considered in the calculation of an issuer large exposure risk amount as this method "uses" an index type approach to the treatment of any physical positions held.

(B)   Exposure to Issuer Relative to Liquid Capital

For the purposes of the test against *liquid capital* (clause 3(b)), it is necessary to calculate the *equity net position* to an issuer and it may be necessary to aggregate the value of more than one *equity net position* to determine the exposure to an issuer.

In the case of principal positions in physical *equity* securities, the issuer is the entity that has issued those securities.

In the case of *derivative* positions, the issuer is the entity that has issued the securities underlying the *derivative*s position. The issuer is <u>not</u> the *counterparty* to a *derivative* transaction. For example, if a Participant enters into an equity *swap* with ABC where the equity *swap* is over Telstra ordinary shares, the issuer is Telstra.

The *equity net position* to a particular issuer is the aggregate of all *equity net position*s for different issues of securities issued by that issuer. The *equity net position*s relate to particular underlying instruments (e.g. ordinary shares, *preference share*s). *Equity net position*s for different instruments issued by a single issuer cannot be offset when calculating the total *equity net position* to that issuer. In other words, the *equity net position* to an issuer is the sum (without offset) of the *equity net position*s relating to individual underlying instruments issued by that issuer.

For example, ordinary shares and *preference share*s are different underlying instruments. If a Participant has a short *equity net position* of $6,000 in XYZ ordinary shares and a long *equity net position* of $2,000 in XYZ *preference share*s, the total *equity net position* for the purposes of calculating an issuer large exposure risk amount to the issuer (XYZ) is $8,000 ($6,000 + $2,000).

In the case of positions in hybrid ETFs or other managed funds, if a Participant holds positions in different hybrid ETFs or other managed funds issued by the same issuer, the test against *liquid capital* must be done separately for each hybrid ETF or other managed fund. Further information on all ETFs and other managed funds is provided in the guidance for clause 2 earlier in this section.

(C)   Exposure to an Individual Issue

The table below lists a number of *equity* based products and seeks to clarify what is an "individual issue" for the purposes of clause 3(c).

The test against the amount on issue must be performed separately for each "individual issue". The *equity net position* to an issue includes positions in all instruments that have the same "individual issue". For example, the *equity net position* with respect to XYZ ordinary shares can consist of all positions in products where XYZ ordinary shares is the "individual issue" (e.g. physical XYZ ordinary shares, *future*s over XYZ ordinary shares, warrants over XYZ ordinary shares, etc.).

A Participant may have more than one risk amount under clause 3(c). This would arise where there are positions in multiple "individual issues" issued by a single issuer that exceed the 5% threshold. For example, a Participant may have an *equity net position* with respect to XYZ ordinary shares that is greater than 5% of the ordinary shares on issue and also an *equity net position* with respect to XYZ *preference share*s[41] that is greater than 5% of the *preference share*s on issue. The test must be performed separately even though all of the securities have the same issuer.

The test against the amount on issue does not apply for positions in hybrid ETFs or other managed funds. This reflects the fact that this test is directed towards direct holdings of securities rather than indirect holdings via a hybrid ETF or other managed fund. It is, in fact, likely that the issuer breakdown of the hybrid ETF or other managed fund may not be identifiable. Further information on all ETFs and other managed funds is provided in the guidance for clause 2 earlier in this section.

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[41] Note that ordinary shares and *preference share*s are different "individual issues".

"Individual Issue"	Equity Product	"Individual Issue" Detail	Basis
ORDINARY SHARES	**Ordinary shares**	Ordinary shares on issue, as published by an information source.	There are no other instruments underlying a physical position in ordinary shares. Hence they are clearly the "individual issue" for the purposes of determining an issuer *large exposure risk requirement*.
	Exchange traded *options* (ETOs)	The ordinary shares underlying the ETO, as published by an information source.	ETOs are issued over ordinary shares. Hence, the ordinary share "issue" is considered relevant for the purposes of determining an issuer *large exposure risk requirement*.
	Exchange traded warrants	The ordinary shares underlying the exchange traded warrant, as published by an information source.	Exchange traded warrants are issued over ordinary shares. Hence, the ordinary share "issue" is considered relevant for the purposes of determining an issuer *large exposure risk requirement*.
	Exchange traded convertible notes that are treated as an *equity* position for the purposes of the position risk calculation	Ordinary shares on issue, as published by an information source.	Exchange traded convertible notes can be converted into ordinary shares. Hence, the ordinary share "issue" is considered relevant for the purposes of determining an issuer *large exposure risk requirement*.
	Classical exchange traded fund (ETF) (which is broken down into its constituent positions)	Ordinary shares on issue for each company in the stock index on which the classical ETF is based, as published by an information source.	A classical ETF is considered to be an *equity derivative* over a stock index. Hence, the ordinary share "issue" of each of the companies that comprise the stock index are considered relevant for the purposes of determining an issuer *large exposure risk requirement*.
	***Futures* or forward contracts over ordinary shares**	The ordinary shares underlying the *future*s or forward contracts, as published by an information source.	*Future*s or forward contracts are generally over ordinary shares. Hence, the ordinary share "issue" is considered relevant for the purposes of determining an issuer *large exposure risk requirement*.

"Individual Issue"	Equity Product	"Individual Issue" Detail	Basis
ORDINARY SHARES OR PREFERENCE SHARES (DEPENDS ON UNDERLYING)	**Over the counter (OTC)** *options* **over physical shares**	The ordinary shares or ***preference share***s (as applicable) underlying the OTC *option*, as published by an information source.	The underlying instrument for OTC *option*s will be either ordinary shares or ***preference share***s. Hence, the ordinary share "issue" or ***preference share*** "issue" (as applicable) is considered relevant for the purposes of determining an issuer *large exposure risk requirement*.
	Equity *swap*	The ordinary shares or ***preference share***s (as applicable) underlying the equity *swap*, as published by an information source.	Equity *swap*s are based on ordinary shares or ***preference share***s. Hence, the ordinary share "issue" or ***preference share*** "issue" (as applicable) is considered relevant for the purposes of determining an issuer *large exposure risk requirement*.
PREFERENCE SHARES	*Preference shares*	***Preference share***s on issue, as published by an information source. Where a company has issued more than one series of ***preference share***s, each series should be considered to be a separate "individual issue" (e.g. ABC 7% ***preference share***s and ABC 7.1% ***preference share***s need to be considered separately).	***Preference share***s are not generally fungible with ordinary shares on issue. Hence, the ***preference share*** "issue" is considered relevant for the purposes of determining an issuer *large exposure risk requirement*.
COMPANY ISSUED OPTION SERIES	**Company issued** *options*	Company issued *option* "series", as published by an information source. Each company *option* "series" will have different terms and conditions (e.g. if ABC has issued company *option*s expiring on 31/1/05 with a strike of $1 as well as company *option*s expiring on 31/3/05 with a strike of $1, these are two different "series" and need to be considered separately).	Company issued *option*s are *option*s over shares that, prior to exercise, do not exist. Hence, the *option* "series" is considered relevant for the purposes of determining an issuer *large exposure risk requirement*.

(D)   Method

(1)   Exposure to Issuer Relative to Liquid Capital

For the purposes of clause 3(b), if the **equity net position** to an issuer is greater than 25% of **liquid capital**, the risk amount is either 12% or 16% (depending on whether the **equity** is in a **recognised market index** or not) of the value of the **equity net position** to that issuer that is in excess of 25% of **liquid capital**.

(2)   Exposure to Individual Issue Relative to Total Amount on Issue

For the purposes of clause 3(c), if the **equity net position** to an individual issue is greater than 5% of that issue, the risk amount is either 12% or 16% (depending on whether the **equity** is in a **recognised market index** or not) of the value of the **equity net position** to that issue that is in excess of 5% of the issue.

If a Participant has positions in more than one "individual issue" issued by a particular issuer, the equity issuer large exposure risk amount will be the sum of the individual risk amounts calculated on each individual issue where the position exceeded 5% of the amount on issue.

(3)   Total Risk Amount

If both criteria are triggered (that is, relative to both **liquid capital** and amount on issue), the equity issuer large exposure risk amount will be the greater of the two.

Guidance on determining an **equity net position** is provided in the guidance sections for Annexure 3, Part 1, clause 9 and for Annexure 2, clauses 2 and 3.

(iv)   Examples

(A)   Example 1

(1)   Transaction Details

Assume that a Participant has **liquid capital** of $1,100,000. Assume also that the Participant has a principal position of $300,000 in XYZ **equity** securities which has a market capitalisation of $5,000,000. XYZ is not in a **recognised market index**.

(2)   Calculation

The **equity net position** triggers both criteria for an equity issuer large exposure risk amount, calculated as follows:

Position	Calculation	Ratio %	Excess over Benchmark
relative to **liquid capital**	300,000 ÷ 1,100,000	27.27	$25,000
relative to issue	300,000 ÷ 5,000,000	6.00%	$50,000

The Participant's equity issuer large exposure risk amount is based on the greater of the two excesses, that is $50,000, and is calculated as 16% (as XYZ is a non **recognised market index** stock) of $50,000. Hence, the issuer large exposure risk amount is $8,000.

(B)   Example 2

(1)   Transaction Details

Assume that a Participant holds the following positions:

Instrument	Quantity of Underlying Shares	Current Price of Underlying Share	Strike Price	Delta
Long ABC ordinary shares	50,000	$1.62	-	1
Long 10 put options over ABC ordinary shares (ETOs)	1,000 per option	$1.62	$1.70	-0.6
Long ABC *preference share*s	10,000	$1.97	-	1

Also assume that ABC is in a *recognised market index* and that the Participant's *liquid capital* is $320,000.

The total number of ordinary shares on issue is 700,000 and the total number of *preference share*s on issue is 150,000.

Note that the *option* is *in the money* by:

$$\frac{1.70 - 1.62}{1.70} = 4.7\%$$

which is less than the standard method *position risk factor* of 12%. Therefore, the *option* is not included in the *equity net position* for *position risk requirement* purposes because the contingent loss matrix method is not used and the *option* is not sufficiently *in the money*.

Assume that, for issuer *large exposure risk requirement* purposes, the Participant takes the *option* at the delta weighted value of the underlying position using the published deltas. Therefore, as per clause 2.3(c), the *option* can be offset against the physical ordinary share position.

(2)   Calculation

(a)   Exposure relative to liquid capital

Value of ordinary shares physical position = 50,000 x $1.62 = $81,000

Value of ETO position = -0.6 x 10 x 1,000 x $1.62 = ($9,720)

Equity net position with respect to ordinary share issue = $81,000 - $9,720
= $71,280

Equity net position with respect to *preference share* issue = 10,000 x $1.97
= $19,700

Equity net position to issuer ABC
= *equity net position* ord share + *equity net position* pref share
= $71,280 + $19,700 = $90,980
Equity net position relative to *liquid capital* = 90,980/320,000 = 28.43%
which is greater than the 25% trigger.

Risk amount $_{issuer}$ = 12% x (90,980 – 25% x \$320,000) = \$1,318

(b)   Exposure relative to issue

There are two *equity net position*s for the purposes of the "individual issue" test.

(i)   Ordinary Share Issue

Equity net position with respect to ordinary share issue = \$71,280 (calculated above)

Value of total ordinary shares on issue = 700,000 x \$1.62 = \$1,134,000

Equity net position relative to issue = 71,280/1,134,000 = 6.29%
which is greater than the 5% trigger.

Risk amount $_{ord\ share}$ = 12% x (\$71,280 – 5% x \$1,134,000) = \$1,750

(ii)   Preference Share Issue

Equity net position with respect to *preference share* issue = \$19,700 (calculated above)

Value of total *preference share*s on issue = 150,000 x \$1.97 = \$295,500

Equity net position relative to issue = 19,700/295,500 = 6.67%
which is greater than the 5% trigger.

Risk amount $_{pref\ share}$ = 12% x (\$19,700 – 5% x \$295,500) = \$591

(c)   Total issuer large exposure risk amount

The total issuer *large exposure risk requirement* for the Participant's position in ABC is the greater of the risk amount calculated under the *liquid capital* test, \$1,318, and the sum of the risk amounts for the "individual issues" issued by ABC, \$1,750 + \$591 = \$2,341.

Therefore, the equity issuer large exposure risk amount is \$2,341.

(e)   Clause 4 – Debt Method

(i)   Rule

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4.   DEBT METHOD

(a)   A Participant's issuer large exposure risk amount in relation to an issuer is the greater of the following amounts:

(i)   the risk amount calculated by comparing the Debt Net Position to Liquid Capital under clause 4(c); and

(ii)   the risk amount/s calculated by comparing the Debt Net Position to the issue/s under clause 4(d).

(b)   In calculating the issuer large exposure risk amount under this method:

(i)   an individual issue refers to an individual series or tranche of an individual series issued by an individual issuer;

(ii)   long and short positions may be offset across series for the purposes of determining large exposure to an issuer; and

(iii)   a large exposure to an individual issuer is the sum of all series issued by that issuer.

(c)   If the absolute value of a Debt Net Position to an issuer is greater than 25% of the Participant's Liquid Capital, the risk amount is:

(i)   the relevant standard method Position Risk Factor specified in Table 1.2, Annexure 5 multiplied by the amount in excess of 25%; and

(ii)   if more than one series is held, the Position Risk Factor for the longest dated instrument should be applied to the excess over 25%.

(d)   If the absolute value of a Debt Net Position to an individual issue/s is greater than 10% of that issue, the risk amount/s is:

(i)   the relevant standard method Position Risk Factor specified in Table 1.2, Annexure 5 multiplied by the excess over 10%; and

(ii)   if more than one series is held, the risk amount is the aggregate of the risk amounts calculated under clause 4(d)(i) for each individual series.

(ii) Formula

$$DEBT\,lera_{iss} = \sum_{iss=1}^{n} \left[\max\left[LCB,IB\right]\right]_{iss}$$

Where:

$$LCB = \max\left[\left(E_{LC} \times \sigma_i\right),0\right]$$

$$IB = \sum_{i=1}^{m} \left(\max\left[\left(E_I \times \sigma_i\right),0\right]\right)$$

$$E_{LC} = \sum_{i=1}^{m} \Pi_i - \left(LC \times 0.25\right)$$

$$E_I = \left[\left|\Pi_i\right| - \left(\vartheta_i \times 0.10\right)\right]_i$$

Where:

n	*= the number of issuers against which an issuer large exposure risk amount must be calculated*
m	*= the number of individual issues issued by issuer iss in which principal positions are held*
σ	*= **position risk factor***
Π_i	*= net position in security i*
LC	*= **liquid capital***
ϑ_i	*= total value of security i on issue*
iss	*= issuer*

(iii) Guidance

(A) General

The principle associated with this method is that an issuer large exposure risk amount is required to be calculated where the Participant has a debt based principal position that is deemed to be large relative to the Participant's **liquid capital** or to the value of each individual series on issue.

Prior to assessing the requirement to calculate a debt issuer large exposure risk amount Participants will need to determine their exposure to an individual issuer for the purposes of clause 4 in two ways:

1. exposure to an issuer relative to a Participant's **liquid capital**; and

2. exposure to a particular series relative to the total amount of that series on issue.

As mentioned previously, there is one exception to this general principle and this is that any **government debt instrument** is <u>not subject</u> to an issuer **large exposure risk requirement**. In the Australian context, this means **debt instrument**s issued by the Australian Government or State borrowing authorities would not be subject to an issuer large exposure requirement.

(B) Method

(1) Exposure to Issuer Relative to Liquid Capital

For the purposes of clause 4(c), Participants should aggregate the value of all **debt instrument**s issued by an individual issuer. Note that the value of all **debt instrument**s is determined as the **debt net position** which is set out in Annexure 3, clause 17. However, for the purposes of calculating the debt issuer large exposure risk amount in accordance with clause 4(c), several **debt instrument**s may be excluded from the **debt net position** and these are set out in Annexure 2, clause 2.3(a).

The requirement to calculate an issuer large exposure risk amount with respect to a particular issuer will exist where the absolute value of the **debt net position** to that issuer exceeds 25% of the Participant's **liquid capital**. In determining if this criteria is triggered, all principal positions in securities issued by an individual issuer need to be taken into account.

If the value of the **debt net position** exceeds 25% of the Participant's **liquid capital**, the debt issuer large exposure risk amount will be that amount of the total aggregate position that is over 25% of **liquid capital** multiplied by the relevant standard method **position risk factor** as detailed in Annexure 5, Table 1.2. If that **debt net position** is made up of more than one series, the **position risk factor** to be applied will be that corresponding to the longest dated issue in that position.

In the case of positions in hybrid ETFs or other managed funds, if a Participant holds positions in different hybrid ETFs or other managed funds issued by the same issuer, the test against **liquid capital** must be done separately for each hybrid ETF or other managed fund. Further information on all ETFs and other managed funds is provided in the guidance for clause 2 earlier in this section.

(2)   Exposure to Series Relative to Total Amount on Issue

For the purposes of clause 4(d), the requirement to calculate an issuer large exposure risk amount with respect to a position in a particular issue will exist where the absolute value of the position in a particular series, issued by a particular issuer, exceeds 10% of the total market value of that series. If the value of the position in that series exceeds 10% of the amount of that series on issue, the debt issuer large exposure risk amount will be that amount of the position in the series that is over 10% of the total of that series on issue multiplied by the relevant standard method **position risk factor** as detailed in Annexure 5, Table 1.2.

If a Participant has positions in several series issued by a particular issuer, the debt issuer large exposure risk amount will be the sum of the individual risk amounts calculated on each series where the position exceeded 10% of the amount on issue.

The test against the amount on issue does not apply for positions in hybrid ETFs or other managed funds. This reflects the fact that this test is directed towards direct holdings of securities rather than indirect holdings via a hybrid ETF or other managed fund. It is, in fact, likely that the issuer breakdown of the hybrid ETF or other managed fund may not be identifiable. Further information on all ETFs and other managed funds is provided in the guidance for clause 2 earlier in this section.

(3)   Total Risk Amount

If both criteria are triggered (that is, relative to both **liquid capital** and amount on issue), the debt issuer large exposure risk amount will be the greater of the two.

Guidance on determining the **debt net position** is provided in the guidance sections for Annexure 3, Part 2, clause 17 and for Annexure 2, clause 2.

(iv) Example

(A) Transaction Details

Assume that a Participant has *liquid capital* of $1,100,000. Assume also that the Participant has the following debt based principal positions (as at December 2004):

Ref	Instrument	Issuer	Debt Equivalent Position Long / (Short)	Maturity
1	Bond - Dec 2008	Commonwealth Government	$1,000,000	4 years
2	Bond - Dec 2009 6% [1]	National Australia Bank	$975,000	5 years
3	Bonds - Dec 2012 8% [2]	National Australia Bank	($250,000)	8 years
4	Bonds - Dec 2012 5% [3]	National Australia Bank	($400,000)	8 years
5	FRA	n/a	$75,000	2 months
6	Interest rate swap	n/a	$5,000,000	3 years
7	BAB Futures - Sep 05	n/a	($500,000)	9 months

1 - assume $3.5 million on issue

2 - assume $2 million on issue

3 - assume $2 million on issue

(B) Calculation

From the above positions, the Participant only has a potential debt issuer *large exposure risk requirement* arising from National Australia Bank (NAB) as the other positions are either related to government issues or to non-issuer *debt instrument*s. Note that positions in the ASX 24 90 day BAB *future*s contract are not subject to any issuer *large exposure risk requirement*. This is consistent with the treatment of this contract for the purposes of calculating specific risk position risk amounts.

(1) Exposure Relative to Liquid Capital

The net position to NAB is the net of transactions 2, 3 and 4, which is a long $325,000 position. This is 29.55% of the Participant's *liquid capital*. Therefore, the Participant has a requirement to calculate a debt issuer large exposure risk amount relative to *liquid capital*. The longest dated *debt instrument* is 8 years and therefore the *position risk factor* from Annexure 5, Table 1.2 is 5.35% (i.e. coupon > 3%, qualifying security). Thus the risk amount is:

5.35% x ($325,000 – 25% x $1,100,000) = $2,675

(2) Exposure Relative to Issue

The Participant has positions in three separate series issued by NAB with positions relative to the amount on issue as follows:

Maturity	Amount on Issue	Position	Percentage
Dec 2009 6%	$3,500,000	$975,000	27.9%
Dec 2012 8%	$2,000,000	($250,000)	12.5%
Dec 2012 5%	$2,000,000	($400,000)	20%

Therefore, the Participant has a debt issuer large exposure risk to all three bond issues, as calculated below. The **position risk factors** are from Annexure 5, Table 1.2 (all > 3% coupon, qualifying securities):

Dec 2009 6%: 4.35% x ($975,000 – 10% x $3,500,000) = $27,188
Dec 2012 8%: 5.35% x ($250,000 – 10% x $2,000,000) = $ 2,675
Dec 2012 5%: 5.35% x ($400,000 – 10% x $2,000,000) = $10,700
                                                         $40,563

(3)   Total Issuer Large Exposure Risk Amount

The total issuer **large exposure risk requirement** for the Participant's position in NAB is the greater of the risk amount calculated under the **liquid capital** test, $2,675, and the sum of the risk amounts for the individual series issued by NAB, $40,563.

Therefore, the debt issuer large exposure risk amount is $40,563.

(f)   Clause 5 – Equity and Debt Method

(i)   Rule

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5.   **EQUITY AND DEBT METHOD**

(a)   A Participant's issuer large exposure risk amount in relation to an issuer is based on the absolute sum of the Equity Net Positions and Debt Net Positions**.**

(b)   If the absolute sum of the Equity Net Positions and Debt Net Positions is greater than 25% of a Participant's Liquid Capital*,* then the risk amount is the relevant standard method Position Risk Factor specified in Table 1.1 or Table 1.2, Annexure 5 multiplied by the excess over 25% according to the following:

(i)   if the Equity Net Positions represent the greatest proportion of the aggregate Net Position, the standard method Position Risk Factor specified in Table 1.1, Annexure 5;

(ii)   if the Debt Net Positions represent the greatest proportion of the aggregate Net Position,

(A)   the relevant standard method Position Risk Factor specified in Table 1.2, Annexure 5; and

(B)   if more than one series is held, the Position Risk Factor for the longest dated instrument; or

(iii)   if the Equity Net Position and Debt Net Positions are held in equal proportions, the greatest of the standard method Position Risk Factors specified in Tables 1.1 or 1.2, Annexure 5.

(ii)   Formula

$$EQUITY \ \& \ DEBT \ lera_{iss} = \sum_{iss=1}^{n} \left[\max\left[E_{LC} \times \sigma_i, 0 \right] \right]_{iss}$$

$$Where:$$

$$E_{LC} = \left| \alpha_{iss}^{|e|\&|d|} \right| - \left(LC \times 0.25 \right)$$

Where:

$\alpha_{iss}^{|e|\&|d|}$ = *absolute sum of the **equity net position** and the **debt net position** in securities issued by issuer iss*

n   = *the number of issuers against which an issuer large exposure risk amount must be calculated*

σ = ***position risk factor***

LC   = ***liquid capital***

iss   = *issuer*

(iii)   Guidance

(A)   General

The principle associated with this method is that a Participant may have ***equity net position***/s and ***debt net position***/s in securities issued by a particular issuer that individually do not represent a large exposure, but

in aggregate they may be large relative to **liquid capital**. That is, the combined **equity net position** and **debt net position** may exceed 25% of **liquid capital** whereas individually, they do not.

It is important to note that where a principal position is held in both **equity** and debt issued by a particular issuer, the issuer large exposure risk amount must first be assessed under clause 3 and clause 4. If an issuer large exposure risk amount is required under either or both of these methods, there is no requirement to assess it under clause 5. If an issuer large exposure risk amount is calculated under both clause 3 and clause 4 for a particular issuer, the issuer large exposure risk amount will be the absolute sum of both.

(B)   Method

(1)   Exposure to Issuer Relative to Liquid Capital

For the purposes of clause 5(b), Participants should calculate the absolute sum of the **equity net position**s and the **debt net position**s for all instruments issued by a particular issuer. Each of these should be calculated based on the guidance provided for clause 3 and clause 4 respectively.

If the absolute sum is greater than 25% of the Participant's **liquid capital**, the issuer large exposure risk amount will be the amount of the aggregate position in excess of 25% of **liquid capital** multiplied by the relevant **position risk factor** from Annexure 5, Table 1.1 or Table 1.2.

(2)   Position Risk Factors

If the **equity net position**s represent the greatest portion of the aggregate position, the relevant **position risk factor** to be applied is the standard method **position risk factor** from Table 1.1.

If the **debt net position**s represent the greatest portion of the aggregate position, the relevant **position risk factor** to be applied is the standard method **position risk factor** from Table 1.2. If more than one series is held, the debt **position risk factor** to be applied will be that corresponding to the longest dated issue.

If the **equity net position** and **debt net position** are equal, the greatest **position risk factor** from Table 1.1 and Table 1.2 (with respect to the relevant positions) should be used. That is, the **position risk factor** that returns the greatest issuer large exposure risk amount must be used.

(iv)   Example

(A)   Transaction Details

Assume that a Participant has **liquid capital** of $1,100,000. Assume also that the Participant has the following principal positions (as at December 2004):

Ref.	Instrument	Issuer	Debt Equivalent Position Long / (Short)	Equity Equivalent Position Long / (Short)	Maturity
1	Bond - Dec 2008	Commonwealth Government	$1,000,000		4 years
2	Bond - Dec 2009 6% [1]	National Australia Bank	$675,000		5 years
3	Bonds - Dec 2012 8% [1]	National Australia Bank	($250,000)		8 years
4	Bonds - Dec 2012 5% [1]	National Australia Bank	($400,000)		8 years
5	FRA	n/a	$75,000		2 months
6	Interest rate *swap*	n/a	$5,000,000		3 years
7	BAB Futures - Sep 05	n/a	($500,000)		9 months
8	Shares	National Australia Bank [2]		$274,000	n/a

1 - assume $10 million on issue

2 - $35,121,000,000 market capitalisation

(B)   Calculation

From the above positions, the Participant only has a potential *debt net position* and debt issuer *large exposure risk requirement* arising from National Australia Bank (NAB) as the other positions are either related to government issues or to non issuer *debt instrument*s.

(1)   Equity Issuer Large Exposure (Clause 3)

The *equity net position* to NAB is represented by transaction 8, which is a long $274,000 position. This is 24.91% of the Participant's *liquid capital*. Therefore, the Participant does not have a requirement to calculate an equity issuer large exposure risk amount relative to *liquid capital*.

The *equity net position* in NAB relative to market capitalisation is negligible and therefore the Participant does not have a requirement to calculate an equity issuer large exposure risk amount relative to the value of *equity* securities on issue.

(2)   Debt Issuer Large Exposure (Clause 4)

The *debt net position* to NAB is the net of transactions 2, 3 and 4, which is a long $25,000 position. This is 2.27% of the Participant's *liquid capital*. Therefore, the Participant does not have a requirement to calculate a debt issuer large exposure risk amount relative to *liquid capital*.

The Participant has positions in three separate series issued by NAB with positions relative to the amount on issue as follows:

Maturity	Amount on Issue	Position	Percentage
Dec 2009 6%	$10,000,000	$675,000	6.75%
Dec 2012 8%	$10,000,000	($250,000)	2.50%
Dec 2012 5%	$10,000,000	($400,000)	4.00%

As each position is less than 10% of the amount on issue, the Participant is not required to calculate a debt issuer large exposure risk amount relative to the amount of debt securities on issue.

(3)   Equity and Debt Issuer Large Exposure (Clause 5)

The Participant's aggregate position with respect to its **equity net position** and **debt net positions** in NAB is $299,000 ($274,000 plus $25,000 respectively). This is 27.18% of the Participant's **liquid capital**. Therefore, the Participant is required to calculate an issuer large exposure risk amount in respect of the aggregate of its **equity net position** and **debt net positions**. The amount of the aggregate position over 25% of **liquid capital** is:

$299,000 - (25% x $1,100,000) = $24,000

The greater proportion of the aggregate position is the **equity net position** of $274,000 and therefore the appropriate **position risk factor** to be applied is 12% (ie, standard method **position risk factor** for a stock in a **recognised market index** from Annexure 5, Table 1.1). Therefore, the issuer large exposure risk amount is:

$24,000 x 12% = $2,880

SECTION 3E – RULE S1 ANNEXURE 3 POSITION RISK REQUIREMENT

(a) Introduction to Position Risk Requirement

(i) Formula

$$PRR = \sum \left| PRA_{part} \right|$$

Where:
PRA_{part} = position risk amount as calculated for each part of Annexure 3

(ii) Guidance

(A) Application

Annexure 3 applies to Participants that hold principal or proprietary positions in *financial instruments*.

Annexure 3 is segregated into four parts:

Part 1:   Equity Position Risk;
Part 2:   Debt Position Risk;
Part 3:   Foreign Exchange Position Risk; and
Part 4:   The Internal Models Approach.

Parts 1 to 3 detail a number of methods in which the method of calculation is "prescribed" in detail and these methods require risk amounts to be calculated separately for each risk/product class (i.e. *equities*, debt and foreign exchange). Part 4, however, contains the internal models approach which allows Participants to use their own risk measurement systems for regulatory capital purposes in addition to being used for internal risk management purposes. The internal models approach is only intended for use by Participants that undertake significant principal trading activities and that have sophisticated risk measurement models in place.

Annexure 3 does not have a specific section on capital requirements for principal positions in commodities. The reason for this is that Participants are currently not actively involved in the commodities markets as principal. There is scope for Participants using the internal models approach set out in Part 4 to include commodity positions in their position risk calculations. Any other Participants that have principal positions in commodities, or that intend entering the commodities markets in the near future, should contact ASX Clear to determine the appropriate capital requirements.

(B) General

The general principle associated with the *position risk requirement* is that additional capital is required where a Participant holds principal or proprietary positions in *financial instruments*. Such positions are exposed to market risk, or in other words, to movements in the rates and prices of those *financial instruments* and it is therefore appropriate that the Participant hold additional capital against that position risk.

(C)   Definition of Position Risk

Position risk (or market risk as it is sometimes referred to) is the risk of financial loss arising from an adverse movement in the market rates and prices used to value the *financial instruments* that are held by an organisation as an investment or as part of proprietary trading positions.

(D)   Method

The Risk Based Capital Requirements requires that additional capital be held where a Participant has principal positions in *financial instruments*. Participants that do not hold any principal positions in *financial instruments* are not subject to a *position risk requirement,* except that if they have any foreign currency denominated assets or liabilities they are subject to a *position risk requirement* for the foreign exchange risk they are exposed to. It should be noted that even a small investment in a single *equity* security, arising from an error for example, is a principal position in a *financial instrument*.

Participants must comply with the Risk Based Capital Requirements at all times. This means that a Participant must hold capital to cover the position risk arising from all principal positions, even if such positions are only held on an intra-day basis (ie, the position is closed out before the end of the day).

Participants should determine the relevant parts and methods of Annexure 3 that apply to them and calculate the position risk amounts in accordance with those sections of the Rule. The *position risk requirement* is the aggregate of the absolute values calculated under each part of Annexure 3.

(E)   Foreign Currency

It is important to note that Participants that have principal positions in *equities* and *equity derivatives* and *debt instruments* and *debt derivatives* that are denominated in a currency other than Australian Dollars will generally be required to calculate a position risk amount related to the foreign exchange risk inherent in those positions. Guidance on this is provided in Part 3 of Annexure 3.

The risk amounts calculated and denominated in each currency must be converted to Australian Dollars at the daily *market spot exchange rate*. This rate is the "closing" rate of exchange (mid rate) between each currency and the Australian dollar and can be sourced from either the daily financial press or from providers of foreign exchange markets information such as Reuters. It is possible that closing rates from alternate sources may differ but this is acceptable. Those organisations that subscribe to market information providers that supply 24 hour market data (i.e. the foreign exchange market runs 24 hours and there is no "closing" rate) should establish a procedure whereby the rate is taken at the close of business each day at, for example, 4:00 pm.

(F)   Country vs Currency

(1)   Equities – Country

Participants may have equity based principal positions where the underlying *equity* security is quoted and traded in a country other than Australia. Where this is the case, in calculating the risk amounts required under the prescribed methods of Annexure 3, Part 1, Participants must calculate and report the risk amount under each method separately for each country in which it has *equity* principal positions.

In a practical sense, for many countries, *equity* positions in that country's equity market will be denominated in that country's currency. However, this is not the case where, for example, the Euro is the

currency in which an *equity* security is quoted and traded. In these instances, the term country takes on more significance than currency when measuring market risk.

For example, a security listed in the German DAX index may be quoted and traded in the Euro, but for the purposes of calculating a position risk amount, consideration is given to the country in which the security is traded (i.e. the German market) rather than the currency in which it is denominated (i.e. the currency of the whole European market).

(2)   Debt – Currency

Participants may have principal positions in *debt instruments* and *debt derivatives* that are denominated in a currency other than Australian Dollars. Where this is the case, in calculating the risk amounts required under the prescribed methods of Annexure 3, Part 2, Participants must first calculate the risk amount under each method in the currency of denomination prior to converting to Australian Dollars. This is to facilitate the reporting of a Participant's *position risk requirement* by currency of denomination.

(G)   Excluded Assets

It is important to note that any principal position balance recorded on the Participant's balance sheet that is not *liquid* must be treated as an *excluded asset* and deducted from *liquid capital* unless explicitly directed to the contrary.

In the case of some OTC transactions, the 31 day liquidity requirement as specified in the definition of *liquid* may cause some problems. It may be necessary to incorporate early termination clauses in transaction documentation that provides the Participant with the unconditional right to terminate the contract within 31 days. If this is not possible, then prima facie, the transaction would have to be treated as an *excluded asset*.

There are four fundamental characteristics in order for a *financial instrument* to be considered to be *liquid*. These characteristics are that:

1.   there are genuine independent offers from third parties to the Participant;

2.   prices or rates exist that closely approximate the last sale price or rate in the *financial instrument* (whether exchange traded or OTC);

3.   payment/settlement can be effected within the settlement conventions applicable to the *financial instrument*; and

4.   there is sufficient liquidity in the market to ensure a ready sale of the position held.

If all of these characteristics are not able to be identified in a position then ASX Clear believes that the position does not demonstrate that it is *liquid*.

With respect to characteristic four, some of the factors which would be taken into consideration by ASX Clear include:

1.   the trading statistics related to the *financial instrument* (for example, with respect to *equities*, the average monthly volume over the previous 3 months should generally be considered. If, however, the previous month's volumes have been low, only 1 month's volume should be

considered). Participants should be conservative in determining if trading statistics indicate a *financial instrument* to be *liquid* and should bear in mind the spirit and intent of the Rule; and

2.   with respect to *equity* and *debt instruments*, details of the shareholder base, the concentration of holdings of the *financial instrument*, and spread of the *financial instrument*.

Two possible scenarios arise from the above:

1.   If a principal position in its entirety is not considered *liquid*, it should be treated as an *excluded asset*.

2.   If only a percentage of the principal position is not considered *liquid*, only that percentage need be treated as an *excluded asset*.

Scenario 2 is illustrated in the following examples.

(1)   Example 1

A Participant holds an *equity* principal position in stock XYZ of 100,000 shares and the market value of the stock is $1 per share at the end of March.

Assume monthly trading volumes of stock XYZ over each of the last three months has been:
    Jan 13,000
    Feb 12,000
    Mar 15,000

so average volume over the three month period is 13,333.

Based on this information, 86,667 shares (i.e. $86,667) would have to be treated as an *excluded asset* at the end of March as this percentage of the holding would not satisfy the definition of *liquid*. The remainder of the position (i.e. 13,333 shares, $13,333) can be considered *liquid* and hence may continue to be included in the calculation of a *position risk requirement* in accordance with Annexure 3.

(2)   Example 2

Assume that in April volumes fall significantly to an average of 6,000 for the month.

For simplicity, assume that the market value of the stock is still $1 per share. Then, at the end of April, rather than using the "new" three month average volume of 11,000, the Participant should only consider one month's volume as being *liquid*. Therefore, 94,000 shares (i.e. $94,000) would have to be treated as an *excluded asset* at end April as this percentage of the holding would not satisfy the definition of *liquid*. The remainder of the position (i.e. 6,000 shares, $6,000) can be considered *liquid* and hence may continue to be included in the calculation of a *position risk requirement* in accordance with Annexure 3.

SECTION 3E.I –ANNEXURE 3: PART 1 – EQUITY POSITION RISK

(a)   Clause 1 – Equity Position Risk Amount

(i)   Rule

PART 1 - EQUITY POSITION RISK

Note: *Part 1 only deals with the calculation of equity position risk amounts under the methods set out within this Part 1 (i.e. all available methods for equity positions other than the internal models approach set out in Part 4). Participants using a combination of Parts 1 and 4 for equity positions, as per part (c) of the definition of Position Risk Requirement, should note that the contents of Part 1 do not reflect the availability of the internal models approach of Part 4.*

1.   EQUITY POSITION RISK AMOUNT

1.1   Nature of equity position risk amount

The equity position risk amount in relation to a Participant's equity positions is the absolute sum of the individual position risk amounts for equity positions calculated for each country using the methods of calculation set out in this Annexure 3.

1.2   Overview of methods

(a)   The standard method and building block method are the two main methods for measuring the equity position risk amount. They are supplemented by other methods, the use of which largely depends on the Financial Instruments in which principal positions are taken.

(b)   In calculating the equity position risk amount, the following methods must be used:

Nature of Positions	Standard Method	Building Block Method	Contingent Loss Matrix Method	Margin Method	Basic Method	Arbitrage Method
Physical (not equity derivatives)	Yes.	Yes.	Yes, in conjunction with positions in options.	No.	No.	Yes, subject to certain conditions.
Non-option equity derivatives	Yes, if converted to equity equivalent positions.	Yes, if converted to equity equivalent positions.	Yes, in conjunction with positions in options.	Yes, if exchange traded and margined and not calculated under any other method.	No.	Yes, if arising as a result of futures arbitrage strategy.
Equity Options	Yes, if satisfy relevant criteria and not permitted to use contingent loss matrix method.	Yes, if satisfy relevant criteria and not permitted to use contingent loss matrix method.	Yes. Pricing model must be approved by ASX Clear.	Yes, if exchange traded and margined, and not calculated under any other method.	Yes, if not permitted to use contingent loss matrix method.	No.

> (c) For the purposes of Part 1 of this Annexure 3, a right over an equity must be treated as an Option position.

(ii) Formula

$$PRA_{equity} = \sum \left| pra_{method} \right|$$

Where:

pra_{method} = *the position risk amount calculated under each method in accordance with Part 1 of Annexure 3*

(iii) Guidance

(A) General

Part 1 of Annexure 3 sets out various methods that Participants may use in calculating position risk amounts with respect to principal positions (ie, proprietary trading or investment positions) in *equity* securities and other *financial instruments* that derive their value from the price of *equity* securities (see definition of *equity derivative*). The absolute sum of the position risk amounts calculated for *equity* based principal positions is a component of the overall *position risk requirement* calculation.

(B) Methods

While six methods are provided for the calculation of the equity position risk amount, use of four of those methods is generally restricted to specific situations.

Standard Method - Clause 2

The simplest method for calculating the position risk amount on a small portfolio of *equity* securities and/or some *equity derivatives*. Designed for those Participants with a limited number of investments in *equities*.

Building Block Method - Clause 3

A more complex method than the standard method, it is designed for Participants that have large portfolios of *equity* securities and some *equity derivatives*. Conditions apply on its use.

Contingent Loss Matrix Method - Clause 4

A method specifically for the calculation of a position risk amount on complex portfolios that include *options*. Designed to be used by Participants that have substantial *option*s portfolios.

Margin Method - Clause 5

A method specifically for the calculation of a position risk amount on exchange traded instruments that are subject to margins (typically *option*s and *futures*). Designed to be used by Participants that have a relatively small number of open positions in exchange traded instruments.

Basic Method - Clause 6

A method specifically for the calculation of a position risk amount on *option*s only. Designed to be used by Participants that have a relatively small number of open *option* positions, which may include listed company *option*s.

Arbitrage Method - Clause 7

A method specifically for the calculation of a position risk amount on separately managed arbitrage positions. Designed to be used by Participants that have a significant arbitrage operation.

A detailed discussion of each method along with qualifying criteria are presented in the guidance for clauses 2 to 7.

(C)   Position Risk Factors

(1)   General

With the exception of the margin and arbitrage methods, all methods refer to the use of *position risk factors* to calculate the position risk amount. These *position risk factors* are located in Annexure 5, Table 1.1.

The *position risk factors* have been determined after taking into account international and local standards for stock volatilities. The reason that a single equity *position risk factor* (i.e. 12% or 16%) is greater than the index *position risk factor* (i.e. 8%) is that an index position is deemed only to be affected by general market risk, which put simply is the risk of the overall market moving. Individual stocks are not only affected by general risk but also specific risk, which is the risk of a movement in the value of that stock for a reason specific to that individual stock.

(2)   Delisted Equities

If a Participant holds a principal position in an *equity* that is in a *recognised market index* and the *equity* is subsequently delisted due to a compulsory takeover, the *position risk factor* should change from 12% to 16% subsequent to the *equity* being delisted. The liquidity of the principal position should also be considered subsequent to the delisting.

(D)   Excluded Assets

(1)   Unlisted Financial Instruments

If a Participant holds an unlisted *financial instrument* as principal, then the Participant needs to determine whether the position can be liquidated within 31 days (that is, whether it should be treated as an *excluded asset*). If the Participant can demonstrate that it should not be treated as an *excluded asset*, the *position risk factor* applicable would be 16%.

(2)   Securities Subject to Trading Halts or Suspension

If a Participant holds a principal position in a security that is subject to a trading halt, the position does not have to be treated as an *excluded asset* (assuming that the position meets the definition of *liquid*) and an

equity position risk amount must be calculated. This treatment applies because trading halts are only placed on securities for two days.

If a Participant holds a long principal position in a security that is subject to suspension, the position must be treated as an *excluded asset* on the basis that the security is not *liquid*. If a Participant holds a short principal position in a security that is subject to suspension, the Participant must calculate an equity position risk amount on the position. This is due to the fact that the short position is treated as a liability on the balance sheet and as such the concept of an *excluded asset* does not apply to it.

(3)   Liquidity

The guidance provided on *excluded asset*s in the introductory section of this section of the Handbook (i.e. Annexure 3 – Position Risk Requirement) must be considered in assessing whether or not a position can be considered *liquid*.

(E)   Some Common Transactions

The following provides guidance in relation to a number of transactions that are normally associated with client business. Only the *position risk requirement*s are discussed below. Commentary on the *counterparty risk requirement*s that apply for these transactions is provided in the guidance for Annexure 1, clause 2.

(1)   Purchase or Sale as Agent

No position risk amount is required to be calculated because the Participant does not have a principal position as a result of this transaction.

(2)   Purchase or Sale as Principal

The Participant will be required to calculate an equity position risk amount from the time that the trade is executed (assuming the trade is not unwinding an existing principal position).

If a Participant has paid to purchase shares as principal but they have not yet been allotted, the amount paid for the shares is to be treated as an "other current asset". As long as the time until the stock commences trading is less than 31 days, the amount paid is not subject to any risk requirement and does not need to be treated as an *excluded asset*. If the time until the stock commences trading is greater than 31 days, the amount paid must be treated as an *excluded asset* on the basis that it does not meet the definition of *liquid*.

Where a Participant has paid to purchase shares as principal and the shares have been allotted but they have not yet been listed, as the Participant has a legal right to the shares, it needs to calculate a position risk amount on them. The position risk amount should be calculated on the market value for a placement of shares by a company that is already listed and at the subscription price for an issue of new shares that are not yet listed or traded.

Where a Participant has purchased securities as principal and the purchase has been funded by a margin lending arrangement, the securities purchased should be reported as "Financial Assets" in the balance sheet section of the capital liquidity return and a position risk amount should be calculated on them. Securities purchased via a standard margin lending arrangement are not considered securities lending and

borrowing assets and as such should not be reported as "Securities Borrowings" in the balance sheet section of the return.

Any funds borrowed under a margin lending arrangement should be reported as "Short Term Borrowings" in the balance sheet section of the return and not as "Securities Lending" liabilities.

A counterparty risk amount under the securities lending and borrowing method does not apply to funds received by a Participant through a standard margin lending arrangement as this arrangement differs from a *securities lending and borrowing* transaction, particularly in that the security given to the margin lender will be held in a nominee account.

(3)   Purchase or Sale Effected as a Special Crossing

Where the transaction is done on an agency basis, no position risk amount is required to be calculated.

Where one side of the transaction is done as principal, the Participant will have to calculate an equity position risk amount from the time that the trade is executed until the trade is sold to the client.

(4)   Client Facilitation Effected as a Special Crossing

Client facilitation involves the Participant agreeing to transact as principal with its client and then seeking to close its principal position by transacting with other clients.

Where the client is selling stock, the Participant will be buying the stock as principal. A position risk amount is required to be calculated on the long *equity* position from the time that the trade is executed.

If the Participant closes the principal position by selling the stock to other clients, a position risk amount will cease to be required from the time that the position is sold to the other clients. A position risk amount will continue to be required on any portion of the position that is not closed out.

It is important to note that a position risk amount is required even if the client facilitation is fully completed within the day (i.e. the principal position is only held on an intra-day basis). This is because Participants are required to comply with the Risk Based Capital Requirements at all times. A Participant undertaking client facilitation transactions must ensure that it has sufficient capital to cover its position risk on an intra-day basis so as to comply with the Risk Based Capital Requirements at all times.

(5)   Underwritten Placement of Existing Shares via a Book Build Effected as a Special Crossing

An underwritten placement of existing shares differs from client facilitation because the Participant is not obliged to buy the stock from the selling clients as principal but rather is obliged to pick up any shortfall that it has not been able to sell to other clients.

A position risk amount is not required to be calculated until the deadline for the placement is reached. Whatever stock has not been sold to buying clients by the deadline must be treated as a principal position by the Participant and a position risk amount will need to be calculated from this time. At or before this time the final price will be known and this is the price that should be used to calculate the final position risk amount.

(6)   Underwriting of Initial Public Offering (IPO)

A position risk amount is not required to be calculated until the closing date for applications is reached. Any shortfall in applications as at the closing date must be treated as a principal position by the Participant and a position risk amount will need to be calculated from this time. The "cost" or "subscription" price should be taken as the market value of the securities prior to their listing and trading for the purpose of calculating a position risk amount.

An ***underwriting risk requirement*** has not yet been implemented (refer to the guidance for Annexure 4).

(7)   Underwritten Placement of New Shares

The placement of new shares differs from an IPO in that an IPO is the first sale of securities when a company lists on the share market whereas the placement of new shares is the issue of new securities by a company that is already listed and has previously issued other securities.

The treatment of an underwritten placement of new shares is identical to that for an ***underwriting*** of an IPO.

Where a Participant acts as an underwriter of a dividend reinvestment plan (DRP), the Participant is obliged to hold any stock not taken up by shareholders through the DRP, as principal. As a result, the Participant will be required to calculate a position risk amount on the market value of the stock held as principal.

If the Participant is allocated the stock on an incremental basis, it should calculate the position risk amount on a cumulative basis, increasing the base amount in accordance with the allocation of the stock.

(F)   Reporting by Country

An equity position risk amount must be calculated separately for each country in which the Participant has ***equity*** principal positions.

In a practical sense, for many countries, ***equity*** positions in that country's equity market will be denominated in that country's currency. However, this is not the case where, for example, the Euro is the currency in which an ***equity*** security is quoted and traded. In these instances, the term country takes on more significance than currency when measuring market risk.

For example, a security listed in the German DAX index may be quoted and traded in the Euro, but for the purposes of calculating a position risk amount, consideration is given to the country in which the security is traded (i.e. the German market) rather than the currency in which it is denominated (ie, the currency of the whole European market).

(G)   Foreign Currency

It is important to note that Participants that have principal positions in ***equities*** and ***equity derivatives*** that are denominated in a currency other than Australian Dollars will generally be required to calculate a position risk amount related to the foreign exchange risk inherent in those positions. Guidance on this is provided in Part 3 of Annexure 3.

The risk amounts calculated and denominated in each currency must be converted to Australian Dollars at the daily ***market spot exchange rate***. This rate is the "closing" rate of exchange (mid rate) between each currency and the Australian dollar and can be sourced from either the daily financial press or from

providers of foreign exchange markets information such as Reuters. It is possible that closing rates from alternate sources may differ but this is acceptable. Those organisations that subscribe to market information providers that supply 24 hour market data (i.e. the foreign exchange market runs 24 hours and there is no "closing" rate) should establish a procedure whereby the rate is taken at the close of business each day at, for example, 4:00 pm.

(b) Clause 2 – Standard Method

(i) Rule

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2. STANDARD METHOD

2.1 Application

(a) Physical Equity positions may be included in the standard method.

(b) Equity Derivative positions other than Options may be included in the standard method if the positions are converted to Equity Equivalents according to clause 8.

(c) Equity Derivative positions which are Options may be included in the standard method only if they are purchased positions or if they are written positions which are exchange traded and subject to daily margin requirements and the purchased or written positions are:

    (i) In the Money by at least the relevant standard method Position Risk Factor for the underlying position specified in Table 1.1, Annexure 5; and

    (ii) converted to Equity Equivalents according to clause 8.

If the above criteria are not met, the Options must be treated under one of the option methods set out in clauses 4, 5 and 6.

2.2 Method

The position risk amount for equity positions to which the standard method is applied is the absolute sum of the product of individual Equity Net Positions at the mark to market value and the applicable Position Risk Factor specified in Table 1.1, Annexure 5.

(ii) Formula

$$SM\ pra_{equity} = \sum_{c=1}^{m} \left[\sum_{i=1}^{n} \left(\left| \Pi_i \right| \times \sigma_i \right) \right]_c$$

Where:

$SM\ pra_{equity}$	= *standard method position risk amount for **equity** securities*
Π_i	= *net position in security i*
σ	= *standard method **position risk factor***
n	= *the number of individual **equity net positions***
c	= *country*
m	= *the number of countries in which there are **equity net positions** in the portfolio*

(iii) Guidance

(A) General

The standard method is the simplest method for calculating a position risk amount for principal positions in **equity** securities and positions in **equity derivatives**. While it does have limited application to **equity derivatives**, it is designed primarily for use by those Participants with principal positions that are limited to investments in a small number of stocks.

(B) Method

Using the standard method, the equity position risk amount is calculated as the *equity net position* multiplied by the standard method *position risk factor* applicable to the *equity* security as prescribed in Annexure 5, Table 1.1. A position risk amount per country is calculated as the sum of all individual position risk amounts in that particular country. The total standard method equity position risk amount is then the sum of the converted currency position risk amounts for each country. All position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 1.

(C) Equity Net Positions

Guidance on the calculation of the *equity net position* is provided in clause 9. For the purposes of the standard method, positions in *equity derivatives* may be incorporated into the *equity net position* only under certain circumstances.

1. Non-*option equity derivatives* must be converted to *equity equivalents* to be incorporated into an *equity net position*. Guidance for converting *equity derivatives* into *equity equivalents* is provided in clause 8.

2. Positions in *option*s that are based on the price(s) of *equity* securities may be included in the *equity net position* only if:

    (a) they are purchased *option*s (OTC or ETO calls or puts); or

    (b) they are written ETOs that are subject to daily margin requirements from the relevant exchange or clearing house; and

    (c) they are *in the money* by the relevant standard method *position risk factor*; and

    (d) they are converted to *equity equivalents*.

With respect to point 2(c), an *option* can only be included in the *equity net position* if it has a positive intrinsic value and that intrinsic value, as a percentage of the strike price of the *option*, is greater than or equal to the *position risk factor* applicable to the *equity* security underlying the *option*. See the guidance for the definition of *in the money* in Section 3, Tab A of this Handbook.

It is important to note that the definition of *in the money* does not change relative to the *option* being bought or written. That is, *in the money* simply means that the market price of the underlying exceeds the strike price of the *option* for a call, and that the strike price of the *option* exceeds the market price of the underlying for a put. Therefore, for example, the writer of an *in the money* call is in fact carrying a position that is, for the writer, generating an unrealised loss.

With respect to point 2(d), positions in *option*s that satisfy points 2(a) to 2(c) must be converted to *equity equivalents* for the purposes of including them in the *equity net position*. Guidance for converting *option* positions into *equity equivalents* is provided in clause 8.

If a Participant has an *option* position that does not satisfy the above criteria it must calculate a position risk amount on that position using one of the other alternate methods. It should be noted that some *option* positions can only be taken where the Participant has sophisticated systems in place to enable it to monitor the risks on those positions.

(iv)   Example

(A)   Position and Other Details

A Participant holds positions in the following:

Equities								
Stock	Country	Exchange	Index	Position	Number of Shares	Purchase Price	Current Price	Current Market Value
National Australia Bank	Australia	ASX	S&P/ASX 200	Long	70,000	A$17.46	A$24.17	A$1,691,900
ANZ Bank	Australia	ASX	S&P/ASX 200	Long	13,000	A$6.45	A$10.96	A$142,480
Westpac	Australia	ASX	S&P/ASX 200	Long	20,000	A$8.16	A$11.69	A$233,800
Coles Myer	Australia	ASX	S&P/ASX 200	Short	(10,000)	A$9.16	A$8.95	A$89,500
Ansell	Australia	ASX	S&P/ASX 200	Long	5,000	A$3.05	A$2.72	A$13,600
AXA	Australia	ASX	S&P/ASX 200	Short	(17,000)	A$2.97	A$3.03	A$51,510
Lend Lease	Australia	ASX	S&P/ASX 200	Long	21,000	A$9.95	A$10.95	A$229,950
Microsoft	US	Nasdaq		Long	10,000	US$66	US$151	US$1,510,000
British Telecom	UK	LSE	FTSE 100	Long	25,000	£9.20	£9.88	£247,000
British Petroleum	UK	LSE	FTSE 100	Long	35,000	£7.59	£8.89	£311,150
Shell	UK	LSE	FTSE 100	Long	15,000	£3.12	£3.23	£48,450
Unilever	UK	LSE	FTSE 100	Long	8,500	£5.14	£5.70	£48,450
Vodafone	UK	LSE	FTSE 100	Long	45,000	£11.00	£11.14	£501,300
Boehler - Uddeholm	Austria	Vienna SE	ATX	Long	14,000	EUR 2.88	EUR 2.94	EUR 41,160
Danske Bank	Denmark	Copenhagen SE	KFX	Long	10,000	DKK 860	DKK 870	DKK 8,700,000

Non-Option Equity Derivatives – ASX24 Futures						
Contract	Delivery	Position	Number of Contracts	Purchase Price	Current Price of Underlying	Current Market Value of Underlying (Equity Equivalent)
National Australia Bank	October 2005	Short	20	A$22.43	A$24.17	A$483,400

Option Equity Derivatives – LIFFE UK Equity Options						
Contract	Expiry	Position	Number of Contracts	Strike	Current Price of Underlying	Current Market Value of Underlying (Equity Equivalent)
British Telecom	August 2005	Long Puts	20	£11.50	£9.88	£197,600

(B)   Calculation

There are positions in 15 separate underlying *equities* in 5 countries in the above portfolio. The calculation of each *equity net position* and position risk amount follows:

(1)   Country: Australia

There are 5 long *equity net positions* and 2 short *equity net positions* in the Australian market in the above portfolio comprising both physical *equities* and a share *futures* position in National Australia Bank (NAB). In accordance with clause 8.3, the position in the *futures* can be included in the *equity net position* at the implied market value of the underlying. All Australian stocks in the portfolio are in the S&P/ASX 200, a *recognised market index* according to Annexure 5, Table 1.6. Therefore, the *position risk factor* applied to the *equity net positions* is, from Annexure 5, Table 1.1, 12%.

Position	Market Value A$						
	NAB	ANZ	Westpac	Coles Myer	Ansell	AXA	Lend Lease
Equity	1,691,900	142,480	233,800	(89,500)	13,600	(51,510)	229,950
Future	(483,400)						
Equity Net Position	1,208,500	142,480	233,800	(89,500)	13,600	(51,510)	229,950
Position risk factor	12%	12%	12%	12%	12%	12%	12%
Position risk amount	A$145,020	A$17,098	A$28,056	A$10,740	A$1,632	A$6,181	A$27,594

(2)   Country: US

There is 1 long *equity net position* and no short *equity net positions* in the US market in the above portfolio comprising physical *equities* only (Microsoft). Microsoft is traded on Nasdaq which does not have a *recognised market index* according to Annexure 5, Table 1.6. Therefore, the *position risk factor* applied to the *equity net position* is, from Annexure 5, Table 1.1, 16%.

Position	Market Value US$
Equity	1,510,000
Equity Net Position	1,510,000
Position risk factor	16%
Position risk	US$241,600
A$/US$ exchange	0.6354
A$ position risk	A$380,233

(3)   Country: UK

There are 5 long *equity net positions* and no short *equity net positions* in the UK market in the above portfolio comprising both physical *equities* and an exchange traded *option* position in British Telecom.

The position in British Telecom comprises a long physical *equity* position and a long position in British Telecom put *option*s traded on LIFFE. In accordance with clause 2.1(c), the position in the *option* can only

be included in the *equity net position* under the standard method if it is *in the money* by at least the standard method *position risk factor* prescribed in Annexure 5, Table 1.1. British Telecom is in the FTSE 100 Index which is a *recognised market index* in accordance with Annexure 5, Table 1.6, and therefore the relevant standard method *position risk factor* is 12%. The *option* position is *in the money* by:

$$\frac{11.50 - 9.88}{11.50} = 14.09\%$$

and therefore can be included in the *equity net position*.

The value at which it is included in the *equity net position* is specified in clause 8.2. A purchased put *option* is a short position in the underlying valued at the implied market value of the underlying *equity* position. In this example, this is the current market value of British Telecom shares (£9.88) multiplied by the number of *option* contracts (20) multiplied by the number of shares per *option* contract (1,000).

All UK *equity net positions* in the above portfolio are in the FTSE 100, a *recognised market index* according to Annexure 5, Table 1.6. Therefore, the *position risk factor* applied to the *equity net positions* is, from Annexure 5, Table 1.1, 12%.

Position	Market Value £				
	British Telecom	British Petroleum	Shell	Unilever	Vodafone
Equity	247,000	311,150	48,450	48,450	501,300
Option	(197,600)				
Equity Net Position	49,400	311,150	48,450	48,450	501,300
Position risk factor	12%	12%	12%	12%	12%
Position risk	**£5,928**	**£37,338**	**£5,814**	**£5,814**	**£60,156**
£/A$ exchange rate	2.6700	2.6700	2.6700	2.6700	2.6700
A$ position risk	**A$15,828**	**A$99,692**	**A$15,523**	**A$15,523**	**A$160,617**

(4) Country: Austria

There is 1 long *equity net position* and no short *equity net positions* in the Austrian market in the above portfolio comprising physical *equities* only (Boehler - Uddeholm). Boehler - Uddeholm is traded on the Vienna Stock Exchange and is in the ATX which is a *recognised market index* according to Annexure 5, Table 1.6. Therefore, the *position risk factor* applied to the *equity net position* is, from Annexure 5, Table 1.1, 12%.

Position	Market Value EUR
Equity	41,160
Equity Net Position	41,160
Position risk factor	12%
Position risk	**EUR 4,939**
A$/EUR exchange	0.5694
A$ position risk	**A$8,674**

(5)   Country: Denmark

There is 1 long *equity net position* and no short *equity net positions* in the Danish market in the above portfolio comprising physical *equities* only (Danske Bank). Danske Bank is traded on the Copenhagen Stock Exchange which does not have a *recognised market index* according to Annexure 5, Table 1.6. Therefore, the *position risk factor* applied to the *equity net position* is, from Annexure 5, Table 1.1, 16%.

Position	Market Value DKK
Equity	8,700,000
Equity Net Position	8,700,000
Position risk factor	16%
Position risk	**DKK**
A$/DKK exchange	3.9063
A$ position risk	**A$356,347**

(6) **Summary**

Position Risk Amount

Position	Original Currency	A$
National Australia Bank	A$145,020	145,020
ANZ Bank	A$17,098	17,098
Westpac	A$28,056	28,056
Coles Myer	A$10,740	10,740
Ansell	A$1,632	1,632
AXA	A$6,181	6,181
Lend Lease	A$27,594	27,594
Microsoft	US$241,600	380,233
British Telecom	£5,928	15,828
British Petroleum	£37,338	99,692
Shell	£5,814	15,523
Unilever	£5,814	15,523
Vodafone	£60,156	160,617
Boehler - Uddeholm	EUR 4,939	8,674
Danske Bank	DKK 1,392,000	356,347
Total Equity Position Risk		**A$ 1,288,758**

(c)   Clause 3 – Building Block Method

(i)   Rule

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3.   BUILDING BLOCK METHOD

3.1   Application

(a)   Physical Equity and Equity Derivative positions may be included in the building block method if there are at least 5 long or 5 short Equity Net Positions in the one country and which are included in Recognised Market Indexes.

(b)   Equity Derivative positions other than Options may be included in the building block method if the positions are converted to Equity Equivalents according to clause 8.

(c)   Equity Derivative positions which are Options may be included in the building block method only if they are purchased positions or if they are written positions which are exchange traded and subject to daily margin requirements and the purchased or written positions are:

      (i)   In the Money by at least the relevant standard method Position Risk Factor for the underlying position specified in Table 1.1, Annexure 5; and

      (ii)   converted to Equity Equivalents according to clause 8.

If the above criteria are not met, the Options must be treated under one of the option methods set out in clauses 4, 5 and 6.

3.2   Method

(a)   The position risk amount for equity positions to which the building block method is applied is the aggregate of a specific risk and a general risk amount for each Equity Net Position at the mark to market value.

(b)   The specific risk amount is calculated as the aggregate of each Equity Net Position, multiplied by the relevant specific risk Position Risk Factor specified in Table 1.1 of Annexure 5. The aggregate is calculated by reference to the absolute value of each Equity Net Position.

(c)   The general risk amount is calculated by:

      (i)   multiplying each Equity Net Position by the relevant general risk Position Risk Factor specified in Table 1.1 of Annexure 5; and

      (ii)   aggregating the results of these calculations. In aggregating these calculations, positive and negative signs (that is, long and short positions respectively) may be offset in determining the aggregate number.

The absolute value of this aggregate number is the general risk amount.

(ii) Formula

$$BBM\ pra_{equity} = \sum_{c=1}^{m} \left[\sum_{i=1}^{n} \left(|\Pi_i| \times {}_S\sigma_i \right) + \left| \sum_{i=1}^{n} \left(\Pi_i \times {}_G\sigma \right)_i \right| \right]_c$$

Where:

BBM pra$_{equity}$ = *building block method position risk amount for **equity** securities*
Π_I = *net position in security i*
${}_S\sigma_i$ = *specific risk **position risk factor** applicable to **equity net position** i*
${}_G\sigma_i$ = *general risk **position risk factor** applicable to **equity net position** i*
n = *the number of individual **equity net position**s.*
c = *country*
m = *the number of countries in which there are **equity net position**s in the portfolio*

(iii) Guidance

(A) General

The building block method is a more involved method for calculating an equity position risk amount than the standard method, however, it may result in a lower position risk amount depending on the composition of the principal positions in **equity** securities and positions in **equity derivatives**. While it does have limited application to **equity derivatives**, it is designed primarily for use by those Participants with principal positions that are predominantly in physical **equities** but where the portfolio is comprised of at least 5 long or 5 short **equity net positions** which are in the one country and which are included in a **recognised market index**.

If a Participant has 5 long or 5 short positions in a **recognised market index** it may use the building block method. However, if it holds less than 5 long or 5 short positions it must revert to the standard method. It is recommended that a Participant that does not intend to hold 5 long or 5 short **equity net positions** on a consistent basis use the standard method.

(B) Method

The equity position risk amount under the building block approach is the sum of a specific risk amount and a general risk amount.

(1) Specific Risk

Specific risk measures the market risk on the position associated with factors that are specific to the issuer of the underlying **equity** security and that are unlikely to impact the general market. The specific risk position risk amount is calculated as the **equity net position** multiplied by the building block method specific risk **position risk factor** applicable to the **equity** security as prescribed in Annexure 5, Table 1.1.

The specific risk **position risk factor** for single **equity** stocks in a **recognised market index** can be reduced from 4% to 2% if all of the **equity net positions** satisfy certain criteria. The criteria, which are assessed on a country by country basis, are set out in the diagram that follows Table 1.1 in Annexure 5. The reduced specific risk **position risk factor** can be used against a particular **equity net position** if:

1. all **equity net positions** in a particular country are less than or equal to 10% of the aggregate of the absolute values of all **equity net positions** in that country portfolio, and

2. the aggregate of the absolute values of all *equity net positions* in a particular country that are individually more than 5% and up to and including 10% of the aggregate of the absolute values of all *equity net positions* in that country portfolio is less than or equal to 50% of that aggregate.

Note that if a particular country portfolio has stocks in a *recognised market index* as well as stocks that are not in a *recognised market index*, the above tests must be performed on the basis of the gross value of the whole country portfolio (not just using those stocks that are in a *recognised market index*). However, the reduced specific risk *position risk factor* only applies to the positions in a *recognised market index*. Stocks that are not in a *recognised market index* are always subject to a specific risk *position risk factor* of 8% and no reduction is possible.

The specific risk position risk amounts calculated for each *equity net position* should be aggregated by country. There is no offsetting allowed between the long and short *equity net positions* held in different stocks. All specific risk position risk amounts are to be converted to Australian Dollars in accordance with the guidance given for Annexure 3, clause 1. The total specific risk position risk amount will be the aggregate of the converted specific risk position risk amounts for each country.

(2)   General Risk

General risk measures the market risk on the position associated with the general volatility in *equity* market prices. The general risk position risk amount is calculated as the *equity net position* multiplied by the building block method general risk *position risk factor* applicable to the *equity* security as prescribed in Annexure 5, Table 1.1.

The total building block approach general risk position risk amount is the absolute value of the net of the general risk position risk amounts calculated for each *equity net position* from a particular country. That is, in calculating the individual position risk amounts, the sign of the *equity net positions* should be preserved (ie, net long or net short) so that the individual position risk amounts can be netted, but only within the same country portfolio. There is no netting of *equity net position*s across countries. Thus, if a Participant has, for example 5 long and 5 short *equity net positions* in a *recognised market index* (i.e. a portfolio containing 10 different underlying *equities*) in one country, it is possible that the total general risk position risk amount nets to zero. Conversely, if the Participant's portfolio comprises the minimum 5 long or 5 short (i.e. not both) *equity net positions* in one country, there cannot be any offsetting of general risk.

All general risk position risk amounts are to be converted to Australian Dollars in accordance with the guidance given for Annexure 3, clause 1. The total general risk position risk amount will be the aggregate of the converted general risk position risk amounts for each country.

(3)   Total Position Risk Amount

The total building block method position risk amount for each country is the sum of the total specific risk amount and the total general risk amount as calculated above for each country.

The overall total position risk amount will be the aggregate of the total position risk amounts for each country. All total position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 1.

(C) Equity Net Positions

Guidance on the calculation of the *equity net position* is provided in clause 9. For the purposes of the building block method, positions in *equities* and *equity derivatives* may be incorporated into the *equity net position* only under certain circumstances:

1. There must be at least 5 long or 5 short *equity net positions* from a *recognised market index* and in a single country. That is, an *equity* portfolio in a particular country that contains less than 5 long or 5 short *equity net positions* in a *recognised market index* does not qualify for the building block method. Thus, for example, an Australian *equity* portfolio that comprises 15 long *equity net positions* in stocks that are not in the S&P/ASX 200 and 4 long *equity net positions* in stocks that are in this index does not qualify for the building block method.

2. Non-*option equity derivatives* must be converted to *equity equivalents* to be incorporated into an *equity net position*. Guidance for converting *equity derivatives* into *equity equivalents* is provided in clause 8.

3. Positions in *option*s that are based on the price(s) of *equity* securities may be included in the *equity net position* but only if:

    (a) they are purchased *option*s (OTC or ETO calls or puts); or

    (b) they are written ETOs that are subject to daily margin requirements from the relevant exchange or clearing house; and

    (c) they are *in the money* by the relevant <u>standard method</u> *position risk factor*; and

    (d) they are converted to *equity equivalents*.

With respect to point 1, the building block method can only be used for those *equity net positions* that are included in a portfolio for which there are at least 5 long *equity net positions* or 5 short *equity net positions* from a *recognised market index* in any one country. Thus, if a portfolio includes *equity net positions* in several countries but there are only at least 5 long or 5 short *equity net positions* in, for example, one country, then the building block method can only be used for those *equity net positions* in that country that satisfies the 5 long or 5 short criteria. This point is highlighted in the example that follows.

With respect to point 3(c), an *option* can only be included in the *equity net position* if it has a positive intrinsic value and that intrinsic value, as a percentage of the strike price of the *option*, is greater than or equal to the <u>standard method</u> *position risk factor* (and <u>not</u> the building block method *position risk factor*) applicable to the *equity* security underlying the *option*. See the guidance for the definition of *in the money* in Section 3, Tab A of this Handbook.

It is important to note that the definition of *in the money* does not change relative to the *option* being bought or written. That is, *in the money* simply means that the market price of the underlying exceeds the strike price of the *option* for a call, and that the strike price of the *option* exceeds the market price of the underlying for a put. Therefore, for example, the writer of an *in the money* call is in fact carrying a position that is, for the writer, generating an unrealised loss.

With respect to point 3(d), positions in *option*s that satisfy points 3(a) to 3(c) must be converted to *equity equivalents* for the purposes of including them in the *equity net position*. Guidance for converting *option* positions into *equity equivalents* is provided in clause 8.

If a Participant has an **option** position that does not satisfy the above criteria it must calculate a position risk amount on that position using one of the other alternate methods. It should be noted that some **option** positions can only be taken where the Participant has sophisticated systems in place to enable it to monitor the risks on those positions.

(iv)   Example

(A)   Position and Other Details

A Participant holds positions in the following:

Equities								
Stock	Country	Exchange	Index	Position	Number of Shares	Purchase Price	Current Price	Current Market Value
National Australia Bank	Australia	ASX	S&P/ASX 200	Long	70,000	A$17.46	A$24.17	A$1,691,900
ANZ Bank	Australia	ASX	S&P/ASX 200	Long	13,000	A$6.45	A$10.96	A$142,480
Westpac	Australia	ASX	S&P/ASX 200	Long	20,000	A$8.16	A$11.69	A$233,800
Coles Myer	Australia	ASX	S&P/ASX 200	Short	(10,000)	A$9.16	A$8.95	A$89,500
Ansell	Australia	ASX	S&P/ASX 200	Long	5,000	A$3.05	A$2.72	A$13,600
AXA	Australia	ASX	S&P/ASX 200	Short	(17,000)	A$2.97	A$3.03	A$51,510
Lend Lease	Australia	ASX	S&P/ASX 200	Long	21,000	A$9.95	A$10.95	A$229,950
Microsoft	US	Nasdaq		Long	10,000	US$66	US$151	US$1,510,000
British Telecom	UK	LSE	FTSE 100	Long	25,000	£9.20	£9.88	£247,000
British Petroleum	UK	LSE	FTSE 100	Long	35,000	£7.59	£8.89	£311,150
Shell	UK	LSE	FTSE 100	Long	15,000	£3.12	£3.23	£48,450
Unilever	UK	LSE	FTSE 100	Long	8,500	£5.14	£5.70	£48,450
Vodafone	UK	LSE	FTSE 100	Long	45,000	£11.00	£11.14	£501,300
Boehler - Uddeholm	Austria	Vienna SE	ATX	Long	14,000	EUR 2.88	EUR 2.94	EUR 41,160
Danske Bank	Denmark	Copenhagen SE	KFX	Long	10,000	DKK 860	DKK 870	DKK 8,700,000

Non-Option Equity Derivatives – ASX24 Futures						
Contract	Delivery	Position	Number of Contracts	Purchase Price	Current Price of Underlying	Current Market Value of Underlying (Equity Equivalent)
National Australia Bank	October 2005	Short	20	A$22.43	A$24.17	A$483,400

Option Equity Derivatives – LIFFE UK Equity Options						
Contract	Expiry	Position	Number of Contracts	Strike	Current Price of Underlying	Current Market Value of Underlying (Equity Equivalent)
British Telecom	August 2005	Long Puts	20	£11.50	£9.88	£197,600

(B)   Calculation

There are positions in 15 separate underlying **equities** in 5 countries in the above portfolio. There needs to be at least 5 long **equity net positions** or 5 short **equity net positions** in a **recognised market index** in a country for the building block approach to be used to calculate the position risk amount for that country.

Country	Number of long equity net positions	Number of short equity net positions	Method
Australia	5	2	Building Block
US	1	0	Standard
UK	5	0	Building Block
Austria	1	0	Standard
Denmark	1	0	Standard

As the Australian and UK portfolios are the only ones which have at least 5 long or 5 short **equity net positions** that are in a **recognised market index**, they are the only components of the portfolio for which the building block method can be used to calculate the **position risk requirement**. The position risk amount on the **equity net positions** in the other countries (US, Austria and Denmark) must be measured using the standard method.

The standard method position risk amounts on those **equity net positions** have already been calculated in the example for the standard method above.

(1)   Determination of Specific Risk Position Risk Factor

In determining if the specific risk **position risk factor** for stocks in a **recognised market index** can be reduced from 4% to 2%, the composition of the overall **equity** portfolio for each country has to be analysed. Note, in this example, all of the **equity net positions** in the Australian market and UK market are in **recognised market index** stocks.

Position	Equity Net Position Long/(Short)	Gross Value of Country Portfolio[42]	% of Gross Value of Country Portfolio	Specific Risk Position Risk Factor
National Australia Bank	A$1,208,500	A$1,208,500	61.37	4%
ANZ Bank	A$142,480	A$142,480	7.23	4%
Westpac	A$233,800	A$233,800	11.87	4%
Coles Myer	(A$89,500)	A$89,500	4.54	4%
Ansell	A$13,600	A$13,600	0.69	4%
AXA	(A$51,510)	A$51,510	2.62	4%
Lend Lease	A$229,950	A$229,950	11.68	4%
Total Australian Portfolio	A$1,687,320	A$1,969,340	100.00	
British Telecom	£49,400	£49,400	5.15	4%
British Petroleum	£311,150	£311,150	32.45	4%
Shell	£48,450	£48,450	5.05	4%
Unilever	£48,450	£48,450	5.05	4%
Vodafone	£501,300	£501,300	52.30	4%
Total UK Portfolio	£958,750	£958,750	100.00	

Whilst the sum of all *equity net positions* that are more than 5% and up to and including 10% of the gross value of the *equity* portfolios for both the Australian market and UK market is less than 50%, there are a number of *equity net positions* greater than 10% of the gross value of the *equity* portfolio, hence a 2% *position risk factor* cannot be applied to any position.

As noted above, the reduced *position risk factor* of 2% can only be used where the aggregate of the absolute values of all *equity net positions* that are more than 5% and up to and including 10% of the gross value of the *equity* portfolio in a particular country is less than or equal to 50% of the gross value of the *equity* portfolio in that country and no single *equity net position* is greater than 10% of that gross value.

In addition, the reduced specific risk *position risk factor* of 2% can only be applied to *equity net positions* in stocks that are in a *recognised market index* even though an *equity net position* not in a *recognised market index*[43] may satisfy the size criteria for reduction of the specific risk *position risk factor*.

(2) Determination of Position Risk Amounts

The calculation of each *equity net position* and position risk amount follows:

(a) Country: Australia

There are 5 long *equity net positions* and 2 short *equity net positions* in the Australian portfolio noted above, comprising both physical *equities* and a share *futures* position in National Australia Bank (NAB). In accordance with clause 8.3, the position in the *futures* can be included in the *equity net position* at the

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[42] The gross value of a country portfolio is the sum of the absolute values of all *equity net positions*.

[43] It should be noted that while it is necessary to have at least 5 long *equity net positions* or 5 short *equity net positions* in stocks in a *recognised market index* in any one country for the building block method to apply, it is possible to still have, in addition to the 5, *equity net positions* in stocks that are not in a *recognised market index* included in the building block method.

implied market value of the underlying. All Australian stocks in the portfolio are in the S&P/ASX 200, a *recognised market index* according to Annexure 5, Table 1.6. Therefore, the general risk *position risk factor* applied to the *equity net positions* is, from Annexure 5, Table 1.1, 8%. The specific risk *position risk factor* is as determined above.

Equity Net Position	Position A$ Long / (Short)	General Risk Amount @ 8%	Specific Risk Amount - %'s determined above
National Australia Bank	1,208,500	96,680	48,340
ANZ Bank	142,480	11,398	5,699
Westpac	233,800	18,704	9,352
Coles Myer	(89,500)	(7,160)	3,580
Ansell	13,600	1,088	544
AXA	(51,510)	(4,121)	2,060
Lend Lease	229,950	18,396	9,198
Total Australian Portfolio		134,985	78,773

(b)   Country: UK

There are 5 long *equity net positions* and no short *equity net positions* in the UK market portfolio noted above, comprising both physical *equities* and an exchange traded *option* position in British Telecom.

The position in British Telecom comprises a long physical *equity* position and a long position in British Telecom put *option*s traded on LIFFE. In accordance with clause 3.1(c), the position in the *option* can only be included in the *equity net position* under the building block method if it is *in the money* by at least the standard method *position risk factor* prescribed in Annexure 5, Table 1.1. British Telecom is in the FTSE 100 Index which is a *recognised market index* in accordance with Annexure 5, Table 1.6, and therefore the relevant standard method *position risk factor* is 12%. The *option* position is *in the money* by:

$$\frac{11.50 - 9.88}{11.50} = 14.09\%$$

and therefore can be included in the *equity net position*.

The value at which it is included in the *equity net position* is specified in clause 8.2. A purchased put *option* is a short position in the underlying valued at the implied market value of the underlying *equity* position. In this example, this is the current market value of British Telecom shares (£9.88) multiplied by the number of *option* contracts (20) multiplied by the number of shares per *option* contract (1,000).

All other UK *equity net positions* in the above portfolio are in the FTSE 100, a *recognised market index* according to Annexure 5, Table 1.6. Therefore, the general risk *position risk factor* applied to the *equity net positions* is, from Annexure 5, Table 1.1, 8%. The specific risk *position risk factor* is as determined earlier.

Equity Net Position	Position £ Long / (Short)	General Risk Amount @ 8%	Specific Risk Amount - %'s determined above
British Telecom	49,400	3,952	1,976
British Petroleum	311,150	24,892	12,446
Shell	48,450	3,876	1,938
Unilever	48,450	3,876	1,938
Vodafone	501,300	40,104	20,052
Total UK Portfolio		76,700	38,350

(3)   Summary

Country	Specific Risk	General Risk	Position Risk Amount	Exchange rate to A$	Position Risk Amount A$
Australia	A$78,773	A$134,985	A$213,758	1.0000	213,758
UK	£38,350	£76,700	£115,050	2.6700	307,184
Total Position Risk Amount					520,942

Thus the total position risk amount on the Australian and UK portfolios under the building block method is A$520,942. However, this is not the total position risk amount on the portfolio as the **equity net positions** in the United States, Austrian and Danish markets had to be calculated under the standard method.

To facilitate comparison between the total position risk amounts calculated under the standard method and the building block method, add the standard method position risk amounts on the United States, Austrian and Danish market components of the portfolio that were calculated in the clause 2 example above:

Country	Method	Position Risk Amount A$
Australia	Building Block	213,758
US	Standard	380,233
UK	Building Block	307,184
Austria	Standard	8,674
Denmark	Standard	356,347
Total		1,266,196

The total position risk amount on the portfolio under the standard method was A$1,288,758 which is A$22,562 greater than under the building block method.

(d)   Clause 4 – Contingent Loss Matrix Method

(i)   Rule

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4.   CONTINGENT LOSS MATRIX METHOD

4.1   Application

(a)   Equity Derivative positions which are Options together with physical Equity and other Equity Derivative positions may be included in the contingent loss matrix method but only if used in conjunction with an option pricing model approved by ASX Clear.

(b)   Deleted

(c)   A Participant applying the contingent loss matrix method may use method 2 as set out in clause 4.3 if there are 5 long or 5 short Equity Net Positions which are included in Recognised Market Indexes, otherwise it must use method 1 as set out in clause 4.2.

4.2   Method 1

(a)   This method calculates the risk amount in one step for each underlying in a manner similar to the standard method.

(b)   The position risk amount for equity positions to which this method is applied is the greatest loss arising from simultaneous prescribed movements in the closing market price of the underlying position and the option implied volatility.

(c)   The prescribed movements are the Position Risk Factors for the standard method specified in Table 1.1, Annexure 5.

(d)   A separate matrix must be constructed for each option portfolio and associated hedges in each country.

(e)   Changes in the value of the option portfolio must be analysed over a fixed range of changes above and below the current market price of the underlying position and implied option volatility as follows:

    (i)   the relevant Position Risk Factor is to be divided into seven equally spaced price shift intervals (including the current market price); and

    (ii)   the relevant implied volatility Position Risk Factor is to be divided into three equally spaced volatility shift intervals (including the current market implied volatility).

(f)   Each option portfolio is to be re-priced using the adjusted underlying position and volatility price as described in clause 4.2(e). The value in each element of the contingent loss matrix will be the difference between the revalued option portfolio and the option portfolio calculated using the closing market price.

(g)   The absolute value of the aggregate of the greatest loss for each matrix is the position risk amount.

4.3   Method 2

(a)   This method calculates the risk amount as the aggregate of a specific risk and a general risk amount for each underlying in a manner similar to the building block method.

(b)   The specific risk amount is calculated as the aggregate of the delta weighted value of the underlying instrument calculated by the option pricing model approved by ASX Clear, multiplied by the relevant specific risk Position Risk Factor specified in Table 1.1 of Annexure 5.

(c)   The general risk amount is calculated in the manner described in clause 4.2 replacing clauses 4.2(c) and 4.2(g) as described below.

(d)   The prescribed movements referred to in clause 4.2(c) are replaced with the Position Risk Factors for the building block method specified in Table 1.1, Annexure 5.

(e)   The position risk amount calculated in clause 4.2(g) is replaced with the general risk amount which is the absolute value of the greatest loss in a single country matrix.

(f)   A single country matrix is constructed by superimposing each separate matrix under clause 4.2(d) so that the values in the corresponding matrix elements are netted to form a single value for each element.

(ii)   Formula

Option Implied Volatility

$$
\begin{array}{c|ccccc}
 & \Sigma_{-PRF} & & \Sigma_{m} & & \Sigma_{+PRF} \\
\hline
\sigma_{-PRF} & P_{PRF} - P_m & \cdot & \cdot & \cdot & P_{PRF} - P_m \\
\sigma_{-PRF}\,2/3 & & \cdot & & & \cdot \\
\sigma_{-PRF}\,1/3 & & \cdot & \cdot & & \cdot \\
\sigma_{m} & & \cdot & P_m - P_m = 0 & & \cdot \\
\sigma_{+PRF}\,1/3 & & \cdot & & \cdot & \cdot \\
\sigma_{+PRF}\,2/3 & & \cdot & & \cdot & \cdot \\
\sigma_{+PRF} & P_{PRF} - P_m & & \cdot & \cdot & P_{PRF} - P_m
\end{array}
$$

(Price of Underlying)

(Note, for short options positions, the gain or loss in each element will be the market less the adjusted value)

$$\textit{Method 1 - CLMM } pra_{equity} = \sum_{c=1}^{m} \left[\sum_{i=1}^{n} \left| \min_{i} \right| \right]_{c}$$

$$\textit{Method 2 - CLMM } pra_{equity} = \sum_{c=1}^{m} \left(\left| \min \sum M_e \right| + \sum_{i=1}^{n} \left(\left| \Delta\Pi \right| \times {}_s\sigma_i \right)_i \right)_c$$

Where:

$\int_{+/-PRF}$	*= option implied volatility adjusted by the **position risk factor***
$\int_{m}$	*= closing market option implied volatility*
$\sigma_{+/-PRF}$	*= underlying position price adjusted by the **position risk factor***
σ_{m}	*= closing market underlying position price*
P_{PRF}	*= the value of the option portfolio at prices and volatilities adjusted by the **position risk factor**s*
P_{m}	*= the value of the option portfolio at closing market prices*
$\min_i$	*= the minimum value in matrix i (ie, the maximum loss) or zero if there are no negative values in the matrix*
$\min\Sigma M_e$	*= the minimum value in the netted matrix (or zero if there are no negative values in the matrix)*
n	*= the number of separate option portfolios*
c	*= country*
m	*= number of countries*
$\Delta\Pi$	*= delta weighted portfolio value*
${}_s\sigma_i$	*= specific risk **position risk factor***

(iii) Guidance

(A) General

The contingent loss matrix method is the more sophisticated method (of those available in Part 1 of Annexure 3) for calculating the position risk amount on a complex *equity* portfolio that includes *option*s.

The method may be used by Participants that have purchased or written ETO positions or that have purchased OTC *option* positions although other, less complex methods are available under certain conditions for portfolios that include these *option*s.

Physical *equities* and other *equity derivatives* may be included in the contingent loss matrix method irrespective of whether there are associated *option* positions.

The method can only be used in conjunction with an option pricing model and the Participant must be able to mark to market the physical *equities* and *equity derivative* positions. Prior to a Participant being able to apply the contingent loss matrix method, its option pricing model must be approved by ASX Clear.

The contingent loss matrix method involves the marking to market of an option portfolio with the market price of the underlying and the *option* volatility adjusted by prescribed *position risk factor*s and comparing the values of the portfolio against the value at the market prices and volatility. The differences in value are presented in a matrix which shows the gains and losses on the portfolio that would arise if the adjustments made to the market prices and volatility (i.e. the *position risk factor*s) were in fact realised.

(B)   Option Pricing Model Approval

Before a Participant will be authorised to use the contingent loss matrix method, it will need to demonstrate that it can calculate prices for the *option*s that it has in its portfolio. For vanilla European *option*s, Black and Scholes is a satisfactory pricing model. For exotic or American or Bermudian styled *option*s, a more sophisticated model such as those that use numerical methods will be required.

Participants that use such models will be required to provide ASX Clear with the technical specifications for the model and details concerning the parameters used in the model. All Participants wishing to use the contingent loss matrix method will be required to provide ASX Clear with details concerning the way in which the pricing model is integrated into the organisation's overall risk management systems and the extent to which it can automate the calculation of the contingent loss matrix.

(C)   Option Portfolio

The contingent loss matrix method calculates the position risk amount based on an option portfolio. An option portfolio is a portfolio that contains *option*s, other *equity derivative*s or physical positions in a particular underlying security or index or basket of securities. For example, if a Participant has *options* over BHP shares, a physical position in BHP shares and *options* over Qantas shares, the Participant has two option portfolios – one being the BHP portfolio and another being the Qantas portfolio.

A position in an index or basket of securities may either be treated as a single position (i.e. it would need to have its own matrix) or else disaggregated into its component shares. If it is disaggregated, only the value of the position relating to each particular underlying security is to be included with other positions in that security, i.e. the entire value of the *derivative* is not to be included in each separate option portfolio.

A unique matrix must be constructed for each option portfolio. For option portfolios in a market other than the Australian market, the position risk amount should be calculated in the currency of that other country and then converted to Australian Dollars in accordance with the guidance provided below.

(D)   Methods

The contingent loss matrix method can be used in one of two different ways, one of which is aligned to the standard method and the other to the building block method.

(1)   Method 1 (based on the standard method)

Method 1 applies the *position risk factor*s prescribed for the standard method for *equities* as set out in Annexure 5, Table 1.1. The *position risk factors* are used to adjust the current market price of the underlying *equity* security at 7 equally spaced intervals. Adjustments are both positive and negative (i.e. to both increase and decrease the current market price) - that is, no change to the current market price, 3 equally spaced cumulative increases to the current market price and 3 equally spaced cumulative decreases to the current market price.

The current market *option* volatility is to be adjusted by the prescribed *position risk factor* from Annexure 5, Table 1.1 in a similar fashion except that the current market volatility is to be adjusted up and down by the full amount of the prescribed *position risk factor* (i.e. there are no intermediate adjustments).

The *position risk factors* are expressed as percentages. The adjustments to the current market prices and volatility are to be done by taking the relevant percentage of the current market price or volatility (itself a percentage) and either adding or subtracting that amount from the current market price or volatility.

The contingent loss matrix for each option portfolio in each country (i.e. physical, *futures* and *options* positions for example) can be constructed by following a 7 step process. Note: as a separate matrix is required for each option portfolio in each country, if for example, a Participant has 8 *equity net positions* in each of the 4 countries it participates in, 32 matrices would be required.

Step 1
Calculate the value of the physical *equities* component of the option portfolio. Each element in the 7 by 3 matrix will contain the value of the *equity* position at various prices. The various prices will be the market price adjusted by the *position risk factors*. For example, the top left hand element should contain the value of the *equity* position valued at the market price adjusted by the full *position risk factor*. The next element down should contain the value of the *equity* position at the market price adjusted by two thirds of the *position risk factor*, and so on. As volatility does not impact physical positions, the value of the position at various volatilities will be the same.

Step 2
Using the same approach as in *step 1*, value any non-*option equity derivative* positions.

Step 3
Aggregate the *equity* and non-*option equity derivative* values calculated in *step 1* and *step 2* above. Each corresponding element in the matrices should be aggregated so that long and short positions are netted.

Step 4
Calculate the gain or loss on the non-*option* component of the option portfolio (from *step 3*) by deducting the value of the portfolio at current market prices from the value of the portfolio at the various adjusted prices.

Step 5
Calculate the value of the *option* position at the various adjusted prices and volatilities. This will involve valuing the *option* 21 times for each combination of underlying price and implied *option* volatility. The price calculated in each matrix element should then be multiplied by the number of *options*/number of shares underlying the *option*.

Step 6
Calculate the gain or loss on the *option* position by deducting the value of the *option* at the current market price from that at the various adjusted prices (for a long *option* position) or by deducting the value of the *option* at the various adjusted prices from that at the current market price (for short *option* positions).

Step 7
Aggregate each corresponding element in the matrices calculated at *step 4* and *step 6* such that gains and losses are netted. This matrix is the gain and loss matrix for the option portfolio. The position risk amount for that option portfolio will be the amount in the element of the matrix that contains the maximum loss. Note that the position risk amount is zero if there are no losses in the matrix.

This process is repeated for each option portfolio. The above steps are not mandatory. An alternate procedure can be followed as long as the same results are achieved.

A position risk amount per country is calculated as the sum of the absolute value of the maximum losses from each individual option portfolio in that country. The total Method 1 position risk amount is then the sum of the converted position risk amounts for each country. All position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 1.

(2)   Method 2 (based on the building block method)

Method 2 applies the *position risk factors* prescribed for the building block method for *equities* as set out in Annexure 5, Table 1.1. Two separate calculations are required under this method. The first calculates the specific risk on the option portfolio and the second calculates the general risk on the portfolio.

Method 2 can only be used for those *equity net positions* that are included in a portfolio for which there are at least 5 long *equity net positions* or 5 short *equity net positions* in a *recognised market index* in any one country. Thus, if a portfolio includes *equity net positions* in several countries but there are only at least 5 long or 5 short *equity net positions* in a *recognised market index* in, for example, one of the countries, then Method 2 can only be used for those *equity net positions* in the country that satisfies the 5 long or 5 short criteria. This point is highlighted in the example that follows.

(a)   Specific Risk

Specific risk measures the market risk on the position associated with factors that are specific to the issuer of the underlying *equity* security and that are unlikely to impact the general market.

As the specific risk amount under Method 2 is not calculated using the matrix, it is necessary to calculate the delta weighted value of each *option* position. The specific risk position risk amount is the aggregate of the absolute value of each *equity net position* (the net of the *option* and non-*option* positions in an underlying stock, with the *option*s at the delta weighted value) multiplied by the specific risk *position risk factor* from Annexure 5, Table 1.1. In determining if the specific risk *position risk factor* can be reduced, an analysis of the composition of the overall *equity* portfolio must be undertaken. The delta of the *option*s included in the option portfolio must be calculated from an option pricing model approved by ASX Clear or, for exchange traded *option*s, as published in the financial press.

The specific risk *position risk factor* for single *equity* stocks in a *recognised market index* can be reduced from 4% to 2% if all of the *equity net position*s of each *option* portfolio satisfy certain criteria. The criteria, which are assessed on a country by country basis, are set out in the diagram that follows Table 1.1 in Annexure 5. The reduced specific risk *position risk factor* can be used against a particular *equity net position* if:

1. all *equity net positions* in a particular country are less than or equal to 10% of the aggregate of the absolute values of all *equity net positions* in that country portfolio, and

2. the aggregate of the absolute values of all *equity net positions* in a particular country that are individually more than 5% and up to and including 10% of the aggregate of the absolute values of all *equity net positions* in that country portfolio is less than or equal to 50% of that aggregate.

Note that if a particular country portfolio has stocks in a *recognised market index* as well as stocks that are not in a *recognised market index*, the above tests must be performed on the basis of the gross value of the whole country portfolio. However, the reduced specific risk *position risk factor* only applies to the positions in a *recognised market index*. Stocks that are not in a *recognised market index* are always subject to a specific risk factor of 8% and no reduction is possible.

The specific risk position risk amounts calculated for each *equity net position* should be aggregated by country. There is no offsetting allowed between the long and short *equity net positions* held in different stocks. All specific risk position risk amounts are to be converted to Australian Dollars in accordance with the guidance given for Annexure 3, clause 1. The total specific risk position risk amount will be the aggregate of the converted specific risk position risk amounts for each country.

(b)   General Risk

General risk measures the market risk on the position associated with the general volatility in *equity* market prices.

The calculation of the general risk position risk amount follows the same 7 step process that was used in the standard method approach with the exception that an additional step is required, the aggregation rule is different and the building block method general risk *position risk factor* applicable to the *equity* security as prescribed in Annexure 5, Table 1.1 is used.

The eighth step requires the aggregation of each corresponding profit or loss value in each option portfolio matrix of the same country (that is, aggregating the values in each corresponding element of each matrix in the same country portfolio). This results in a single matrix per country with netted profit and loss values. The general risk position risk amount for each country will be the maximum loss resulting from this aggregation process (or zero if there are no losses in the country matrix).

All general risk position risk amounts are to be converted to Australian Dollars in accordance with the guidance given for Annexure 3, clause 1. The total general risk position risk amount will be the aggregate of the converted general risk position risk amounts for each country.

(c)   Total Position Risk Amount

The total Method 2 position risk amount for each country is the sum of the absolute values of the total specific risk amount and the total general risk amount as calculated above for each country.

The overall total position risk amount will be the aggregate of the total position risk amounts for each country. All total position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance provided for Annexure 3, clause 1.

(iv)   Example

(A)   Portfolio and Other Details

A Participant has the following positions:

Equities								
Stock	Country	Exchange	Index	Position	Number of Shares	Purchase Price	Current Price	Current Market Value
National Australia Bank	Australia	ASX	S&P/ASX 200	Long	70,000	A$17.46	A$24.17	A$1,691,900
ANZ Bank	Australia	ASX	S&P/ASX 200	Long	13,000	A$6.45	A$10.96	A$142,480
Westpac	Australia	ASX	S&P/ASX 200	Long	20,000	A$8.16	A$11.69	A$233,800
Coles Myer	Australia	ASX	S&P/ASX 200	Short	10,000	A$9.16	A$8.95	A$89,500
Ansell	Australia	ASX	S&P/ASX 200	Long	5,000	A$3.05	A$2.72	A$13,600
AXA	Australia	ASX	S&P/ASX 200	Short	17,000	A$2.97	A$3.03	A$51,510
Lend Lease	Australia	ASX	S&P/ASX 200	Long	21,000	A$9.95	A$10.95	A$229,950
British Telecom	UK	LSE	FTSE 100	Long	25,000	£9.20	£9.88	£247,000

Non-Option Equity Derivatives - ASX 24 Futures								
Contract	Delivery	Position	Number of Contracts	Ccy	Purchase Price	Current Price of Underlying	Current Market Value of Underlying	Current Market Value of Futures
National Australia Bank	October 2005	Short	20	AUD	A$22.43	A$24.17	A$483,400	A$485,200
SPI 200	June 2005	Short	10	AUD	2799.0	2889.0	A$722,250	A$722,250

Option Equity Derivatives							
Contract	Expiry	Position	Number of Contracts	Strike	Delta	Current Price of Underlying	Current Market Value of Option
NAB OTC[1]	3 months	Short call (European)	40,000 shares	A$24.50	-0.49	A$24.17	A$1.08 per share
ANZ Bank- (ASX ETO)[2]	July 2005	Long Put	130	A$10.00	-0.27	A$10.96	A$0.50 per share
Westpac[3]	July 2005	Short Call	200	A$11.50	-0.59	A$11.69	A$1.13 per share
Coles Myer[4]	May 2005	Short Puts	90	A$7.00	0.06	A$8.95	A$0.03 per share[4]
Ansell	February 2005	Long Puts	50	A$2.50	-0.21	A$2.72	A$0.03 per share
AXA[6]	January 2005	Long Calls	170	A$3.40	0.36	A$3.03	A$0.03per share
British Telecom - (LIFFE)[7]	February 2005	Long Puts	20	£11.50	-0.93	£9.88	£1.62 per share

[1] priced using Black and Scholes. Assumes risk free rate of 5%, implied volatility of 25% and dividend in 60 days of $0.20.

[2] priced using binomial tree. Assumes 192 daily time steps, risk free rate of 5%, implied volatility of 32.7% and dividend in 60 days of $0.16.

[3] priced using binomial tree. Assumes 192 daily time steps, risk free rate of 5%, implied volatility of 26.2% and dividend in 50 days of $0.19.

[4] priced using binomial tree. Assumes 131 daily time steps, risk free rate of 5%, implied volatility of 27.7% and dividend in 80 days of $0.09.

[5] priced using binomial tree. Assumes 45 daily time steps, risk free rate of 5%, implied volatility of 31.2% and dividend in 45 days of $0.03.

[6] priced using binomial tree. Assumes 31 daily time steps, risk free rate of 5%, implied volatility of 40.2% and dividend in 20 days of $0.05.

[7] priced using binomial tree. Assumes 50 daily time steps, risk free rate of 5%, implied volatility of 27% and dividend in 30 days of £0.11.

(B)   Calculation

The portfolio consists of 7 option portfolios with underlying *equity* and/or *futures* hedges, a single *equity* security position (i.e. no *option* position in the underlying) and a position in an equity index *futures* contract. The portfolio is across two countries, Australia and the UK.

The Participant decides to disaggregate the **futures** position into its component stocks and to include the relevant components of that **futures** position in the contingent loss matrices.

(1)   Method 1 - Standard Method

(a)   Country: Australia

Under Method 1, a separate matrix is required for each option portfolio in each country. To determine the **equity net position**s, the SPI 200 **futures** contract needs to be disaggregated.

(i) SPI 200 Futures Breakdown

The Participant has a short A$722,250 position in 10 ASX 24 SPI 200 **futures** contracts. The composition of the S&P/ASX 200 index (which the SPI 200 contract is over) with respect to the underlying **equities** positions that the Participant has are as follows:

Stock	% of Index	Proportion of Futures Position A$
National Australia Bank	7.63	55,108
ANZ Bank	3.40	24,556
Westpac	4.34	31,346
Coles Myer	2.03	14,662
Ansell	0.55	3,972
AXA	1.05	7,584
Lend Lease	4.36	31,490
Other	76.64	553,532
Total	100	722,250

(ii) National Australia Bank (NAB)

The **equity** and non-**option equity** position in NAB is made up as follows:

Position	Market Value $
Equity	1,691,900
Share Futures	(485,200)
SPI 200 Futures component	(55,108)
Net	1,151,592

NAB is a stock in a **recognised market index** and therefore attracts the 12% **position risk factor**.
The calculation of the position risk amount can be performed for illustrative purposes in 7 steps.

Step 1
Value the **equities** position at the adjusted prices of the underlying. The adjustments to **option** volatility do not impact on the **equities** position.

Equities				
Volatility Price Shifts		-25%	Market	+25%
Underlying Price Shift	Option Volatility	18.75%	25%	31.25%
	Price			
+12%	27.07	1,894,900	1,894,900	1,894,900
+8%	26.10	1,827,000	1,827,000	1,827,000
+4%	25.14	1,759,800	1,759,800	1,759,800
Market	24.17	1,691,900	1,691,900	1,691,900
-4%	23.20	1,624,000	1,624,000	1,624,000
-8%	22.24	1,556,800	1,556,800	1,556,800
-12%	21.27	1,488,900	1,488,900	1,488,900

Step 2

Value the non-*option equity derivative*s position at the adjusted prices of the underlying. In this case, the values of the share *futures* and the SPI 200 *futures* contracts are adjusted by the prescribed *position risk factor*s. The adjustments to *option* volatility do not impact on the *futures* positions.

Share Futures				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility	18.75%	25%	31.25%
Underlying Price Shift	Price			
+12%	27.17	(543,400)	(543,400)	(543,400)
+8%	26.20	(524,000)	(524,000)	(524,000)
+4%	25.23	(504,600)	(504,600)	(504,600)
Market	24.26	(485,200)	(485,200)	(485,200)
-4%	23.29	(465,800)	(465,800)	(465,800)
-8%	22.32	(446,400)	(446,400)	(446,400)
-12%	21.35	(427,000)	(427,000)	(427,000)

SPI 200 Futures (NAB component)				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility	18.75%	25%	31.25%
Underlying Price Shift	Price			
+12%	3235.68	(61,721)	(61,721)	(61,721)
+8%	3120.12	(59,516)	(59,516)	(59,516)
+4%	3004.56	(57,312)	(57,312)	(57,312)
Market	2889	(55,108)	(55,108)	(55,108)
-4%	2773.44	(52,903)	(52,903)	(52,903)
-8%	2657.88	(50,699)	(50,699)	(50,699)
-12%	2542.32	(48,495)	(48,495)	(48,495)

Step 3

Calculate the aggregate net value of the **equities** and non-**option equity derivative**s position. This is the net of each corresponding element in the above matrices.

Net Equities and Non-Option Derivatives Position				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
+12%		1,289,779	1,289,779	1,289,779
+8%		1,243,484	1,243,484	1,243,484
+4%		1,197,888	1,197,888	1,197,888
Market		1,151,592	1,151,592	1,151,592
-4%		1,105,297	1,105,297	1,105,297
-8%		1,059,701	1,059,701	1,059,701
-12%		1,013,405	1,013,405	1,013,405

Step 4

Calculate the gain or loss in each element of the previous matrix. This is calculated by deducting the market value of the portfolio at current market prices (the centre element in the matrix) from each surrounding matrix element.

Net Equities and Non-Option Derivatives P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
+12%		138,187	138,187	138,187
+8%		91,891	91,891	91,891
+4%		46,296	46,296	46,296
Market		-	-	-
-4%		(46,296)	(46,296)	(46,296)
-8%		(91,891)	(91,891)	(91,891)
-12%		(138,187)	(138,187)	(138,187)

Step 5

Value the **option** position at the adjusted prices of the underlying and the adjusted volatilities. The value of the option portfolio will be the adjusted price of the **option** multiplied by the number of shares underlying the **option** position.

Options - Option price per share times number of shares				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility	18.75%	25%	31.25%
Underlying Price Shift	Price			
+12%	27.07	(113,200)	(120,800)	(130,400)
+8%	26.10	(80,800)	(90,800)	(102,000)
+4%	25.14	(53,200)	(64,800)	(76,800)
Market	24.17	(31,200)	(43,200)	(55,200)
-4%	23.20	(16,000)	(26,800)	(37,600)
-8%	22.24	(7,200)	(14,800)	(24,000)
-12%	21.27	(2,400)	(7,600)	(14,400)

Note: The above figures were calculated using the option pricing model disclosed at the beginning of the example.

Step 6

Calculate the gain or loss in each element of the previous matrix. This is calculated by deducting the market value of the portfolio at current market prices (the centre element in the matrix) from each surrounding matrix element.

Options - Option P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility	18.75%	25%	31.25%
Underlying Price Shift	Price			
+12%	27.07	(70,000)	(77,600)	(87,200)
+8%	26.10	(37,600)	(47,600)	(58,800)
+4%	25.14	(10,000)	(21,600)	(33,600)
Market	24.17	12,000	-	(12,000)
-4%	23.20	27,200	16,400	5,600
-8%	22.24	36,000	28,400	19,200
-12%	21.27	40,800	35,600	28,800

Step 7

Net the profit and loss for each corresponding element in *step 4* and *step 6* to calculate the overall profit and loss matrix for the NAB option portfolio. The position risk amount for the NAB option portfolio will be the greatest loss value. In this case, the greatest loss is A$109,387 which occurs when the price of the underlying falls by 12% and volatility increases by 25%.

Net NAB Portfolio P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
+12%		68,187	60,587	50,987
+8%		54,291	44,291	33,091
+4%		36,296	24,696	12,696
Market		12,000	-	(12,000)
-4%		(19,096)	(29,896)	(40,696)
-8%		(55,891)	(63,491)	(72,691)
-12%		(97,387)	(102,587)	(109,387)

(iii) Other Equity Net Positions

The above process is repeated for the other Australian market **equity net positions** in the portfolio. The detailed workings have not been presented here in this example, however, the maximum loss for each of the option portfolios are:

Option Portfolio	Maximum Loss A$
ANZ Bank	10,443
Westpac	14,239
Coles Myer	12,459
Ansell	623
AXA	5,500
Lend Lease	23,815
SPI 200 Futures (residual position)	66,424

Option portfolios that only contain non-*option* positions (e.g. the Lend Lease position and the balance of the positions in the SPI 200 *future*s contract) are not affected by changes in volatility. For such portfolios, the maximum loss will always equal the *equity net position* multiplied by the applicable *position risk factor*, and so a matrix need not specifically be constructed. Although a matrix need not be constructed, this has been done below for illustrative purposes for the Lend Lease position.

The first matrix below shows the value of the Lend Lease *equities* position at the adjusted prices (as in *step 1* above), the second matrix shows the value of the Lend Lease component of the SPI 200 *future*s contract (as in *step 2* above), the third matrix shows the aggregate value of the Lend Lease portfolio (as in *step 3* above) and the fourth matrix shows the gain or loss in each element of the aggregate matrix (as in *step 4* above). As there are no Lend Lease *option*s, the maximum loss in the final matrix is taken.

Equities – Lend Lease				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
+12%	12.26	257,544	257,544	257,544
+8%	11.83	248,346	248,346	248,346
+4%	11.39	239,148	239,148	239,148
Market	10.95	229,950	229,950	229,950
-4%	10.51	220,752	220,752	220,752
-8%	10.07	211,554	211,554	211,554
-12%	9.64	202,356	202,356	202,356

SPI 200 Futures (Lend Lease component)				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
+12%	3235.68	(35,269)	(35,269)	(35,269)
+8%	3120.12	(34,009)	(34,009)	(34,009)
+4%	3004.56	(32,750)	(32,750)	(32,750)
Market	2889	(31,490)	(31,490)	(31,490)
-4%	2773.44	(30,230)	(30,230)	(30,230)
-8%	2657.88	(28,971)	(28,971)	(28,971)
-12%	2542.32	(27,711)	(27,711)	(27,711)

Net Equities and Non-Option Derivatives Position – Lend Lease				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
+12%		222,275	222,275	222,275
+8%		214,337	214,337	214,337
+4%		206,398	206,398	206,398
Market		198,460	198,460	198,460
-4%		190,522	190,522	190,522
-8%		182,583	182,583	182,583
-12%		174,645	174,645	174,645

Net Equities and Non-Option Derivatives P&L – Lend Lease				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
+12%		23,815	23,815	23,815
+8%		15,877	15,877	15,877
+4%		7,938	7,938	7,938
Market		-	-	-
-4%		(7,938)	(7,938)	(7,938)
-8%		(15,877)	(15,877)	(15,877)
-12%		(23,815)	(23,815)	(23,815)

(b)   Country: UK

The above process is repeated for the *equity net positions* in other countries that are included in the portfolio. The detailed workings have not been presented here in this example, however, the maximum loss for the British Telecom *equity net position* is:

Option Portfolio	Maximum Loss £
British Telecom	5,950

(c)   Total Position Risk Amount

The total position risk amount for the overall portfolio using the standard method contingent loss matrix method is:

Portfolio	Position Risk Amount A$
NAB	109,387
ANZ Bank	10,443
Westpac	14,239
Coles Myer	12,459
Ansell	623
AXA	5,500
Lend Lease	23,815
SPI Futures (residual position)	66,424
British Telecom (£5,950 x 2.6700)	15,887
Total Equity Position Risk Amount	**258,777**

(2)   Method 2 - Building Block Method

The portfolio consists of 7 option portfolios with underlying *equity* and/or *futures* hedges, a single *equity* security position (i.e. no *option* position in the underlying) and a position in an equity index *futures* contract which the Participant has elected to disaggregate into its component stocks (i.e. it is not compulsory under the Rule to disaggregate). The portfolio is across two countries, Australia and the UK.

There needs to be at least 5 long *equity net position*s or 5 short *equity net position*s in a *recognised market index* in a country for the building block contingent loss matrix method to be used to calculate the position risk amount. As the Australian country portfolio is the only one that satisfies this condition, the Australian *equity net position*s are the only components of the portfolio that can be included in the building block contingent loss matrix method. The position risk amount on the *equity net position* in the UK portfolio must be measured using the standard method contingent loss matrix method*.*

The calculation of the position risk amount under the building block contingent loss matrix method is similar to that under the standard method contingent loss matrix method except that it uses the building block method *position risk factor*s from Annexure 5, Table 1.1. The method requires that a specific risk charge be calculated separately from the general risk charge. In calculating the general risk charge, each

option portfolio in a single country can be netted (i.e. the corresponding elements in each matrix) to form a single matrix for each country.

(a)   Specific Risk

(i)   Net Delta Weighted Position

Position	Equity Position Long / (Short)	Share Futures Underlying Position Long / (Short)	SPI 200 Futures Long / (Short)	Option Position			Equity Net Position
				Delta	Notional Equity Position	Delta Weighted Position	
NAB	A$1,691,900	(A$483,400)	(A$55,108)	-0.49	A$966,800	(A$473,732)	A$679,660
ANZ Bank	A$142,480		(A$24,556)	-0.27	A$142,480	(A$38,470)	A$79,454
Westpac	A$233,800		(A$31,346)	-0.59	A$233,800	(A$137,942)	A$64,512
Coles Myer	(A$89,500)		(A$14,662)	0.06	A$80,550	A$4,833	(A$99,329)
Ansell	A$13,600		(A$3,972)	-0.21	A$13,600	(A$2,856)	A$6,772
AXA	(A$51,510)		(A$7,584)	0.36	A$51,510	A$18,544	(A$40,550)
Lend Lease	A$229,950		(A$31,490)	-	-	-	A$198,460
Other			(A$553,532)	-	-	-	(A$553,532)

Position	Equity Net Position Long/(short) A$	Gross Value of Country Portfolio A$	% of Gross Value of Portfolio	Specific Risk Position Risk Factor	Specific Risk Amount
NAB	679,660	679,660	39.46	4%	27,186
ANZ Bank	79,454	79,454	4.61	4%	3,178
Westpac	64,512	64,512	3.75	4%	2,580
Coles Myer	(99,329)	99,329	5.77	4%	3,973
Ansell	6,772	6,772	0.39	4%	271
AXA	(40,550)	40,550	2.35	4%	1,622
Lend Lease	198,460	198,460	11.52	4%	7,938
SPI 200 Futures (residual position)	(553,532)	553,532	32.14	4%	22,141
Total	335,447	1,722,269	100		68,889

The sum of all *equity net positions* that are more than 5% and up to 10% of the gross value of the *equity* portfolio for the Australian market is less than 50%, however there are a number of *equity net positions* greater than 10% of the gross value of the *equity* portfolio, hence a 2% *position risk factor* cannot be applied to any position.

As noted above, the reduced *position risk factor* of 2% can only be used where the aggregate of the absolute values of all *equity net positions* that are more than 5% and up to and including 10% of the gross value of the *equity* portfolio in a particular country is less than or equal to 50% of the gross value of the *equity* portfolio in that country and no single *equity net position* is greater than 10% of that gross value.

In addition, the reduced specific risk *position risk factor* of 2% can only be applied to *equity net positions* in stocks that are in a *recognised market index* even though an *equity net position* not in a *recognised market index*[44] may satisfy the size criteria for reduction of the specific risk *position risk factor*.

(b)   General Risk

(i)   National Australia Bank (NAB)

The *equity* and non-*option equity* position in NAB is made up as follows:

Position	Market Value $
Equity	1,691,900
Share Futures	(485,200)
SPI 200 Futures component	(55,108)
Net	1,151,592

Irrespective of whether a stock is in a *recognised market index* an 8% general risk *position risk factor* applies.

The calculation of the general risk position risk amount under the building block contingent loss matrix method can be performed for illustrative purposes in 8 steps. The first 7 steps are identical to those for the standard method.

Step 1
Value the *equities* position at the adjusted prices of the underlying. The adjustments to *option* volatility do not impact on the *equities* position.

Equities					
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility	18.75%	25%	31.25%
Underlying Price Shift	Price			
8.00%	26.10	1,827,000	1,827,000	1,827,000
5.33%	25.46	1,782,200	1,782,200	1,782,200
2.67%	24.81	1,736,700	1,736,700	1,736,700
Market	24.17	1,691,900	1,691,900	1,691,900
-2.67%	23.53	1,647,100	1,647,100	1,647,100
-5.33%	22.88	1,601,600	1,601,600	1,601,600
-8.00%	22.24	1,556,800	1,556,800	1,556,800

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[44] It should be noted that while it is necessary to have at least 5 long *equity net positions* or 5 short *equity net positions* in stocks in a *recognised market index* in any one country for the building block contingent loss matrix method to apply, it is possible to still have, in addition to the 5, *equity net positions* in stocks that are not in a *recognised market index* included in the building block contingent loss matrix method.

Step 2

Value the non-**option equity derivatives** position at the adjusted prices of the underlying. In this case, the values of the share **futures** and the SPI 200 **futures** contracts are adjusted by the prescribed **position risk factor**s. The adjustments to **option** volatility do not impact on the **futures** positions.

Share Futures				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility	18.75%	25%	31.25%
Underlying Price Shift	Price			
8.00%	26.20	(524,000)	(524,000)	(524,000)
5.33%	25.55	(511,000)	(511,000)	(511,000)
2.67%	24.91	(498,200)	(498,200)	(498,200)
Market	24.26	(485,200)	(485,200)	(485,200)
-2.67%	23.61	(472,200)	(472,200)	(472,200)
-5.33%	22.97	(459,400)	(459,400)	(459,400)
-8.00%	22.32	(446,400)	(446,400)	(446,400)

SPI 200 Futures (NAB component)				
Volatility Price Shifts		-25%	Market	+25%
	Volatility	18.75%	25%	31.25%
Underlying Price Shift	Price			
8.00%	3,120.12	(59,516)	(59,516)	(59,516)
5.33%	3,042.98	(58,047)	(58,047)	(58,047)
2.67%	2,966.14	(56,577)	(56,577)	(56,577)
Market	2,889	(55,108)	(55,108)	(55,108)
-2.67%	2,8121.86	(53,638)	(53,638)	(53,638)
-5.33%	2,735.02	(52,169)	(52,169)	(52,169)
-8.00%	2,657.88	(50,699)	(50,699)	(50,699)

Step 3

Calculate the aggregate net value of the **equities** and non-**option equity derivatives** position. This is the net of each corresponding element in the above matrices.

Net Equities and Non-Option Derivatives Position				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		1,243,484	1,243,484	1,243,484
5.33%		1,213,153	1,213,153	1,213,153
2.67%		1,181,923	1,181,923	1,181,923
Market		1,151,592	1,151,592	1,151,592
-2.67%		1,121,262	1,121,262	1,121,262
-5.33%		1,090,031	1,090,031	1,090,031
-8.00%		1,059,701	1,059,701	1,059,701

Step 4

Calculate the gain or loss in each element of the previous matrix. This is calculated by deducting the market value of the portfolio at current market prices (the centre element in the matrix) from each surrounding matrix element.

Net Equities and Non-Option Derivatives P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		91,891	91,891	91,891
5.33%		61,561	61,561	61,561
2.67%		30,330	30,330	30,330
Market		-	-	-
-2.67%		(30,330)	(30,330)	(30,330)
-5.33%		(61,561)	(61,561)	(61,561)
-8.00%		(91,891)	(91,891)	(91,891)

Step 5

Value the *option* position at the adjusted prices of the underlying and the adjusted volatilities. The value of the option portfolio will be the adjusted price of the *option* multiplied by the number of shares underlying the *option* position.

Options - Option price per share times number of shares					
Volatility Price Shifts		-25%	Market	+25%	
	Volatility	18.75%	25%	31.25%	
Underlying Price Shift	Price				
8.00%	26.10	(80,800)	(90,800)	(102,000)	
5.33%	25.46	(62,400)	(73,200)	(84,400)	
2.67%	24.81	(45,600)	(56,800)	(68,400)	
Market	24.17	(32,000)	(43,200)	(54,800)	
-2.67%	23.53	(21,200)	(31,600)	(42,400)	
-5.33%	22.88	(12,800)	(22,400)	(32,000)	
-8.00%	22.24	(7,200)	(14,800)	(24,000)	

Note: The above figures were calculated using the option pricing model disclosed at the beginning of the example.

Step 6

Calculate the gain or loss in each element of the previous matrix. This is calculated by deducting the market value of the portfolio at current market prices (the centre element in the matrix) from each surrounding matrix element.

Options - Option P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility	18.75%	25%	31.25%
Underlying Price Shift	Price			
8.00%	26.10	(37,600)	(47,600)	(58,800)
5.33%	25.46	(19,200)	(30,000)	(41,200)
2.67%	24.81	(2,400)	(13,600)	(25,200)
Market	24.17	11,200	-	(11,600)
-2.67%	23.53	22,000	11,600	800
-5.33%	22.88	30,400	20,800	11,200
-8.00%	22.24	36,000	28,400	19,200

Step 7

Net the profit and loss for each corresponding element in *step 4* and *step 6* to calculate the overall profit and loss matrix for the NAB option portfolio.

Net NAB Portfolio P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		54,291	44,291	33,091
5.33%		42,361	31,561	20,361
2.67%		27,930	16,730	5,130
Market		11,200	-	(11,600)
-2.67%		(8,330)	(18,730)	(29,530)
-5.33%		(31,161)	(40,761)	(50,361)
-8.00%		(55,891)	(63,491)	(72,691)

(ii) Other Option Portfolios

The above 7 step process is used to calculate the net P&L for each portfolio. The net matrix for the other portfolios (i.e. *step 7*) are shown below:

Net ANZ Portfolio P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		4,795	6,875	9,475
5.33%		2,200	4,410	7,140
2.67%		(265)	2,075	4,935
Market		(2,600)	-	2,860
-2.67%		(4,675)	(2,075)	1,045
-5.33%		(6,620)	(3,890)	(770)
-8.00%		(8,435)	(5,575)	(2,585)

Net Westpac Portfolio P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		6,292	3,092	(908)
5.33%		5,928	2,328	(1,872)
2.67%		5,164	1,164	(3,036)
Market		4,000	-	(4,400)
-2.67%		2,236	(1,764)	(6,164)
-5.33%		272	(3,728)	(8,128)
-8.00%		(2,292)	(6,292)	(10,292)

Net Coles Myer Portfolio P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		(8,103)	(8,193)	(8,463)
5.33%		(5,312)	(5,402)	(5,762)
2.67%		(2,521)	(2,701)	(3,061)
Market		180	-	(450)
-2.67%		2,971	2,701	2,071
-5.33%		5,672	5,312	4,592
-8.00%		8,373	7,833	7,113

Net Ansell Portfolio P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		632	682	732
5.33%		388	438	538
2.67%		144	194	294
Market		(100)	-	150
-2.67%		(244)	(144)	(44)
-5.33%		(438)	(338)	(188)
-8.00%		(582)	(432)	(282)

Net AXA Portfolio P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		(4,007)	(3,327)	(2,817)
5.33%		(2,954)	(2,444)	(1,764)
2.67%		(1,562)	(1,222)	(712)
Market		(340)	-	510
-2.67%		1,222	1,392	1,732
-5.33%		2,614	2,784	3,124
-8.00%		4,177	4,347	4,517

Net Lend Lease Portfolio P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		15,877	15,877	15,877
5.33%		10,578	10,578	10,578
2.67%		5,299	5,299	5,299
Market		-	-	-
-2.67%		(5,299)	(5,299)	(5,299)
-5.33%		(10,578)	(10,578)	(10,578)
-8.00%		(15,877)	(15,877)	(15,877)

Net SPI 200 Futures (residual position) Portfolio P&L [45]				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		(44,283)	(44,283)	(44,283)
5.33%		(29,522)	(29,522)	(29,522)
2.67%		(14,761)	(14,761)	(14,761)
Market		-	-	-
-2.67%		14,761	14,761	14,761
-5.33%		29,522	29,522	29,522
-8.00%		44,283	44,283	44,283

Step 8

The final step is to aggregate all matrices in the same country, netting the values in corresponding elements of the individual matrices. The general risk position risk amount will be the greatest loss value. In this case, the greatest loss is A$45,816 which occurs when the price of the underlying falls by 8% and volatility increases by 25%.

The overall general risk position risk amount will be the aggregate of the absolute values of the maximum loss that results from aggregating each matrix by country. The maximum aggregated losses denominated in a foreign currency should be converted to Australian Dollars in accordance with the guidance provided for Annexure 3, clause 1.

Net Australian Portfolio P&L				
Volatility Price Shifts		-25%	Market	+25%
	Option Volatility			
Underlying Price Shift	Price			
8.00%		25,496	15,016	2,706
5.33%		23,667	11,947	(303)
2.67%		19,429	6,779	(5,911)
Market		12,340	-	(12,930)
-2.67%		2,641	(9,159)	(21,429)
-5.33%		(10,717)	(21,677)	(32,787)
-8.00%		(26,246)	(35,206)	**(45,816)**

(Note: there may be some rounding in the aggregation)

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[45] The Participant has chosen to disaggregate the *futures* contract into its component stocks. The residual *futures* position not included in the previous matrices has been included in a single matrix rather than constructing a further 193 matrices for each of the remaining component stocks. The single matrix gives the same end result as the use of individual matrices.

(iii) Total Position Risk Amount

The overall position risk amount from the building block contingent loss matrix method is the sum of the specific risk and general risk amounts:

Risk Type	Position Risk Amount A$
Specific	68,889
General	45,816
Position Risk Amount	114,705

The position risk amount on the UK position is calculated under the standard method contingent loss matrix method, and was equal to A$15,887. Therefore, the total position risk amount on the portfolio is A$130,592. This compares with a position risk amount of A$258,777 as previously calculated under the standard method contingent loss matrix method.

(e)   Clause 5 – Margin Method

      (i)   **Rule**

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5.   **MARGIN METHOD**

5.1   **Application**

Equity Derivative positions which are exchange traded and have a positive Primary Margin Requirement must be included in the margin method if the Participant:

(a)   has not been approved by ASX Clear to use the contingent loss matrix method; and

(b)   is not permitted to use any of the other Methods set out in clause 1.2 of this Annexure 3.

5.2   **Method**

(a)   The position risk amount for Equity Derivative positions under the margin method is 100% of the Primary Margin Requirement for those Equity Derivative positions as determined by the relevant exchange or clearing house multiplied by 4.

(b)   Deleted

      (ii)   **Formula**

$$MM\ pra_{equity} = \sum_{c=1}^{m} \left(\sum_{i=1}^{n} Margin_i \times 4 \right)_c$$

Where:

*$Margin_i$ = the **primary margin requirement** on position i*

c   = country

m   = number of countries

*n   = the number of separate positions that have **primary margin requirement**s*

      (iii)   **Guidance**

         (A)   **General**

The purpose of including the margin method in the Rule is to provide a methodology that permits all Participants to calculate, in a simple manner, a capital requirement where it transacts exchange traded **derivative**s as principal.

However this method is capital intensive relative to the other methods available within the Rule.   The method is most appropriate for Participants that have very limited positions in exchange traded **derivative**s and who may not have the capability to mark those positions to market. This method offers a simple means for calculating the capital requirement on such positions. The trade off a Participant accepts in choosing this method is simplicity versus cost.

As the method uses amounts sourced from the derivatives clearing house, which are outside of the Participant's internal records, there will be a delay in determining the exact capital charge until the appropriate report is received. It is nevertheless the responsibility of the Participant to ensure that the

available capital is at all times sufficient to ensure that the capital charge is covered as soon as it is known. As this method is only recommended for simple positions it is unlikely that in normal circumstances the margin would change significantly on a daily basis and hence capital coverage of the relevant amount should not be an issue.

This method cannot be used for company issued *options* as these instruments are not margined.

(B)   Method

Using the margin method, the position risk amount equals the ***primary margin requirement*** multiplied by four. A margin method position risk amount per country is calculated as the sum of all individual position risk amounts in a particular country. The total margin method position risk amount is then the sum of the converted position risk amounts for each country. All position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 1.

(C)   Primary Margin Requirement

The ***primary margin requirement*** is a defined term and it has been used to describe, in the Australian context, the "risk margin" component of the "total margin" as calculated by ASX Clear Pty Limited (ASX Clear) and the "scanning risk" component of the "total initial margin" as calculated by ASX Clear (Futures) Pty Limited.

Even though a ***primary margin requirement*** will not in all instances be required to be actually lodged with the relevant clearing house, as for example where a bought *option* position is opened with ASX Clear and the premium has been paid, it is nevertheless a requirement of the Rule that the ***primary margin requirement*** calculated by the clearing house for that position be used in calculating the capital requirement.

The ***primary margin requirement*** is as calculated by the relevant exchange or clearing house. The calculation of this amount may or may not reflect netting across positions in the same or different underlying securities. This is obviously as determined by the relevant exchange or clearing house. For the purposes of the capital requirements, it has been deemed appropriate to rely on the expertise of the relevant exchange or clearing house in determining the basis of calculating the ***primary margin requirement***.

(iv)   Examples

(A)   Single Stock Position

(1)   Position and Other Details

A Participant only has long ASX Clear *option* positions in a single security:

Stock = TLS, market price = $4.18, number of shares underlying *option* = 100

(2)   Calculation

TLS Position	Current Value (premium)	Premium Margin	Theoretical Option Value with TLS at $3.97	Risk Margin with TLS at $3.97	Theoretical Option Value with TLS at $4.39	Risk Margin with TLS at $4.39
bought 10 Sep $4.00 calls	0.33	330	0.21 (-)	120 (-)	0.47 (+)	140 (+)
bought 10 Sep $3.75 calls	0.12	120	0.07 (-)	50 (-)	0.19 (+)	70 (+)
Total		**450**		**170 (-)** **notional risk margin**		**210 (+)**

Therefore the position risk amount is four times the notional risk margin of $170 = $680.

(B)   Simple Bought and Sold Option Positions

(1)   Position and Other Details

Where a Participant holds simple bought and sold exchange traded *option* positions and cannot utilise one of the other available methods, the margin method may be used.

A Participant has long and short ASX Clear *option* positions in a single security:

Stock = ANZ, market price = $16.82, number of shares underlying *option* = 100

(2)   Calculation

ANZ Position	Current Value (premium)	Premium Margin	Theoretical Option Value with ANZ at $15.98	Risk Margin with ANZ at $15.98	Theoretical Option Value with ANZ at $17.66	Risk Margin with ANZ at $17.66
bought 10 Oct $17.00 puts	1.17	1,170	1.67 (+)	500 (+)	0.80 (-)	370 (-)
sold 20 Apr $15.50 puts	0.13 each	260 (13 x 20)	0.33 (-) each	400 (-) for both	0.04 (+) each	180 (+) for both
sold 10 Jul $16.00 calls	1.35	1350	0.83 (+)	520 (+)	1.99 (-)	640 (-)
sold 10 Oct $16.50 calls	1.26	1260	0.81 (+)	450 (+)	1.82 (-)	560 (-)
Total		**1,700**		**1,070 (+)**		**1,390 (-)** **notional risk margin**

Therefore the position risk amount is four times the risk margin of $1,390 = $5,560.

(C)   Positions in Multiple Securities

(1)   Position and Other Details

A Participant has long and short ASX Clear *option* positions in multiple securities:

Stock = TLS, market price = $4.18, number of shares underlying *option* = 100

Stock = ANZ, market price = $16.82, number of shares underlying *option* = 100

(2)   Calculation

TLS Position	Current Value (premium)	Premium Margin	Theoretical Option Value with TLS at $3.97	Risk Margin with TLS at $3.97	Theoretical Option Value with TLS at $4.39	Risk Margin with TLS at $4.39
bought 10 Sep $4.00 calls	0.33	330	0.21 (-)	120 (-)	0.47 (+)	140 (+)
bought 10 Sep $3.75 calls	0.12	120	0.07 (-)	50 (-)	0.19 (+)	70 (+)
Total		**450**		**170 (-)**		**210 (+)**

ANZ Position	Current Value (premium)	Premium Margin	Theoretical Option Value with ANZ at $15.98	Risk Margin with ANZ at $15.98	Theoretical Option Value with ANZ at $17.66	Risk Margin with ANZ at $17.66
bought 10 Oct $17.00 puts	1.17	1,170	1.67 (+)	500 (+)	0.80 (-)	370 (-)
sold 20 Apr $15.50 puts	0.13 each	260 (13 x 20)	0.33 (-) each	400 (-) for both	0.04 (+) each	180 (+) for both
sold 10 Jul $16.00 calls	1.35	1350	0.83 (+)	520 (+)	1.99 (-)	640 (-)
sold 10 Oct $16.50 calls	1.26	1260	0.81 (+)	450 (+)	1.82 (-)	560 (-)
Total		**1,700**		**1,070 (+)**		**1,390 (-)**

Summary Position	Downside Risk	Upside Risk	Risk Margin
TLS	170 (-)	210 (+)	63 (+)[46]
ANZ	1,070 (+)	1,390 (-)	1,390 (-)
			1,327 (-)

Therefore the position risk amount is four times the risk margin of $1,327 = $5,308.

(D) ASX 24 Futures

(1) Position and Other Details

A Participant has the following ASX 24 *futures* positions:

Futures Position	Scanning Risk per Contract $	Total Scanning Risk $
bought 1 SPI 200 contract	2,400	2,400
sold 2 ANZ individual share *futures* contracts	900	1,800
Total		**4,200**

(2) Calculation

Therefore the position risk amount is four times the total scanning risk of $4,200 = $16,800.

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[46] Reflects the application of offsets in ASX Clear's calculation of risk margin for a portfolio of *option*s over multiple securities.

(f)　　Clause 6 – Basic Method

(i)　　Rule

6.　　BASIC METHOD

6.1　　Application

Equity Derivative positions which are purchased (long) or written (short) Options may be included in the basic method.

6.2　　Method

(a)　　The position risk amount for a purchased Option is the lesser of:

(i)　　the mark to market value of the underlying equity position multiplied by the standard method Position Risk Factor for the underlying position specified in Table 1.1, Annexure 5; and

(ii)　　the mark to market value of the Option.

(b)　　The position risk amount for a written Option is:

(i)　　the mark to market value of the underlying equity position multiplied by the standard method Position Risk Factor for the underlying position specified in Table 1.1, Annexure 5 reduced by:

(A)　　any excess of the exercise value over the current market value of the underlying position in the case of a call Option, but limited to nil if it would otherwise be negative; or

(B)　　any excess of the current market value of the underlying position over the exercise value in the case of a put Option, but limited to nil if it would otherwise be negative.

(ii)　　Formula

$$BM\ pra_{equity} = \sum_{c=1}^{m}\left[\sum_{i=1}^{nl}\left(\min\left[(S_{mtm} \times \sigma_{sm}), P_m\right]\right)_i + \sum_{i=1}^{ns}\left(\max\left[(S_{mtm} \times \sigma_{sm}) - \phi_i, 0\right]\right)_i\right]_c$$

Where:

S_{mtm}　　*= the mark to market value of the underlying position i*

σ_{sm}　　*= the relevant **position risk factor** under the standard method*

P_m　　*= the mark to market value of the **option***

m　　*= number of countries*

c　　*= country*

nl　　*= number of long positions to which the basic method is applied*

ns　　*= number of short positions to which the basic method is applied*

ϕ_i　　*= $X_i - S_{mtm}$ for a call **option** or $S_{mtm} - X_i$ for a put **option***

X_i　　*= exercise value of **option** i*

(iii) Guidance

(A) General

The purpose of including the basic method in the Risk Based Capital Requirements is to provide a methodology that permits Participants to calculate, in a simple manner, a capital requirement where it transacts *option*s as principal (ETO and/or OTC).

This method can be used for positions in company issued *option*s.

(B) Method

The calculation of position risk amounts under the basic method varies for purchased *options* and written *options*.

(1) Purchased Options

The position risk amount for purchased *option*s is the lesser of the market value of the *option* and the market value of the notional physical *equities* position underlying the *option* multiplied by the relevant standard method *position risk factor* for the stock underlying the *option* from Annexure 5, Table 1.1.

The market value of the *option* should be calculated as the current price of the *option* multiplied by the number of *option*s/number of shares underlying the *option*. The notional market value of the physical *equities* position underlying the *option* is calculated by taking the number of shares underlying the position multiplied by the current price of that stock.

(2) Written Options

The position risk amount for written *option*s is the market value of the notional physical *equities* position underlying the *option* multiplied by the relevant standard method *position risk factor* for the stock underlying the *option* from Annexure 5, Table 1.1, reduced by the amount by which the *option* is out of the money (if any). The position risk amount is limited to nil, i.e. the out of the money amount cannot be used to reduce the position risk amount below zero.

For a call *option*, the out of the money amount is the excess of the exercise price over the current market price of the underlying stock, multiplied by the number of *option*s/number of shares underlying the *option*.

For a put *option*, the out of the money amount is the excess of the current market price of the underlying stock over the exercise price, multiplied by the number of *option*s/number of shares underlying the *option*.

(3) Total Position Risk Amount

A basic method position risk amount per country is calculated as the sum of all position risk amounts for purchased and written *option*s in a particular country. The total basic method position risk amount is then the sum of the converted position risk amounts for each country. All position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 1.

(iv)   Example

(A)   Position and Other Details

A Participant holds the following *option* positions:

Option Equity Derivatives						
Contract	Expiry	Position	Number of Contracts	Strike	Current Price of Underlying	Current Market Value of Option
National Australia Bank OTC	3 months	Short call (European)	40,000 shares	A$24.50	A$24.17	A$1.08 per share
ANZ Bank- (ASX ETO)	July 2005	Long Puts	130	A$10.00	A$10.96	A$0.50 per share
British Telecom - (LIFFE)	February 2005	Long Puts	20	£11.50	£9.88	£1.62 per share
SPI 200 - (ASX 24)	June 2005	Short Puts	15	2850	2935	$3,105 per contract

The current AUD/GBP exchange rate is 2.6700.

(B)   Calculation

(1)   Purchased Options

Contract	Market Value of Underlying			Position Risk Factor	Notional Value of Position multiplied by PRF	Value of Option multiplied by shares/ options	Minimum Value - Position Risk Amount	Exchange Rate	Position Risk Amount A$
	Position	Current Price	Notional Value of Position						
ANZ Bank	13,000	A$10.96	A$142,480	12%	A$17,098	A$6,500	A$6,500	1.000	6,500
British Telecom	20,000	£9.88	£197,600	12%	£23,712	£32,400	£23,712	2.6700	63,311
									69,811

(2) Written Options

Contract	Position	Current Price	Notional Value of Position	Position Risk Factor	Notional Value of Position multiplied by PRF	Exercise Value	Excess of Exercise Value over Notional Value for calls (vice versa for puts)	Position Risk Amount	Exchange Rate	Position Risk Amount A$
	Market Value of Underlying									
NAB	40,000	A$24.17	A$966,800	12%	A$116,016	A$980,000	A$13,200	A$102,816	1.000	102,816
SPI 200	15	2935	A$1,100,625[47]	8%	A$88,050	A$1,068,750	A$31,875	A$56,175	1.000	56,175
										158,991

(3) Total Position Risk Amount

The overall position risk amount from the basic method is the sum of the position risk amounts for purchased and written *option*s:

Option Type	Position Risk Amount A$
Purchased Options	69,811
Written Options	158,991
Position Risk Amount	228,802

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[47] The notional value of the SPI 200 *future*s position is calculated as 15 (number of contracts) x 2935 (current index level) x 25 (value of each index point for this contract) = $1,100,625.

(g)   Clause 7 – Arbitrage Method

(i)   Rule

7.	**ARBITRAGE METHOD**

7.1   Application

Equity Derivative positions arising as a result of Futures arbitrage strategies may be included in the arbitrage method if the Participant has a position in:

(a)   two Futures over similar indexes; or

(b)   a Future over a broadly based index and a position in a matching physical basket, and if the requirements set out below are satisfied.

7.2   Method - similar indexes

A Participant's position risk amount for a position in two Futures over similar indexes is 2% of the Equity Equivalent of one of the Futures over an index position at the mark to market value but only if the Participant:

(a)   has an opposite position in a Future over the same index at a different date or in a different market; or

(b)   has an opposite position in a Future at the same date in a different but similar index (where two indexes are similar if they contain sufficient common components that account for at least 70% of each index).

The position risk amount for the opposite Future position is nil.

7.3   Method - a broadly based index and a matching basket of the stocks from that index

A Participant may calculate the position risk amount for a Future over an index and a position in a matching physical basket under one of two possible methodologies:

(a)   the position in the Future over an index may be disaggregated into the notional physical positions and the position risk amount for these notional positions and the physical basket may then be calculated in accordance with the standard method or building block method for equity positions; or

(b)   2% of the mark to market value of the Future over the index if:

  (i)   the arbitrage trades have been specifically entered into and are separately monitored over the life of the arbitrage;

  (ii)   the mark to market value of the physical basket is greater than 80% and less than 120% of the mark to market value of the notional position in the Future over the index; and

  (iii)   the sum of the index weights of the individual positions in the required physical basket is greater than 70% of the Future over the index, where the required physical basket is calculated by:

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A.   ranking all mark to market positions in the physical basket in ascending dollar value;

B.   converting each dollar value position to a percentage of the total dollar value of the physical basket; and

C.   adding the percentages in ascending order until the total of these percentages exceeds 70%.

</div>

(ii)   Formula

The formula for both the similar indexes method and the matching basket method is the same. The two methods are concerned with two different types of arbitrage position.

$$AM\ pra_{equity} = \sum_{c=1}^{m}\left[\sum_{i=1}^{n}\left|\alpha\times\$\times K\times 0.02\right|_{i}\right]_{c}$$

Where:
α = market price of the index
$\$$ = dollar per point value of the index
K = number of contracts in position i (subject to conditions)
c = country
m = number of countries
n = number of arbitrage positions i

(iii)   Guidance

(A)   General

The arbitrage method has been provided for those Participants that create arbitrage positions to take advantage of price differences between similar indices or between an index and its physical component securities. Use of the arbitrage method is limited to an arbitrage position that involves a long and a short position in an index or securities and where at least one side of the arbitrage is in a **futures** contract. Positions in **option**s over **futures** cannot be included in this method.

There is no requirement for a Participant to use the arbitrage method if it determines another available method is more appropriate.

(B)   Similar Indexes

Similar indexes are **futures** contracts on the same index but where the contract settlement or market on which they trade is different, or **futures** contracts which have the same contract settlement but which are over two different indexes that have substantially similar component stocks. Two indexes are considered to be similar if the common stocks in the indexes account for at least 70% of each of the indexes. That is, if the sum of the weights of the common stocks each total 70% or more of their respective index, they will be considered to be similar.

If the arbitrage is in similar indexes as described above, the position risk amount on the arbitrage position will be 2% of the market value of the **equity equivalent** of one of the **futures** positions over an index. It may be possible that the market value of each side of the arbitrage **futures** position is different. In such

cases, Participants must use the side that results in the higher position risk amount. If this criteria is not satisfied, the 2 *futures* positions are to be treated in accordance with Annexure 3, clause 2 or 3.

A similar index arbitrage method position risk amount per country is calculated as the sum of the absolute values of all similar index position risk amounts in that particular country. The total position risk amount for this method is then the sum of the converted position risk amounts for each country. All position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 1.

(C)   Broadly Based Index and Matching Basket of the Same Index's Stocks

An arbitrage position in a *futures* contract over an index and a matching basket of stocks is limited to only those positions where the physical basket only contains those stocks that are included in the index. It is not possible to include stocks in an arbitrage position that are not components of the index.

There are **two methods** available for calculating a position risk amount on such an arbitrage position. **The first method, however, is designed as an alternative to the second method to be used if the criteria for use of the second method are not satisfied.** The first method involves disaggregating the *futures* position into its component stocks and applying either the standard (clause 2) or building block (clause 3) methods to the *equity net positions* formed by the notional positions and the physical *equities*. The second method involves calculating the position risk amount on the *futures* position only, and only if certain criteria are satisfied. **There are no restrictions on the use of Method 1 however it may result in a greater position risk amount than under Method 2. If the criteria of Method 2 are not satisfied, Method 1 must be used.**

(1)   Method 1

Notional positions in all stocks that are included in the index must be calculated. Notional positions will equal the market value of the index *futures* position multiplied by the weight of each stock in the index. The sum of all notional stock positions will then equal the market value of the *futures* position. Each stock in the physical basket can be offset against the corresponding notional position in the corresponding stock. The position risk amount will then be calculated by following the requirements of the standard method (as set out in clause 2) or the building block method (as set out in clause 3).

(2)   Method 2

Method 2 can only be used if the arbitrage position has been specifically established as an arbitrage to profit from pricing anomalies between the *futures* and the physical markets. Each arbitrage position must also be monitored separately over the life of the arbitrage position. This means that the Participant must be able to demonstrate, if requested, that it monitors and manages each arbitrage separately and as unique positions, and does not consolidate the *futures* and physical positions with other principal positions.

The market value of the physical basket of stocks must be between 80% and 120% of the market value of the associated *futures* position. Further, the actual index weights of the stocks that make up the bottom 70% of the physical basket, by market value, must sum to at least 70% of the index that the *futures* position is over. That is, if the market value of the physical basket is not substantially (ie, greater than 70%) in the stocks that represent 70% of the index, the lower position risk amount cannot be taken and Method 1 must be used.

In determining whether the 70% criteria is satisfied, a 3 step process can be followed. Participants wishing to use this method will require current index stock composition data and in particular the weight of each stock in the index:

Step 1

Rank all the stocks in the physical basket in ascending dollar value (i.e. smallest position first) and calculate for each stock in the basket its percentage weight in the basket (i.e. market value of the stock divided by the total market value of the physical basket).

Step 2

Calculate the cumulative weight of the physical basket by adding each consecutive stock weight. For the purposes of this method, the analysis is done only on those stocks that make up approximately 70% cumulative of the index (i.e. keep adding a stock until the cumulative reaches 70% or more).

Step 3

Record the weight in the index that each stock represents. Sum those index weights for each stock that represents 70% of the physical basket. If the sum of the index weights is greater than 70%, Method 2 can be used, otherwise Method 1 must be used.

If the above criteria are satisfied, the position risk amount under Method 2 is 2% of the market value of the position in the index **futures**.

The above steps are not mandatory. An alternate procedure can be followed as long as the same results are achieved.

If Method 2 applies, a position risk amount per country is calculated as the sum of all Method 2 position risk amounts in that particular country. The total position risk amount for this method is then the sum of the converted position risk amounts for each country. All position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 1.

(iv)　　Examples

(A)　　Similar Indexes

(1)　　Position and Other Details

A Participant has the following positions:

Non-Option Equity Derivatives - Index Futures							
Contract	Delivery	Position	Number of Contracts	Country	Purchase Price	Current Price	Current Market Value
SPI 200	March 2005	Long	20	Australia	2877.0	2922.0	A$ 1,461,000
SPI 200	June 2005	Short	20	Australia	2889.0	2935.0	(A$1,467,500)

(2)　　Calculation

The above positions satisfy the similar index criteria in that the arbitrage involves a long and short position in the same index **futures** with different settlement dates. Therefore, the position risk amount will be 2% of the contract with the highest market value:

Position Risk Amount = A$1,467,500 x 2% = A$29,350

(B) **Broadly Based Index and Matching Basket of the Same Index's Stocks**

(1) **Position and Other Details**

A Participant has established an arbitrage strategy that involves going long in a basket of S&P/ASX 200 index stocks and selling SPI 200 *futures* contracts. This arbitrage is being monitored and controlled by one of its arbitrage traders separately from any other positions it may have. The Participant has the following positions:

Non-Option Equity Derivatives - Index Futures							
Contract	Delivery	Position	Number of Contracts	Country	Purchase Price	Current Price	Current Market Value
SPI 200	June 2005	Short	1	Australia	2698.0	2702.0	(A$67,550)

Physical Basket	Market Value A$		% Index Weight (S&P/ASX 200)
	Scenario 1	Scenario 2	
AGL	538	538	0.8
AMC	652	652	0.97
AMP	1,553	1,553	2.31
ANN	444	444	0.66
ANZ	2,192	2,192	3.26
AWC	955	955	1.42
AXA	464	464	0.69
BHP	4,129	4,129	6.14
BIL	1,157	1,157	1.72
BLD	417	417	0.62
CBA	2,804	2,804	4.17
CCL	666	666	0.99
CML	1,204	1,204	1.79
CPU	699	699	1.04
CSR	551	551	0.82
FGL	1,015	1,015	1.51
GPT	585	585	0.87
HVN	316	316	0.47
IAG	343	343	0.51
LLC	1,352	1,352	2.01
MAY	383	383	0.57
MBL	316	316	0.47
NAB	4,755	9,255	7.07
NEM	383	383	0.57
PBL	3,322	3,322	4.94
PMN	390	390	0.58
PPT	787	787	1.17
QAN	471	471	0.7
QBE	424	424	0.63
RIO	1,984	1,984	2.95
SGB	740	740	1.1
SRP	484	484	0.72
STO	451	451	0.67
TAH	444	444	0.66

Physical Basket	Market Value A$		% Index Weight (S&P/ASX 200)
	Scenario 1	Scenario 2	
TLS	24,230	4,230	6.29
WBC	2,697	2,697	4.01
WDC	2,629	2,629	3.91
WFT	632	632	0.94
WOW	921	921	1.37
WPL	868	868	1.29
WSF	390	390	0.58
Total	69,738	54,239	73.96

(2)　　　Calculation

Two scenarios have been presented to provide an example of both Method 1 and Method 2.

Because the above arbitrage strategy has been specifically entered into to gain from mispricing between the *futures* and the physical markets and is being separately managed and monitored, it may be possible to apply Method 2 to the position. To confirm this, the Participant must determine the percentage composition of the physical basket relative to the market value of the *futures* position and to the index weights.

(a)　　　Relative to Futures Position

Position	Market Value	
	Scenario 1	Scenario 2
Futures	67,550	67,550
Physical Basket	69,737	54,237
% of Physical over Futures	103.24%	80.29%

The criteria that the market value of the physical basket be between 80% and 120% of the market value of the *futures* contract is satisfied under both Scenarios 1 and 2.

(b)　　　Relative to Index Weights

Step 1
Rank all the stocks in the physical basket in ascending dollar value (i.e. smallest position first) and calculate for each stock in the basket its percentage weight in the basket (i.e. market value of the stock divided by the total market value of the physical basket). This has been completed for both Scenario 1 and 2 and is presented in the table below.

Step 2
Calculate the cumulative weight of the physical basket by adding each consecutive stock weight. For the purposes of this method, the analysis is done only on those stocks that make up approximately 70% cumulative of the index (i.e. keep adding a stock until the cumulative reaches 70% or more). This has been

completed for both Scenario 1 and 2 and is presented in the table below. For each scenario, the stock at the 70% threshold is highlighted.

| Scenario 1 | | | | | | Scenario 2 | | | | | |
| Physical Basket | | | | Index | | Physical Basket | | | | Index | |
Stock	Market Value	Weight %	Cum. Weight %	Weight %	Cum. Weight %	Stock	Market Value	Weight %	Cum. Weight %	Weight %	Cum. Weight %
HVN	316	0.453	0.453	0.470	0.470	HVN	316	0.583	0.583	0.470	0.470
MBL	316	0.453	0.906	0.470	0.940	MBL	316	0.583	1.165	0.470	0.940
IAG	343	0.492	1.398	0.510	1.450	IAG	343	0.632	1.798	0.510	1.450
MAY	383	0.549	1.947	0.570	2.020	MAY	383	0.706	2.504	0.570	2.020
NEM	383	0.549	2.497	0.570	2.590	NEM	383	0.706	3.210	0.570	2.590
PMN	390	0.559	3.056	0.580	3.170	PMN	390	0.719	3.929	0.580	3.170
WSF	390	0.559	3.615	0.580	3.750	WSF	390	0.719	4.648	0.580	3.750
BLD	417	0.598	4.213	0.620	4.370	BLD	417	0.769	5.417	0.620	4.370
QBE	424	0.608	4.821	0.630	5.000	QBE	424	0.782	6.199	0.630	5.000
ANN	444	0.637	5.458	0.660	5.660	ANN	444	0.819	7.018	0.660	5.660
TAH	444	0.637	6.094	0.660	6.320	TAH	444	0.819	7.836	0.660	6.320
STO	451	0.647	6.741	0.670	6.990	STO	451	0.832	8.668	0.670	6.990
AXA	464	0.665	7.406	0.690	7.680	AXA	464	0.856	9.523	0.690	7.680
QAN	471	0.675	8.082	0.700	8.380	QAN	471	0.868	10.392	0.700	8.380
SRP	484	0.694	8.776	0.720	9.100	SRP	484	0.892	11.284	0.720	9.100
AGL	538	0.771	9.547	0.800	9.900	AGL	538	0.992	12.276	0.800	9.900
CSR	551	0.790	10.337	0.820	10.720	CSR	551	1.016	13.292	0.820	10.720
GPT	585	0.839	11.176	0.870	11.590	GPT	585	1.079	14.371	0.870	11.590
WFT	632	0.906	12.083	0.940	12.530	WFT	632	1.165	15.536	0.940	12.530
AMC	652	0.935	13.017	0.970	13.500	AMC	652	1.202	16.738	0.970	13.500
CCL	666	0.955	13.972	0.990	14.490	CCL	666	1.228	17.966	0.990	14.490
CPU	699	1.002	14.975	1.040	15.530	CPU	699	1.289	19.255	1.040	15.530
SGB	740	1.061	16.036	1.100	16.630	SGB	740	1.364	20.619	1.100	16.630
PPT	787	1.129	17.164	1.170	17.800	PPT	787	1.451	22.070	1.170	17.800
WPL	868	1.245	18.409	1.290	19.090	WPL	868	1.600	23.670	1.290	19.090
WOW	921	1.321	19.730	1.370	20.460	WOW	921	1.698	25.369	1.370	20.460
AWC	955	1.369	21.099	1.420	21.880	AWC	955	1.761	27.129	1.420	21.880
FGL	1,015	1.455	22.555	1.510	23.390	FGL	1,015	1.871	29.001	1.510	23.390
BIL	1,157	1.659	24.214	1.720	25.110	BIL	1,157	2.133	31.134	1.720	25.110
CML	1,204	1.726	25.940	1.790	26.900	CML	1,204	2.220	33.354	1.790	26.900
LLC	1,352	1.939	27.879	2.010	28.910	LLC	1,352	2.493	35.847	2.010	28.910
AMP	1,553	2.227	30.106	2.310	31.220	AMP	1,553	2.863	38.710	2.310	31.220

| Scenario 1 | | | | | | Scenario 2 | | | | | |
| Physical Basket | | | | Index | | Physical Basket | | | | Index | |
Stock	Market Value	Weight %	Cum. Weight %	Weight %	Cum. Weight %	Stock	Market Value	Weight %	Cum. Weight %	Weight %	Cum. Weight %
RIO	1,984	2.845	32.951	2.950	34.170	RIO	1,984	3.658	42.368	2.950	34.170
ANZ	2,192	3.143	36.094	3.260	37.430	ANZ	2,192	4.042	46.409	3.260	37.430
WDC	2,629	3.770	39.864	3.910	41.340	WDC	2,629	4.847	51.257	3.910	41.340
WBC	2,697	3.867	43.731	4.010	45.350	WBC	2,697	4.973	56.229	4.010	45.350
CBA	2,804	4.021	47.752	4.170	49.520	CBA	2,804	5.170	61.399	4.170	49.520
PBL	3,322	4.764	52.516	4.940	54.460	PBL	3,322	6.125	67.524	4.940	54.460
BHP	4,129	5.921	58.437	6.140	60.600	**BHP**	**4,129**	**7.613**	**75.137**	**6.140**	**60.600**
NAB	4,755	6.818	65.255	7.070	67.670	TLS	4,230	7.799	82.936	6.290	66.890
TLS	**24,230**	**34.745**	**100.00**	**6.290**	**73.960**	NAB	9,255	17.064	100.00	7.070	73.960
Total	69,737						54,237				

Step 3

Record the weight in the index that each stock represents. Sum those index weights for each stock that represents 70% of the physical basket. If the sum of the index weights is greater than 70%, Method 2 can be used, otherwise, Method 1 must be used.

(i) Scenario 1

Referring to the above table, for Scenario 1, the 70% physical basket level represents 73.96 % of the index. Thus, Method 2 can be applied to the arbitrage position. The position risk amount is 2% of the market value of the *futures* position:

Position Risk Amount = A$67,550 x 2% = A$1,351

(ii) Scenario 2

With respect to Scenario 2, the 70% physical basket level represents only 60.6% of the index. Thus Method 2 cannot be applied. The Participant will be required to assess the position risk amount under Method 1. An example for Method 1 has not been provided as the principles of the calculation are equivalent to either the standard or building block method and an example of these methods is provided in the sections covering clauses 2 and 3 of Annexure 3, Part 1. Note that the position in the *futures* contract may be disaggregated into notional short positions in each stock that is included in the index and where possible offset against the corresponding stocks in the physical basket.

(h)   Clause 8 – Calculation of Equity Equivalent Positions

(i)   Rule

8.   CALCULATION OF EQUITY EQUIVALENT POSITIONS

8.1   Swaps

The Equity Equivalent for a Swap is two notional positions, one for each leg of the Swap under which:

(a)   there is a notional long position in an Equity or Equity Derivative on the leg of the Swap on which an amount is received; and

(b)   there is a notional short position in an Equity or Equity Derivative on the leg of the Swap on which an amount is paid.

If one of the legs of the Swap provides for payment or receipt based on some reference to a Debt Instrument or Debt Derivative, the position risk amount for that leg of the Swap should be assessed in accordance with Part 2 of this Annexure.

8.2   Options

The Equity Equivalent for an Option is:

(a)   for purchased call Options and written put Options, a long position at the mark to market value of the underlying equity position, or in the case of an Option on an index or physical basket the mark to market value of either the index, basket, or the notional position in the underlying; or

(b)   for purchased put Options and written call Options, a short position at the mark to market value of the underlying equity position, or in the case of an Option on an index or physical basket, the mark to market value of either the index, basket, or the notional position in the underlying.

8.3   Futures and forward contracts

The Equity Equivalent:

(a)   for a Future and forward contract over a single Equity, is the mark to market value of the underlying;

(b)   for a Future and a forward contract over an index or a physical basket, is the mark to market value of either the index, basket, or the notional position in the underlying.

8.4   Convertible notes

The Equity Equivalent of a convertible note, is either:

(a)   if the Participant:

(i)   does not use the contingent loss matrix method;

(ii)   the premium is in the money by less than 10%, where premium in this context means the mark to market value of the convertible note less the

> mark to market value of the underlying Equity, expressed as a percentage of the mark to market value of the underlying Equity; and
>
>   (iii)   there are less than 30 days to the conversion date;
>
>   the mark to market value of the underlying Equity; or
>
>   (b)   if the Participant uses the contingent loss matrix method, as calculated according to that method,
>
> but otherwise the convertible note (or, in the case of a convertible note which is evaluated in accordance with the procedure stated in clause 8.4(b) the debt component of the convertible note) must be treated as a debt position in accordance with Debt Equivalent requirements.
>
> **8.5**   **Other positions**
>
> The Equity Equivalent of an equity position arising under any other Financial Instrument is as prescribed by ASX Clear.

(ii)   Guidance

Clause 8 of Annexure 3 prescribes the way *equity derivative* positions are to be converted into *equity equivalent* positions.

It should be noted that clauses 8.2 and 8.3 permit a Participant to calculate the *equity equivalent* of an index or basket position as the mark to market value of either the index, basket or the notional position in the underlying (i.e. the Participant has a choice).

(A)   Swaps

The *equity equivalent* of a *swap* that is valued by reference to one or more notional positions in *equity* securities is a notional position in each *equity* underlying the *swap*. The notional position is the mark to market value of the *equity* positions underlying the *swap* (i.e. the number of shares underlying the *swap* multiplied by the current market price of those shares).

(B)   Options

No guidance necessary.

Listed company *option*s are treated as *option*s for the purposes of the Risk Based Capital Requirements. They can be included in the standard method or the building block method if they are sufficiently *in the money*, otherwise the contingent loss matrix method or the basic method must be used (unless the Participant uses the internal models approach set out in Part 4 of Annexure 3).

Note: For the purposes of the Risk Based Capital Requirements a Low Exercise Price Option (LEPO) should be treated as a *futures* contract.

(C)   Futures and Forward Contracts

No guidance necessary.

(D)   Convertible Notes

The market value of a convertible note (also referred to as convertible bonds) has two components. Firstly, the note's value will be the greater of the value as a straight bond (i.e. debt) and the note's conversion value (i.e. as *equity*). The second component of the note's value is the value of the *option* that the holder of the note can convert it into *equity* at a point in time in the future.

Thus, if the value of the note issuer's debt is greater than its *equity*, the note's value will be influenced by the price of debt of an equivalently rated debt issuer. If, however, the value of the note issuer's *equity* is greater than its debt, the value of the note will be influenced by the value of the shares underlying the note at the current market price of the issuer's *equity*. If the latter, the value of the *option* component will be less than under the former case as the purchaser is obtaining an instrument at a price that reflects the higher value of *equity* and is not going to pay as much for the conversion *option* than if the price of the note reflected debt with a possibility to convert to *equity* if the value of *equity* increased.

There are two possible treatments for convertible notes for the purpose of calculating a position risk amount.

(1)   As Equity

If the difference between the market value of the note and the market value of the *equity* (called the premium) is less than 10% of the market value of the *equity*, the note should be treated as an *equity* position. The market value of the *equity* is the value of the note if it is immediately converted to *equity* at current market prices (i.e. conversion ratio times the number of notes times the current price of the issuer's *equity* per share).

(2)   As Debt

If the 10% criteria detailed above is not satisfied, the note is to be treated as a *debt instrument*. Generally the convertible note will pay a coupon and it is to be treated in the same manner as any other coupon paying bond as set out in Annexure 3, Part 2 - Debt Position Risk.

The rationale for this approach is that the premium can never be negative as the price of the note will always reflect either the value as a bond or the value as *equity*, whichever is greater. If the premium is greater than 10% of the value as *equity*, it means that the value of *equity* is less than the value of the note as debt and therefore the instrument should be treated as a *debt instrument*.

The market value of the note and the market value of the *equity* should be compared daily to determine whether the convertible note should be treated as debt or *equity* for the purposes of the Risk Based Capital Requirements.

(E)   Classical Exchange Traded Funds

ASX Clear has prescribed, under clause 8.5, that the *equity equivalent* of a classical exchange traded fund (ETF) is:

1.   the mark to market value of the classical ETF, or

2.   the mark to market value of the notional position in the underlying.

 Any cash component of the classical ETF should be treated as if it was a position in an *equity*.

Further details on the definition and treatment of ETFs can be found in the guidance for clause 9.

(F)   Other Positions

If a Participant has a principal position in an equity based *financial instrument*, the treatment of which is not detailed in the Rule or in this Handbook, it must contact ASX Clear in accordance with Rule S1A/S1.2.9 to determine the appropriate treatment.

(i)   Clause 9 – Calculation of Equity Net Positions

(i)   Rule

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9.   **CALCULATION OF EQUITY NET POSITIONS**

The equity net positions are either the long or short positions resulting from offsetting equity positions and Equity Equivalents calculated in the following way:

(a)   a Participant may net a long position against a short position only where the positions are in the same actual instrument. This includes Equity Equivalent positions calculated in accordance with clause 8. For the purposes of this clause 9(a):

   (i)   depository receipts may be treated as if they are the same positions in the corresponding instrument and at the same value if:

      (A)   the positions in the depository receipt and underlying have been entered into as a specific arbitrage and have the certainty of a locked-in profit (or loss);

      (B)   the profit (or loss) in sub-paragraph (A) is Liquid; and

      (C)   all conversion costs and foreign exchange costs are immediately provided and are separately monitored over the life of the arbitrage,

      but otherwise must be valued at the current exchange rate; and

   (ii)   instalment receipts may be treated as if they are positions in the corresponding instrument.

(b)   if the contingent loss matrix method is not used for Options, then an Option position can only be offset if it is In the Money by at least the standard method Position Risk Factor specified in Table 1.1 of Annexure 5 applicable to the underlying position.

(ii)   Guidance

(A)   Depository Receipts

With respect to clause 9(a)(i), a position in a depository receipt can be treated as if that position were in the *equity* that underlies the depository receipt. For example, if an ADR is over 10 shares of the underlying Australian stock, the ADR position may be included in the *equity net position* as 10 shares times the number of ADR's held times the current market price of those shares on the Australian market.

(B)   Securities Lending and Borrowing

It should be noted that *securities lending and borrowing* transactions cannot be offset against underlying long and short *equity net positions*. This is because *securities lending and borrowing* arrangements are considered to be funding arrangements rather than arrangements that alter the position in an *equity* security (i.e. they do not change the market risk profile of the underlying position).

For example, if a Participant has an investment in an *equity* security and lends the stock out under a *securities lending and borrowing* arrangement, it may <u>not</u> offset that lending arrangement against the long

equity net position (i.e. reduce it by the amount lent) for the purposes of calculating a position risk amount on that long position. Similarly, securities borrowed to fund a short *equities* position <u>cannot</u> be offset against the short position for the purposes of calculating a position risk amount on the short *equities net position*.

Securities that have been lent out under a securities borrowing and lending arrangement or that have been sold under a repurchase agreement remain a principal position of the Participant for which a position risk amount must still be calculated, notwithstanding that a counterparty risk amount must also be calculated under the securities lending and borrowing method (Annexure 1, clause 4). The securities are to be included as Financial Assets in the returns lodged with ASX Clear.

It should be noted that where a Participant has internal lending and borrowing transactions between its various house accounts, these transactions are not considered to be *securities lending and borrowing* transactions for the purposes of the Risk Based Capital Requirements as transactions within the same legal entity do not generate a counterparty exposure.

For example, if dealer A is long 100 BHP shares and dealer B is short 100 BHP shares and dealer A notionally lends the shares to dealer B, no counterparty exposure is generated as the legal entity has a nil position in BHP shares.

(C)   Dual/Multiple Listed Stocks

Where a stock is dual/multiple listed, this means that an entity is listed on a number of exchanges. For dual/multiple listed stocks, the key factor for the calculation of an *equity net position* is the **types of securities** quoted on the exchanges.

Positions in quoted securities issued by a listed entity and quoted on multiple exchanges will not all necessarily be able to be offset for the purposes of calculating an *equity net position* under Rule S1. The only positions that can be offset are those where <u>identical</u> securities are quoted on multiple exchanges.

For example, assume a Participant has the following positions in *equity* securities issued by Company A:

1.   **Ordinary** shares (<u>quoted</u> on both ASX and NYSE):

    (a)   a long position of 100,000 shares (dealt on ASX) – current market price is A$10 per share, so the market value of this position is A$1,000,000; and

    (b)   a short position of 120,000 shares (dealt on NYSE) – current market price is US$6 per share, so the market value of this position is US$720,000 (assuming exchange rate of 0.5476 this is converted to A$1,314,828).

2.   *Preference share*s – a long position of 30,000 shares (quoted on ASX only) – current market price is A$12 per share, so the market value of this position is A$360,000.

As the ordinary shares are quoted on both exchanges and can be traded in either country, the long A$ position and the short US$ position can be netted to calculate an *equity net position*.

Any dollar difference arising from the netting of the "opposite" positions (i.e. in this case the 100,000 shares) should be taken to P&L. In this case, A$95,690 should be taken to P&L (calculated as 100,000 x US$6 / 0.5476 – 100,000 x A$10 = A$1,095,690 – A$1,000,000).

Therefore, the Participant has a net short position of 20,000 ordinary shares on which it must calculate an equity position risk amount. As the net position is US based, the **equity net position** in the ordinary shares is 20,000 x US$6 = US$120,000 (i.e. the US$ share price is used rather than the A$ price) and the position is included in the US portfolio for the purposes of calculating equity position risk amounts by country. In addition, should there be costs in converting the US$ position to A$, these costs should be immediately provided for.

The Participant also has a long position of 30,000 **preference share**s which cannot be offset against the US$ ordinary share position, as the securities are not identical. The **preference share**s form part of the Australian portfolio for the purposes of calculating equity position risk amounts by country.

(Note: the short US$720,000 **equity** position should also be included in the foreign exchange position risk calculation as in this instance the foreign exchange risk has not been hedged).

For the purpose of assessing the liquidity of a position in a dual listed stock that is fungible on both exchanges, a Participant can use the trading volumes of the exchange with the higher trading volumes in that security. If this happens to be an offshore exchange, the position must be included in the offshore country portfolio for the purposes of calculating equity position risk amounts by country. The position must also be included in the foreign exchange position risk calculation.

(D)   Stocks Subject to Merger

Listed stocks that are subject to a merger and which involves the conversion/exchange of scrip cannot be offset for the purposes of calculating an **equity net position** until it is legally certain that the conversion/exchange will proceed.

For example, in 2000, the Commonwealth Bank of Australia (CBA) merged with Colonial Limited (Colonial) and shares were converted/exchanged. A Participant that was long Colonial stock and short CBA stock was not permitted by ASX to calculate an **equity net position** on these "two" positions until the scheme of arrangement allowing the conversion/exchange of Colonial shares to CBA shares was approved by the Court.

(E)   Exchange Traded Funds and Other Managed Funds

Exchange traded funds (ETFs) have been divided into two distinct types – classical ETFs and hybrid ETFs – and each has a different treatment under the Risk Based Capital Requirements.

(1)   Classical ETFs

(a)   Definition

A classical ETF is a managed fund:

1. that is listed and quoted on a stock exchange (and in Australia is registered as a managed investment scheme under the Corporations Act 2001); and

2. where, under an open prospectus, the units can only be subscribed for and redeemed in kind, on demand and via the exchange of a defined basket of **equity** securities; and

3. that has a "passive" investment strategy designed to replicate a stock index at all times and this is evidenced by the holding of physical securities in weightings that predominantly match the stock

index it has been issued over. Accordingly any cash or *derivative* components should be immaterial and not be used to gear the fund; and

4. where the underlying assets are known on a daily basis; and

5. that is subscribed for and redeemed in a "primary" market via either a Participant or the ETF issuer, and existing units are traded in a "secondary" market provided through a stock exchange.

(b)   Classification

For the purposes of the Risk Based Capital Requirements, units of a classical ETF satisfying the criteria noted above should be classified as *equity derivatives* under part (d) of that defined term.

In the instance where a Participant buys units in a classical ETF and the responsible entity for the classical ETF is a *related/associated person* of the Participant, the investment is not considered a *related/associated person balance* and as such is not an *excluded asset* on this basis.

(c)   Position Risk Guidance

As classical ETFs are considered to be *equity derivatives* for the purposes of the Risk Based Capital Requirements, principal positions in classical ETF units should be treated as follows.

1. There is no difference between the primary market and secondary market for the purposes of calculating position risk amounts.

2. Principal positions in classical ETFs commence at T_0 and the underlying risk variable is the market price of the classical ETF unit.

3. Under Annexure 3, Part 1, clause 8.5 the *equity equivalent* of a classical ETF is:

   (a)   the mark to market value of the classical ETF, or

   (b)   the mark to market value of the notional position in the underlying.

   Any cash component of the classical ETF should be treated as if it was a position in an *equity.*

4. The *position risk factor*s to be applied are:

   (a)   where the classical ETF is over a *recognised market index* (or professional benchmark index[48] whose underlying assets are securities in a *recognised market index*) and the classical ETF has been broken down in to the notional positions in the underlying, 12% (standard method) or 8% for general risk and 4% for specific risk (building block method).

   (b)   where the classical ETF is over a professional benchmark index[49] whose underlying assets are securities in a *recognised market index* and the classical ETF has not been broken down, 12% (standard method) or 8% for general risk and 4% for specific risk (building block method).

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[48] In Australia, the professional benchmark indexes referred to here include only the S&P/ASX 100, S&P/ASX 50 and S&P/ASX 20. The S&P/ASX 200 is a *recognised market index* for the purpose of the Risk Based Capital Requirements.
[49] In Australia, the professional benchmark indexes referred to here include only the S&P/ASX 100, S&P/ASX 50 and S&P/ASX 20. The S&P/ASX 200 is a *recognised market index* for the purpose of the Risk Based Capital Requirements.

(c)   where the classical ETF is over a ***recognised market index*** specified in Annexure 5, Table 1.6 (i.e. a professional benchmark index is not specified in this Annexure and hence 8% does not apply) and the classical ETF has not been broken down, 8% (standard method) or 8% for general risk and 0% for specific risk (building block method).

(d)   in all other instances (including for any cash component of the classical ETF as mentioned in 3. above), 16% (standard method) or 8% for general risk and 8% for specific risk (building block method).

The same liquidity tests will apply to positions in classical ETF units as they do to all positions in ***equity derivatives*** to determine if they should be treated as ***excluded assets***. That is, if the Participant is unlikely to be able to liquidate its position in a classical ETF within 31 days, taking into account factors including the size of its position and the volume of that classical ETF traded in the market, it must exclude the market value of that position from ***liquid capital***.

(2)   Hybrid ETFs

(a)   Definition

A hybrid ETF is a managed fund:

1. that is listed and quoted on a stock exchange (and in Australia is registered as a managed investment scheme under the Corporations Act 2001); and

2. where, under an open prospectus, the units can only be subscribed for and redeemed in cash or in kind; and

3. that is subscribed for and redeemed in a "primary" market and existing units are traded in a "secondary" market, or

4. that does not satisfy all of the requirements of a classical ETF but satisfies the three criteria noted above.

(b)   Classification

ASX Clear recognises that hybrid ETFs may be issued over ***equity*** securities, ***debt instruments*** (for example, a cash management trust), property, a combination of all three of these (i.e. a balanced fund) or even ***derivative*** contracts. For the purposes of the Risk Based Capital Requirements and for practical reasons, it has been determined that a hybrid ETF that includes:

1. physical ***equities*** only, should be classified as an ***equity*** under part (d) of that defined term,

2. physical ***debt instrument***s only, should be classified as a ***debt instrument*** under part (e) of that defined term,

3. physical ***debt instrument***s and property, should be classified as an ***equity*** under part (d) of that defined term,

4. physical ***equities***, physical ***debt instrument***s and property should be classified as an ***equity*** under part (d) of that defined term,

5. physical *equities* and property should be classified as an *equity* under part (d) of that defined term,

6. physical property only should be classified as an *equity* under part (d) of that defined term.

Where a hybrid ETF includes an immaterial percentage of cash or *derivative*s and those instruments are used only for hedging purposes, the above will apply.

However if a hybrid ETF contains a material percentage of assets not specified above, for example the hybrid ETF invested in *derivative*s only, this would not be covered by the above and would have to be treated as a non standard exposure and the risk requirement would, according to Rule S1.2.9, be the full market value of the hybrid ETF unless ASX Clear approved otherwise.

In the instance where a Participant buys units in a hybrid ETF and the responsible entity for the hybrid ETF is a *related/associated person* of the Participant, the investment is not considered a *related/associated person balance* and as such is not an *excluded asset* on this basis.

(c) Position Risk Guidance

As hybrid ETFs are considered to be *equity* or *debt instruments* for the purposes of the Risk Based Capital Requirements, principal positions in hybrid ETF units should be treated as follows.

1. There is no difference between the primary market and secondary market for the purposes of calculating position risk amounts.

2. Principal positions in hybrid ETFs commence at T_0 and the underlying risk variable is the market price of the hybrid ETF unit.

3. A hybrid ETF cannot be broken down into any notional positions in the underlying.

4. The *position risk factors* to be applied to hybrid ETFs that are classified as *equities* are:
   Hybrid ETFs issued over *equity* only:

   (a) where all the assets underlying the hybrid ETF are securities in *recognised market index* stocks, 12% (standard method) or 8% for general risk and 4% for specific risk (building block method).

   (b) in all other instances, 16% (standard method) or 8% for general risk and 8% for specific risk (building block method).

   Hybrid ETFs issued over any combination of physical *equity*, *debt instruments* and property:

   (a) in all instances, 16% (standard method) or 8% for general risk and 8% for specific risk (building block method).

The position risk treatment for hybrid ETFs that are classified as *debt instruments* is set out in the guidance for Annexure 3, Part 2, clause 17.

The same liquidity tests will apply to positions in hybrid ETF units as they do to all positions in *equity* securities to determine if they should be treated as *excluded assets*. That is, if the Participant is unlikely to be able to liquidate its position in a hybrid ETF within 31 days, taking into account factors including the size

of its position and the volume of that hybrid ETF traded in the market, it must exclude the market value of that position from **liquid capital**.

(3) Other Managed Funds

(a) Definition

An other managed fund is a fund:

1. that is not listed and quoted on a stock exchange (and in Australia is registered as a managed investment scheme under the Corporations Act 2001); or

2. that is listed and quoted on a stock exchange but does not satisfy all of the requirements of a classical ETF or hybrid ETF.

(b) Classification

ASX Clear recognises that an other managed fund may be issued over **equity** securities, **debt instruments** (for example, a cash management trust), property, a combination of all three of these (i.e. a balanced fund) or even **derivative** contracts. For the purposes of the Risk Based Capital Requirements and for practical reasons, it has been determined that an other managed fund that includes:

1. physical **equities** only, should be classified as an **equity** under part (d) of that defined term,

2. physical **debt instrument**s only, should be classified as a **debt instrument** under part (e) of that defined term,

3. physical **debt instrument**s and property, should be classified as an **equity** under part (d) of that defined term,

4. physical **equities**, physical **debt instrument**s and property should be classified as an **equity** under part (d) of that defined term,

5. physical **equities** and property should be classified as an **equity** under part (d) of that defined term,

6. physical property only should be classified as an **equity** under part (d) of that defined term.

Where an other managed fund includes an immaterial percentage of cash or **derivative**s and those instruments are used only for hedging purposes, the above will apply.

However, if an other managed fund contains a material percentage of assets not specified above, for example the other managed fund invested in **derivative**s only, this would not be covered by the above and would have to be treated as a non standard exposure and the risk requirement would, according to Rule S1.2.9, be the full market value of the other managed fund unless ASX Clear approved otherwise.

In the instance where a Participant buys units in an other managed fund and the responsible entity for the other managed fund is a **related/associated person** of the Participant, the investment is not considered a **related/associated person balance** and as such is not an **excluded asset** on this basis.

If a Participant holds units in a fund that does not satisfy the definition of an other managed fund (e.g. if it is an Australian fund that is not a registered managed investment scheme), ASX Clear considers those units

would normally have to be treated as an **excluded asset** (note, see also the following section for other instances where an other managed fund is required to be treated as an **excluded asset**).

(c)   Position Risk Guidance

As other managed funds are considered to be **equity** or **debt instruments** for the purposes of the Risk Based Capital Requirements, principal positions in other managed funds units should be treated as follows

1.   Principal positions in other managed funds commence at T_0 and the underlying risk variable is the market price of the other managed fund unit.

2.   An other managed fund cannot be broken down into any notional positions in the underlying.

3.   The **position risk factors** to be applied to other managed funds that are classified as equities are:

Other managed funds issued over **equity** only:

(a)   where all the assets underlying the other managed fund are securities in a **recognised market index**, 12% (standard method) or 8% for general risk and 4% for specific risk (building block method).

(b)   in all other instances, 16% (standard method) or 8% for general risk and 8% for specific risk (building block method).

Other managed funds issued over any combination of physical **equity**, **debt instruments** and property:

(a)   in all instances, 16% (standard method) or 8% for general risk and 8% for specific risk (building block method).

The position risk treatment for other managed funds that are classified as **debt instruments** is set out in the guidance for Annexure 3, Part 2, clause 17.

The same liquidity tests will apply to positions in other managed funds units as they do to all positions in **equity** securities to determine if they should be treated as **excluded assets**. That is, if the Participant is unlikely to be able to liquidate its position in an other managed fund within 31 days, taking into account factors including the size of its position relative to the size of the fund, it must exclude the market value of that position from **liquid capital**.

In addition, if a daily price cannot be obtained and/or if the number of units on issue cannot be determined on a daily basis, the fund would have to be treated as an **excluded asset** as it would not be possible to value the investment in accordance with the requirements of Rule S1.2.8. This treatment is consistent with the treatment for all unlisted products within the Risk Based Capital Requirements.

SECTION 3E.II –ANNEXURE 3: PART 2 – DEBT POSITION RISK

(a)   Clause 10 – Debt Position Risk Amount

(i)   Rule

PART 2 - DEBT POSITION RISK

Note: *Part 2 only deals with the calculation of debt position risk amounts under the methods set out within this Part 2 (i.e. all available methods for debt positions other than the internal models approach set out in Part 4).   Participants using a combination of Parts 2 and 4 for debt positions, as per part (c) of the definition of Position Risk Requirement, should note that the contents of Part 2 do not reflect the availability of the internal models approach of Part 4.*

10.   DEBT POSITION RISK AMOUNT

10.1   Nature of debt position risk amount

The debt position risk amount in relation to a Participant's debt positions is the absolute sum of the individual position risk amounts calculated for debt positions for each currency using the methods of calculation set out in this Annexure 3.

10.2   Overview of methods

(a)   The standard method and building block method are the two main methods for measuring the debt position risk amount. They are supplemented by other methods, the use of which largely depends on the Financial Instruments in which principal positions are taken.

(b)   In calculating the debt position risk amount, the following methods must be used:

Nature of Positions	Standard Method	Building Block Method	Contingent Loss Matrix Method	Margin Method	Basic Method
Physical (not debt derivatives)	Yes.	Yes.	Yes, in conjunction with positions in options.	No.	No.
Non-option debt derivative	No.	Yes, if converted to debt equivalent positions.	Yes, in conjunction with positions in options.	Yes, if exchange traded and margined and not calculated under any other method.	No.
Debt Options	No.	Yes, if satisfy relevant criteria and not permitted to use contingent loss matrix method.	Yes. Pricing model must be approved by ASX Clear.	Yes, if exchange traded and margined and not calculated under any other method.	Yes, if not permitted to use contingent loss matrix method.

(ii)   Formula

$$PRA_{debt} = \sum \left| pra_{method} \right|$$

Where:
pra_{method} = the position risk amount calculated under each method in accordance with Part 2 of Annexure 3

(iii)   Guidance

(A)   General

Part 2 of Annexure 3 sets out various methods that Participants may use in calculating position risk amounts with respect to principal positions (i.e. proprietary trading or investment positions) in *debt instruments* and other *financial instruments* that derive their value from the price of *debt instruments* or interest rates (see definition of *debt derivative*). The absolute sum of the position risk amounts calculated for debt based principal positions is a component of the overall *position risk requirement* calculation.

(B)   Methods

While five methods are provided for the calculation of the debt position risk amount, use of three of those methods is generally restricted to specific situations.

Standard Method - Clause 11

The simplest method for calculating the position risk amount on a small portfolio of *debt instruments*. Designed for those Participants with a limited number of investments in *debt instruments* but not *debt derivatives*.

Building Block Method - Clause 12

A more complex method than the standard method, it is designed for Participants that have large portfolios of *debt instruments* and some *debt derivatives*. Conditions apply on its use.

Contingent Loss Matrix Method - Clause 13

A method specifically for the calculation of a position risk amount on *options* and associated hedging positions. Designed to be used by Participants that have substantial *option*s portfolios.

Margin Method - Clause 14

A method specifically for the calculation of a position risk amount on exchange traded *debt derivative*s that are subject to margins (typically *option*s and *futures*). Designed to be used by Participants that have a relatively small number of open positions in exchange traded instruments.

Basic Method - Clause 15

A method specifically for the calculation of a position risk amount on *option*s only. Designed to be used by Participants that have a relatively small number of open *option* positions.

A detailed discussion of each method along with qualifying criteria are presented in the guidance for clauses 11 to 15.

(C)   Position Risk Factors

With the exception of the margin method, all methods refer to the use of **position risk factors** to calculate the position risk amount. These **position risk factors** are located in Annexure 5, Tables 1.2 and 1.3.

The **position risk factors** have been determined after taking into account international and local standards.

(D)   Excluded Assets

(1)   Unlisted Financial Instruments

If a Participant holds an unlisted **financial instrument** as principal, then the Participant needs to determine whether the position can be liquidated within 31 days (that is, whether it should be treated as an **excluded asset**).

(2)   Securities Subject to Trading Halts or Suspension

If a Participant holds a principal position in a listed debt security that is subject to a trading halt, the position does not have to be treated as an **excluded asset** (assuming that the position meets the definition of **liquid**) and a debt position risk amount must be calculated. This treatment applies because trading halts are only placed on securities for two days.

If a Participant holds a long principal position in a listed debt security that is subject to suspension, the position must be treated as an **excluded asset** on the basis that the security is not **liquid**. If a Participant holds a short principal position in a security that is subject to suspension, the Participant must calculate a debt position risk amount on the position. This is due to the fact that the short position is treated as a liability on the balance sheet and as such the concept of an **excluded asset** does not apply to it.

(3)   Liquidity

The guidance provided on **excluded asset**s in the introductory section of this section of the Handbook (i.e. Annexure 3 – Position Risk Requirement) must be considered in assessing whether or not a position can be considered **liquid**.

(E)   Cash Management Trusts

An investment in a cash management trust, even if offered by an **approved deposit taking institution** (or its subsidiary) is not considered to be a deposit with the **approved deposit taking institution** as it is not capital guaranteed and is subject to investment risk. The cash management trust should instead be treated as either a hybrid exchange traded fund (ETF) or other managed fund (assuming that the cash management trust satisfies the definition of either of these instruments – refer to the guidance for Annexure 3, Part 1, clause 9 for definitions). Otherwise, it must be treated as an **excluded asset**.

(F)   Underwriting

If a Participant is **underwriting** an issue of debt securities, a position risk amount is not required to be calculated until the closing date for applications is reached. Any shortfall in applications as at the closing

date must be treated as a principal position by the Participant and a position risk amount will need to be calculated from this time. The "cost" or "subscription" price should be taken as the market value of the securities prior to their issue for the purpose of calculating a position risk amount.

An ***underwriting risk requirement*** has not yet been implemented (refer to the guidance for Annexure 4).

(G) Reporting by Currency

Participants may have principal positions in ***debt instruments*** or ***debt derivatives*** that are denominated in a currency other than Australian Dollars. Where this is the case, in calculating the risk amounts required under the methods of Annexure 3, Part 2, Participants must first calculate the risk amount under each method in the currency of denomination prior to converting to Australian Dollars. This is to facilitate the reporting of a Participant's ***position risk requirement*** by currency of denomination.

(H) Foreign Currency

It is important to note that Participants that have principal positions in ***debt instruments*** and ***debt derivatives*** that are denominated in a currency other than Australian Dollars will generally be required to calculate a position risk amount related to the foreign exchange risk inherent in those positions. Guidance on this is provided in Part 3 of Annexure 3.

The risk amounts calculated and denominated in each currency must be converted to Australian Dollars at the daily ***market spot exchange rate***. This rate is the "closing" rate of exchange (mid rate) between each currency and the Australian dollar and can be sourced from either the daily financial press or from providers of foreign exchange markets information such as Reuters. It is possible that closing rates from alternate sources may differ but this is acceptable. Those organisations that subscribe to market information providers that supply 24 hour market data (ie, the foreign exchange market runs 24 hours and there is no "closing" rate) should establish a procedure whereby the rate is taken at the close of business each day at, for example, 4:00 pm.

(b)   Clause 11 - Standard Method

(i)   Rule

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11.   STANDARD METHOD

11.1   Application

Only physical Debt Instrument positions may be included in the standard method.

11.2   Method

The position risk amount for debt positions to which the standard method is applied is the absolute sum of the product of individual Debt Net Positions at the mark to market value and the applicable Position Risk Factor specified in Table 1.2, Annexure 5.

(ii)   Formula

$$SM\ pra_{debt} = \sum_{ccy=1}^{m} \left[\sum_{i=1}^{n} |\Pi_i| \times \sigma_i \right]_{ccy}$$

Where:

Π_i *= market value of net position in **debt instrument** i*
σ *= **position risk factor***
n   *= the number of individual **debt net position**s*
m   *= the number of currencies in which there are **debt net position**s in the portfolio*
ccy   *= currency*

(iii)   Guidance

(A)   General

The standard method is the simplest method for calculating a position risk amount for principal positions in physical **debt instruments**. It is designed primarily for use by those Participants with principal positions that are limited to positions in a small number of physical **debt instruments**.

(B)   Method

Using the standard method, the debt position risk amount is calculated as the **debt net position** (at market value) multiplied by the standard method **position risk factor** applicable to the **debt instrument** as prescribed in Annexure 5, Table 1.2. The **position risk factor** to be applied will be dependent on whether or not the instrument is a **government debt instrument** or **qualifying debt instrument**. A position risk amount per currency is calculated as the sum of all individual position risk amounts denominated in a particular currency. The total standard method debt position risk amount is then the sum of the converted position risk amounts. All currency position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 10.

It is important to note that, in determining which **position risk factor** to use, the coupon applicable to the **debt net position** will determine the time band and **position risk factor**. The **position risk factors** and time

bands for any **debt instrument** that does not have a coupon (for example, zero coupon bonds and bank bills) will generally be the same as for bonds with a coupon of less than 3% (second column of Annexure 5, Table 1.2). Fixed rate instruments should be allocated to a time band on the basis of the residual term to maturity. Floating rate instruments should be allocated to a time band on the basis of the residual term to the next repricing date.

(1)   Alternative Approach for Bank Bills

An alternative approach is available in limited circumstances for investments in bank bills <u>only</u>. This approach can only be used if the bank bills are held as a "**passive investment**" with the intention that they be held to maturity. In these circumstances, it is considered practical and appropriate to allow the position risk amount to be calculated as the face value of the bills multiplied by the appropriate standard method **position risk factor**, rather than using the mark to market value. If a Participant using this alternative approach is required to calculate a **large exposure risk requirement** for its position in bank bills, it may calculate that requirement using the face value of the bills. However, for the purposes of the financial statements, the bank bills must be valued at cost price plus accrued interest.

While this approach is available, Participants are not obliged to use this. Although this approach has the advantage of simplicity, it does generate a higher risk requirement than if the mark to market value were used. **The approach is not able to be used by Participants that are active traders in bank bills.**

(C)   Debt Net Positions

Guidance on the calculation of the **debt net position** is provided in clause 17. For the purposes of the standard method, the **debt net position** can only contain positions in physical **debt instruments**.

The standard method cannot be applied to positions in **debt derivatives**.

(iv)   Examples

(A)   Example 1 – Standard Method

(1)   Position and Other Details

A Participant holds positions as at 5 June 2004 in the following. **All values are current market values**. The relevant time band for each position has been identified:

1. Long $25 million September 2014 7.25% Commonwealth Government Bond (10 - 15 year band)
2. Short $75 million June 2008 12.5% NSW T-Corp Bond (4 - 5 year band)
3. Short $100 million October 2011 9.0% Commonwealth Government Bond (7 - 10 year band)
4. Long $20 million January 2013 8.8% Westpac Bond (7 - 10 year band)
5. Long $100 million April 2009 10% GMAC Bond (4 - 5 year band)

(2)   Calculation

The calculation of each **debt net position** and position risk amount for each time band follows:

(a) 0 - 1 Month time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount
	No Positions				
	Total 0 - 1 month time band				**0.00**

(b) 1 - 3 Month time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
	No Positions				
	Total 1 - 3 month time band				**0.00**

(c) 3 - 6 Month time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
	No Positions				
	Total 3 - 6 month time band				**0.00**

(d) 6 - 12 Month time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
	No Positions				
	Total 6 - 12 month time band				**0.00**

(e) 1 - 2 Year time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
	No Positions				
	Total 1 - 2 year time band				**0.00**

(f) 2 - 3 Year time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
	No Positions				
	Total 2 -3 year time band				**0.00**

(g)   3 - 4 Year time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
	No Positions				
	Total 3 - 4 year time band				**0.00**

(h)   4 - 5 Year time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
2	Short $75m June 2008 12.5% NSW T-Corp Bonds	Government	2.75	(75)	**2.0625**
5	Long $100m April 2009 10.0% GMAC Bonds	Other	10.75	100	**10.75**
	Total 4 - 5 year time band				**12.8125**

(i)   5 - 7 Year time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
	No Positions				
	Total 5 - 7 year time band				**0.00**

(j)   7 - 10 Year time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
3	Short $100m October 2011 9% Commonwealth Gov't Bonds	Government	3.75	(100)	**3.75**
4	Long $20m Jan 2013 8.8% Westpac Bonds	Qualifying	5.35	20	**1.07**
	Total 7 - 10 year time band				**4.82**

(k)   10 - 15 Year time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
1	Long $25m Sep 2014 7.25% Commonwealth Gov't Bonds	Government	4.5	25	**1.125**
	Total 10 - 15 year time band				**1.125**

(l)   15 - 20 Year time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
	No Positions				
	Total 15 – 20 year time band				**0.00**

(m)   > 20 Year time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount $m
	No Positions				
	Total > 20 year time band				**0.00**

(n)   Summary

Time Band	Position Risk Amount $m
0 - 1 month	0.0000
1 - 3 month	0.0000
3 - 6 month	0.0000
6 - 12 month	0.0000
1 - 2 years	0.0000
2 - 3 years	0.0000
3 - 4 years	0.0000
4 - 5 years	12.8125
5 - 7 years	0.0000
7 - 10 years	4.8200
10 - 15 years	1.1250
15 - 20 years	0.0000
20 + years	0.0000
Total Position Risk Amount	18.7575

(B)   Example 2 – Alternative Approach for Bank Bills

(1)   Position and Other Details

As at 9 November 2004 a Participant holds a "passive investment" in the following bank bills with the intention to hold them to maturity. The relevant time band for each position has been identified:

1.   Long 90 day bank bill issued by ANZ maturing on 15 November 2004 with face value of $2 million and market value of $1.98 million (0 – 1 month band)

2.   Long 90 day bank bill issued by Westpac maturing on 3 January 2005 with face value of $3 million and market value of $2.96 million (1 – 3 month band)

(2)   Calculation

The calculation of each *debt net position* and position risk amount for each time band follows (note: as all of the positions are in the first two time bands, only these are shown):

(a)   0 - 1 Month time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount
1	Long ANZ 90 day bank bill	Qualifying	0.25	2	**0.0050**
	Total 0 - 1 month time band				**0.0050**

(b)   1 - 3 Month time band

Position	Debt Instrument	Security Type	Position risk factor %	Long / (Short) $m	Position Risk Amount
2	Long Westpac 90 day bank bill	Qualifying	0.45	3	**0.0135**
	Total 0 - 1 month time band				**0.0135**

(c)   Summary

Time Band	Position Risk Amount $
0 - 1 month	5,000
1 - 3 month	13,500
3 - 6 month	0
6 - 12 month	0
1 - 2 years	0
2 - 3 years	0
3 - 4 years	0
4 - 5 years	0
5 - 7 years	0
7 - 10 years	0
10 - 15 years	0
15 - 20 years	0
20 + years	0
Total Position Risk Amount	18,500

By way of comparison, if the alternative approach was not used (i.e. the market values were used instead of face values) the total position risk amount would have been $18,270[50].

(c)   Clause 12 - Building Block Method

(i)   Rule

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12.   BUILDING BLOCK METHOD

12.1   Application

(a)   Physical Debt Instrument positions may be included in the building block method.

(b)   Debt Derivative positions other than Options may be included in the building block method if the positions are converted to Debt Equivalents according to clause 16.

(c)   Debt Derivative positions which are Options may be included in the building block method only if they are purchased positions or if they are written positions which are exchange traded and subject to daily margin requirements and the purchased or written positions are:

     (i)   In the Money by at least the relevant standard method Position Risk Factor for the underlying position specified in Table 1.2, Annexure 5; and

     (ii)   converted to Debt Equivalents according to clause 16.

If the above criteria are not met, the Options must be treated under one of the option methods referred to in clauses 13, 14 and 15.

12.2   Method

(a)   The position risk amount for debt positions to which the building block method is applied is the aggregate of a specific risk and a general risk amount for the Debt Net Position at the mark to market value.

(b)   The specific risk amount is calculated as the aggregate of each Debt Net Position, multiplied by the relevant specific risk Position Risk Factor specified in Table 1.3, Annexure 5. The aggregate is calculated by reference to the absolute value of each Debt Net Position.

(c)   The general risk amount is calculated in accordance with:

     (i)   the maturity method under clause 12.3; or

     (ii)   the duration method under clause 12.4.

The absolute value of this aggregate number is the general risk amount.

12.3   General risk amount - maturity method

(a)   To calculate the general risk amount based on the maturity method:

     (i)   allocate each Debt Net Position to the appropriate time band specified in Table 1.2, Annexure 5. Fixed rate instruments should be allocated according to the residual term to maturity and floating rate instruments according to the residual term to the next repricing date;

     (ii)   aggregate the total long and total short Debt Net Positions in each time band;

(iii) calculate a risk weighted long and short position by multiplying the gross long and gross short position in each time band by the relevant general risk Position Risk Factor for that band as specified in Table 1.2, Annexure 5. The sum of these, taking into account the sign, is the net position amount (NPA);

(iv) in each time band, multiply the lesser of the risk weighted long and short positions as calculated in clause 12.3(a)(iii) by the relevant time band matching factor (TBMF) as specified in Table 1.4, Annexure 5. The absolute sum of these is the time band amount (TBA);

(v) net the risk weighted long and short positions within each time band so that each time band has either a net long position or a net short position. Within each zone, as defined in Table 1.2, Annexure 5, aggregate the net long time band positions and the net short time band positions. Multiply the lesser of the resulting two totals in each of the zones by the relevant zone matching factor (ZMF) as specified in Table 1.4, Annexure 5. The absolute sum of these is the zone amount (ZA);

(vi) net the aggregate risk weighted long and short positions in each time zone as calculated in clause 12.3(a)(v). To the extent that an offset can be made between adjacent zones, multiply the lesser of the values by the adjacent zone matching factor (AZMF) as specified in Table 1.4, Annexure 5. The absolute sum of these is the adjacent zone amount (AZA);

(vii) to the extent that an offset can be made between non-adjacent zones, multiply the lesser of the non-adjacent zone risk weighted Debt Net Positions by the non-adjacent zone matching factor (NAZMF) as specified in Table 1.4, Annexure 5. This is the non-adjacent zone amount (NAZA);

(viii) any residual position remaining following the calculation in clause 12.3(a)(vi) can be used to reduce the non-adjacent zone Debt Net Positions in clause 12.3(a)(vii).

(b) The overall general risk amount under the maturity method is then the absolute sum of the individual steps as follows:

(i) the net position amount (NPA);

(ii) the time band amount (TBA);

(iii) the zone amount (ZA);

(iv) the adjacent zone amount (AZA); and

(v) the non-adjacent zone amount (NAZA).

12.4   General risk amount - duration method

(a) The calculation of the general risk amount under the duration method is identical to that for the maturity method except that:

(i) instead of calculating positions under clause 12.3(a)(iii), calculate the duration weight of each position by multiplying the market value of each position by the modified duration of the position and by the assumed yield change for the appropriate time band specified in Table 1.2, Annexure 5 (the duration method building block method general risk Position Risk Factor);

| (ii) | any reference in clause 12.3(a) to Table 1.4, Annexure 5 is to the relevant timeband matching factor (TBMF) for the duration method; and |
| (iii) | ASX Clear must first approve a Participant's use of this method. |

(ii) Formula

(A) General

$$BBM \ \ pra_{debt} \ = \ \sum_{ccy=1}^{m} \left[\left[\sum_{i=1}^{n} \left(|\alpha_i| \times {}_S\sigma_i \right) \right] + \left| GR_{method} \right| \right]_{ccy}$$

Where:

n   *= number of individual **debt net position**s*
m   *= number of currencies in which there are **debt net position**s in the portfolio*
ccy   *= currency*
α_i *= market value of **debt net position** in instrument i*
${}_S\sigma_i$ *= specific risk **position risk factor** applicable to the **debt net position** i*
GR_{method} *= general risk amount according to maturity method or duration method*

(B) General Risk Amount - Maturity Method

$$GR_{method} \ = \ NPA + TBA + ZA + AZA + NAZA$$

Where:

$$NPA = \left| \sum_{t=1}^{n} (\alpha \times \sigma)_t \right|$$

$$TBA = \sum_{t=1}^{n} \left| \min \left(\{\alpha \times \sigma\}_l \ , \ \{\alpha \times \sigma\}_s \right)_t \times \sigma_{TBMF} \right|$$

$$ZA = \sum_{j=1}^{m} \min \left(A \ , \ B \right)_j \times \sigma_{ZMF}$$

$$AZA = \sum_{k=1}^{P} \min \left(AB_j \ , \ AB_j \right)_k \times \sigma_{AZMF}$$

$$NAZA = \min \left(AB_j \ , \ AB_j \right)_z \times \sigma_{NAZMF}$$

Where:

n   *= the number of time bands*
m   *= the number of zones*
P   *= the number of adjacent zones*
l   *= long*
s   *= short*
j   *= zone j*
k   *= adjacent zone k*
z   *= non adjacent zone*
α *= aggregate of long net position and/or aggregate of short net position in time band t*
A   *= aggregate time band risk weighted long position*
B   *= aggregate time band risk weighted short position*
AB_j *= net position amount in zone j*
σ *= general risk **position risk factor** for the relevant time band*
t   *= time band*
method *= either the maturity method or the duration method*

(C) General Risk Amount - Duration Method

The formula for the duration method is identical to that for the maturity method except:

(i) *references specific to maturity method **position risk factor**s should be read as duration method **position risk factor**s; and*

(ii) *the formula for clause 12.4(a)(i) (i.e. the NPA), is:*

$$NPA = \sum_{i=1}^{n} \left(P_m D^{'} \Delta \right)_i$$

$$D^{'} = \frac{\dfrac{\sum_{j=1}^{m} t_j Pv_j}{P_m}}{1 + r}$$

Where:

P_m = market price of debt position i
Δ = assumed change in yield for debt position i
D' = modified duration of debt position i
m = number of cash flows j per debt position i
Pv_j = present value of cash flow j
r = current market yield
t_j = time of cash flow j
n = number of debt positions

(iii) Guidance

(A) General

The building block method is designed to be used by Participants that have a relatively significant portfolio of debt based principal positions. Under the building block method, the position risk amount is calculated as the sum of two components. The first is the specific risk component and the second is the general risk component. There are two general risk methods a Participant can use. For those organisations who have the systems in place to calculate the duration of **debt instruments**, the duration method may be used following approval from ASX Clear. Otherwise, a Participant will be required to use the maturity method. The basic principle behind the general risk methods is to calculate a position risk amount that recognises both offsets for opposite positions in like instruments and basis and gap risk between positions in different instruments and over different maturities.

(B) Method

Under the building block approach, the debt position risk amount is the sum of a specific risk amount and a general risk amount. The general risk amount can be calculated under one of two different methods: the maturity method or the duration method.

(1)   Specific Risk

Specific risk measures the market risk on the position associated with factors that are specific to the issuer of the underlying *debt instrument* and that are unlikely to impact the general market. The specific risk position risk amount is calculated as the market value of the *debt net position* multiplied by the building block method specific risk *position risk factor* applicable to the *debt instrument* as prescribed in Annexure 5, Table 1.3. Care must be taken in identifying the issuer of the particular instrument underlying the *debt net position* to ensure that the appropriate specific risk *position risk factor* is applied.

Generally, all instruments that have a specific underlying issuer are subject to a specific risk amount. For example, fixed interest bonds issued by a borrowing authority, financial institution, a corporate and some governments are subject to a specific risk amount as the value of those *debt instruments* (and any *derivative*, the price of which is based on or influenced by the value of those bonds) are exposed to factors and events that affect the entity that issued the bonds. An example of another debt based instrument that is subject to a specific risk amount is bank accepted bills or other discount instruments that are accepted by a particular entity.

For *future*s or forwards which comprise a range of deliverable instruments with different issuers, a specific risk amount is only required to be calculated on long positions in the *future*s or forward contract. This is because the holder of a short position can select the most favourable security to deliver and thereby avoid issuer specific risk. The holder of a long position is unable to dictate which security it will receive and therefore remains exposed to issuer specific risk.

~~*Future*s on 90 day bank bills (BAB's) (contract traded on ASX 24) is an exception to this rule. The BAB's contract can be deliverable in which case the holder of the *futures* contract may deliver the contract quantity of bank bills accepted by one of the approved banks as specified by ASX Clear (Futures) (currently National Australia Bank, Commonwealth Bank, ANZ or Westpac). Ordinarily, this would require a specific risk amount for long positions in the BAB *future*s contract. However, in line with the treatment set out in the Australian Prudential Regulation Authority's market risk capital adequacy guidelines for ADIs, no specific risk amount needs to be calculated on long positions in the BAB *futures* contract.~~

Examples of *debt instruments* that are not subject to a specific risk amount include interest rate *swaps* (other than asset *swaps*), *forward rate agreements* and *option*s over an interest reference rate (as opposed to an *option* over a bond). There is also no specific risk amount for *debt instruments* issued by some governments. (Participants should refer to the definition of *government debt instrument* to determine the extent of this concession.)

Qualifying debt instruments are subject to a specific risk amount. Reference should be made to the definition of *qualifying debt instruments* to identify the issuers that fall within this definition. Those issuers not covered in the definitions of *government debt instrument* or *qualifying debt instrument* are subject to the "Other" specific risk *position risk factor* as prescribed in Annexure 5, Table 1.3.

The specific risk position risk amounts calculated for each *debt net position* should be aggregated by currency. There is no offsetting allowed between individual *debt net position*s. All currency specific risk position risk amounts are to be converted to Australian Dollars in accordance with the guidance given for Annexure 3, clause 10. The total specific risk position risk amount will be the aggregate of the converted currency specific risk position risk amounts.

(2)   General Risk

General risk measures the market risk on the position associated with the general volatility in interest rates. There are two methods available for calculating the general risk amount: the maturity method and the

duration method. There are conditions on the use of the duration method and these are discussed below. Under both methods, **debt net positions** are allocated into time bands as prescribed in Annexure 5, Table 1.2. The position risk amount is the sum of a series of calculations that measure price risk, basis risk and gap risk on the positions by offsetting between the time bands. The process is explained in more detail below.

(a)   Maturity Method

A 7 step process can be used to calculate the general risk position risk amount under the maturity method.

Step 1
For all **debt instruments** and **debt derivatives**, calculate the market value of **debt net positions** in accordance with clauses 16 and 17. Allocate each **debt net position**, which can be either a net long position or a net short position, to a time band as prescribed in Annexure 5, Table 1.2. Fixed rate instruments should be allocated to a time band according to the residual term to maturity whereas floating rate instruments should be allocated to a time band according to the residual term to the next repricing date. It is important to note that the time band varies depending on the coupon associated with individual instruments that are included in the **debt net position**. The time band for an instrument that does not have a coupon (for example, zero coupon bonds and bank bills) will generally be the same as for bonds with a coupon of less than 3% (second column of Annexure 5, Table 1.2). In each time band, the sign of the **debt net position** should be preserved so that, for each time band there is an overall total <u>long</u> **debt net position** and an overall total <u>short</u> **debt net position**.

Step 2
Calculate the net position amount (NPA). Multiply each long **debt net position** and short **debt net position** in each time band by the corresponding building block method - maturity method - **position risk factor** as prescribed in Annexure 5, Table 1.2. This will result in a "weighted" long **debt net position** and a "weighted" short **debt net position** in each time band. The absolute value of the net of the weighted long and short **debt net positions**, taking into account the signs, is the NPA. This amount is a measure of the price sensitivity of the **debt net positions** to assumed changes in interest rates.

Step 3
Calculate the time band amount (TBA). For each time band that has a long **debt net position** and a short **debt net position**, offset one against the other to produce a net position per time band. The amount that has been offset (i.e. the smaller of the long or the short position in absolute terms) is the amount that has been matched. Multiply the absolute value of the matched amount by the time band matching factor (TBMF) as prescribed in Annexure 5, Table 1.4 to produce a time band amount for each time band. The sum of these amounts is the TBA. This amount is a measure of the basis and gap risk inherent in the **debt net positions** in each time band that results from different instruments with different maturities being netted.

Note, in time bands where there is only one weighted **debt net position** (i.e. either a long or a short), there will be no TBA and the net time band position will equal the weighted **debt net position** in the time band, either long or short.

Step 4
Calculate the zone amount (ZA). Within each zone, sum all the long net time band positions. Sum all the short net time band positions. Multiply the lesser of the absolute value of the two sums by the zone matching factor (ZMF) from Annexure 5, Table 1.4 corresponding to each zone. The lesser amount is the matched amount. The net of the long and the short net time band positions in each zone is the unmatched

amount. Note, in zones where there are only net time band positions that are long or net time band positions that are short (i.e. the lesser of the two is zero), there will be no zone amount. There should be one zone amount per zone (but this could be zero as explained above). The sum of these amounts across zones is the ZA.

Step 5

Once *step 1* to *step 4* has been completed for all zones, calculate the adjacent zone amount (AZA) between zones 1 and 2 and between zones 2 and 3. If, after completion of *step 1* to *step 4*, there exists a long net position amount and a short net position amount in zones 1 and 2 and zones 2 and 3, it is necessary to calculate an adjacent zone amount. This will, for each adjacent zone, be the lesser of the absolute value of the net position amounts in each adjacent zone multiplied by the adjacent zone matching factor (AZMF) as prescribed in Annexure 5, Table 1.4. The net of the net position amounts in adjacent zones is the unmatched net position amount which must be allocated to one of the adjacent zones. That is, if the lower net position amount is a long net position amount in zone 1 (and therefore, zone 2 has a higher short net position amount), the unmatched amount will be short and will be allocated to zone 2.

This process is repeated for adjacent zones 2 and 3. However, the net position amount matched will be the unmatched amount from zones 1 and 2. That is, in the above example, there was a short unmatched position remaining in zone 2. If zone 3 was a long net position amount, there would be a zone 2 and 3 adjacent zone requirement equal to the absolute value of the lower of the net position amounts in zone 2 (i.e. the unmatched amount from zones 1 and 2) and zone 3 multiplied by the AZMF. If, however, after zone 1 and 2 matching, zone 2 contained an unmatched long net position amount, or the unmatched position was allocated to zone 1 (and thus zone 2 contained zero) no matching between zones 2 and 3 could be performed. The total AZA is the sum of the AZA's from zones 1 and 2 and zones 2 and 3.

Note, the order of the matching may make a difference to the total of the AZA and Participants can choose which adjacent zones to match first.

Step 6

Calculate the non adjacent zone amount (NAZA). If, following *step 5*, a long and a short unmatched net position amount exists in zone 1 and zone 3, a non adjacent zone amount must be calculated as the lesser of the absolute value of the two net position amounts multiplied by the non adjacent zone matching factor (NAZMF) prescribed in Annexure 5, Table 1.4. If the non adjacent zones are the same sign or one of them is zero, there will be no NAZA.

Step 7

Calculate the overall general risk amount. The overall general risk amount is the sum of the risk amounts calculated in *step 2* to *step 6*.

The above steps are not mandatory. An alternate procedure can be followed as long as the same results are achieved.

All currency general risk position risk amounts calculated under the maturity method are to be converted to Australian Dollars in accordance with the guidance given for Annexure 3, clause 10. The total general risk position risk amount will be the aggregate of the converted currency general risk position risk amounts.

(b)   Duration Method

Duration is the average time of payment of cash flows that arise from a **debt instrument**. Modified duration, which is duration discounted by one time period, measures the sensitivity of a debt position to changes in interest rates and is the basis for measuring the general risk amount under this duration

method. The formula for modified duration is provided in the formula section above. If a particular **debt instrument** has a coupon that is identical to the discount rate, the annuity factor of the instrument is an accurate proxy for the full duration calculation. Note, the modified duration of a zero coupon instrument or an instrument that is priced on a discount basis and does not involve any intermediate cash flows is the full term to maturity of the instrument.

The 7 step process used to calculate the general risk amount under the maturity method can be used for calculating the general risk amount under the duration method. There are a couple of differences between the two processes, predominantly in *step 1* and *step 2* and in the time bands and **position risk factor**s used.

Step 1
Calculate the weighted **debt net position**. For all **debt instruments** and **debt derivatives**, calculate the modified duration of each debt **financial instrument** and **debt derivative**, and multiply this by the current market price or value of the instrument and by the **position risk factor** associated with the duration of the instrument (that is, the assumed change in yield as per Annexure 5, Table 1.2 (last column) corresponding to the duration of the instrument (second column)). Allocate the results of these calculations, which can be either a long position or a short position, to a duration time band as prescribed in Annexure 5, Table 1.2 (column 2). In each time band, the sign of the instrument should be preserved so that, for each time band there is an overall total weighted <u>long</u> position and an overall total weighted <u>short</u> position.

Step 2
Calculate the net position amount (NPA). The sum of the calculations performed in *step 1* (by time band) will result in a "weighted" long **debt net position** and a "weighted" short **debt net position** in each time band. The absolute value of the net of the weighted long and short **debt net positions**, taking into account the signs, is the NPA. This amount is a measure of the price sensitivity of the instruments to assumed changes in interest rates (yields).

Step 3
Calculate the time band amount (TBA). For each time band that has a long **debt net position** and a short **debt net position**, offset one against the other to produce a net position per time band. The amount that has been offset (i.e. the smaller of the long or the short position in absolute terms) is the amount that has been matched. Multiply the absolute value of the matched amount by the time band matching factor (TBMF) as prescribed in Annexure 5, Table 1.4 to produce a time band amount for each time band. The sum of these amounts is the TBA. This amount is a measure of the basis and gap risk inherent in the **debt net position**s in each time band that results from different instruments with different maturities being netted.

Note, in time bands where there is only one weighted **debt net position** (i.e. either a long or a short), there will be no TBA and the net time band position will equal the weighted **debt net position** in the time band, either long or short.

Step 4
Calculate the zone amount (ZA). Within each zone, sum all the long net time band positions. Sum all the short net time band positions. Multiply the lesser of the absolute value of the two sums by the zone matching factor (ZMF) from Annexure 5, Table 1.4 corresponding to each zone. The lesser amount is the matched amount. The net of the long and the short net time band positions in each zone is the unmatched amount. Note, in zones where there are only net time band positions that are long or net time band positions that are short (i.e. the lesser of the two is zero), there will be no zone amount. There should be one zone amount per zone (but this could be zero as explained above). The sum of these amounts across zones is the ZA.

Step 5
Once *step 1* to *step 4* has been completed for all zones, calculate the adjacent zone amount (AZA) between zones 1 and 2 and between zones 2 and 3. If, after completion of *step 1* to *step 4*, there exists a long net position amount and a short net position amount in zones 1 and 2 and zones 2 and 3, it is necessary to calculate an adjacent zone amount. This will, for each adjacent zone, be the lesser of the absolute value of the net position amounts in each adjacent zone multiplied by the adjacent zone matching factor (AZMF) as prescribed in Annexure 5, Table 1.4. The net of the net position amounts in adjacent zones is the unmatched net position amount which must be allocated to one of the adjacent zones. That is, if the lower net position amount is a long net position amount in zone 1 (and therefore, zone 2 has a higher short net position amount), the unmatched amount will be short and will be allocated to zone 2.

This process is repeated for adjacent zones 2 and 3. However, the net position amount matched will be the unmatched amount from zones 1 and 2. That is, in the above example, there was a short unmatched position remaining in zone 2. If zone 3 was a long net position amount, there would be a zone 2 and 3 adjacent zone requirement equal to the absolute value of the lower of the net position amounts in zone 2 (ie, the unmatched amount from zones 1 and 2) and zone 3 multiplied by the AZMF. If, however, after zone 1 and 2 matching, zone 2 contained an unmatched long net position amount, or the unmatched position was allocated to zone 1 (and thus zone 2 contained zero) no matching between zones 2 and 3 could be performed. The total AZA is the sum of the AZA's from zones 1 and 2 and zones 2 and 3.

Note, the order of the matching may make a difference to the total of the AZA and Participants can choose which adjacent zones to match first.

Step 6
Calculate the non adjacent zone amount (NAZA). If, following *step 5*, a long and a short unmatched net position amount exists in zone 1 and zone 3, a non adjacent zone amount must be calculated as the lesser of the absolute value of the two net position amounts multiplied by the non adjacent zone matching factor (NAZMF) prescribed in Annexure 5, Table 1.4. If the non adjacent zones are the same sign or one of them is zero, there will be no non adjacent zone amount.

Step 7
Calculate the overall general risk amount. The overall general risk amount is the sum of the risk amounts calculated in *step 2* to *step 6*.

The above steps are not mandatory. An alternate procedure can be followed as long as the same results are achieved.

All currency general risk position risk amounts calculated under the duration method are to be converted to Australian Dollars in accordance with the guidance given for Annexure 3, clause 10. The total general risk position risk amount will be the aggregate of the converted currency general risk position risk amounts.

(3)   Total Position Risk Amount

The total building block method position risk amount for each currency is the sum of the total specific risk amount and the total general risk amount (calculated under either the maturity method or the duration method) as calculated above for each currency.

The overall total position risk amount will be the aggregate of the total position risk amounts for each currency. All currency total position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 10.

(C)   Debt Net Positions

Guidance on the calculation of the **debt net position** is provided in clause 17. For the purposes of the building block method, positions in **debt derivatives** may be incorporated into the **debt net position** only under certain circumstances.

1.   Non-**option debt derivatives** must be converted to **debt equivalents** to be incorporated into a **debt net position**. Guidelines for converting **debt derivatives** into **debt equivalents** is provided in clause 16.

2.   Positions in **option**s that are based on the price(s) of **debt instruments** or interest rates may be included in the **debt net position** but only if:

(a)   they are purchased **option**s (OTC or ETO calls or puts); or

(b)   they are written ETOs that are subject to daily margin requirements from the relevant exchange; and

(c)   they are **in the money** by the relevant standard method **position risk factor**; and

(d)   they are converted to **debt equivalents**.

With respect to point 2(c), an **option** can only be included in the **debt net position** if it has a positive intrinsic value and that intrinsic value, as a percentage of the strike price of the **option**, is greater than or equal to the **position risk factor** applicable to the **debt instrument** or interest rate underlying the **option**. See the guidance for the definition of **in the money** in Section 3, Tab A of this Handbook.

It is important to note that the definition of **in the money** does not change relative to the **option** being bought or written. That is, **in the money** simply means that the market price of the underlying exceeds the strike price of the **option** for a call, and that the strike price of the **option** exceeds the market price of the underlying for a put. Therefore, for example, the writer of an **in the money** call is in fact carrying a position that is, for the writer, generating an unrealised loss.

With respect to point 2(d), positions in **option**s that satisfy points 2(a) to 2(c) must be converted to **debt equivalents** for the purposes of including them in the **debt net position**. Guidelines for converting **option** positions into **debt equivalents** is provided in clause 16.

If a Participant has an **option** position that does not satisfy the above criteria it must calculate a position risk amount on that position using one of the other alternate methods. It should be noted that some **option** positions can only be taken where the Participant has sophisticated systems in place to enable it to monitor the risks on those positions.

(iv)   Examples

(A)   Position and Other Details

A Participant holds positions as at 5 June 2004 in the following (positions have been converted to **debt equivalent** positions, are stated at market values, and the time bands have been identified):

1.   Long $25 million September 2014 7.25% Commonwealth Government Bond (10 - 15 year band)

2.   Short $75 million June 2008 12.5% NSW T-Corp Bond (4 - 5 year band)

3. Short $100 million October 2011 9.0% Commonwealth Government Bond (7 - 10 year band)

4. Long $20 million January 2013 8.8% Westpac Bond (7 - 10 year band)

5. Long $100 million April 2009 10% GMAC Bond (4 - 5 year band)

6. Long 20 June 2006 90 day bank bill *futures* contracts (ASX 24)

   (a) Long 20 x $1m = $20m over 2 years plus three months (1.9 – 2.8 year band)

   (b) Short 20 x $1m = $20m over (just over) 2 years (1.9 – 2.8 year band)

   (c) Note that the time bands in column 2 of Annexure 5, Table 1.2 are used.

7. Short 100 December 2005 90 day bank bill *futures* contracts (ASX 24)

   (a) Short 100 x $1m = $100m over 18 months plus three months (1 – 1.9 year band)

   (b) Long 100 x $1m = $100m over 18 months (1 – 1.9 year band)

   (c) Note that the time bands in column 2 of Annexure 5, Table 1.2 are used.

8. Long 300 September 2004 10 year bond *futures* contracts (ASX 24)

   (a) Long 300 x $100k = $30m over 3 months plus 10 years (10 - 15 year band)

   (b) Short 300 x $100k = $30m over 3 months (3 - 6 month band)

9. Long 500 June 2004 3 year bond *futures* contracts (ASX 24)

   (a) Long 500 x $100k = $50m over 10 days plus 3 years (3 - 4 year band)

   (b) Short 500 x $100k = $50m over 10 days (0 - 1 month band)

10. $200m payer *swap* - 7% semi annual fixed / BBSW + 20 bp quarterly (next reset date is 9 September 2004) maturing 9 September 2007

    (a) Short $200m over 3 years and 3 months (3 - 4 year band)

    (b) Long $200m over (just over) 3 months (3 - 6 month band)

    (c) Note that the time bands in column 2 of Annexure 5, Table 1.2 are used for the floating leg.

11. $100m receiver *swap* - 9% annual fixed / BBSW quarterly maturing 9 December 2012

    (a) Long $100m over 8 years and 6 months (7 - 10 year band)

    (b) Short $100m over (just over) 3 months (3 - 6 month band)

    (c)   Note that the time bands in column 2 of Annexure 5, Table 1.2 are used for the floating leg.

12.   Long OTC interest rate call **option** expiring 13 November 2005 at strike of (bills) 6.11% (current 90 day bill rate is 6.3%), **debt equivalent** amount is $10m.

    (a)   **in the money** = 6.3% - 6.11% = 0.19% divided by **option** strike of 6.11% = 3.11%

    (b)   Standard method **position risk factor** for a 1 - 3 month position (Qualifying Security) = 0.45%, therefore, can use the building block method

    (c)   Long $10m over 1 year and 8 months (1 – 1.9 year band)

    (d)   Note that the time bands in column 2 of Annexure 5, Table 1.2 are used.

13.   Short OTC interest rate put **option** on face value $20m expiring 16 February 2005 at strike of (BBSW) 7.3% (current BBSW 8.9%)

    (a)   position risk amount on written OTC **option**s cannot be calculated using the building block method.

14.   Long 15 September 2004 94.50 call **option**s on December 2005 bank bill **futures** (current market is 95.75)

    (a)   **in the money** = 95.75 - 94.50 = 1.25 divided by **option** strike of 5.50 (100 - 94.50) = 22.72%

    (b)   standard method **position risk factor** for a 3 month Qualifying Security is 0.45% and therefore can use the building block method

    (c)   Long 15 x $1m = $15m over 3 months plus 1 year and 3 months plus 3 months (1 - 1.9 year band)

    (d)   Short 15 x $1m = $15m over 3 months plus 1 year and 3 months (1 – 1.9 year band)

    (e)   Note that the time bands in column 2 of Annexure 5, Table 1.2 are used

15.   Short 20 September 2004 95.25 put **option**s on December 2004 3 year bond **futures** (current market is 95.09)

    (a)   **in the money** = 95.25 - 95.09 = 0.16 divided by **option** strike of 4.75 (100 - 95.25) = 3.36%

    (b)   standard method **position risk factor** for a 3 year Government Security is 1.75% and therefore can use the building block method

    (c)   Long 20 x $100k = $2m over 3 months plus 3 months plus 3 years (3 - 4 year band)

    (d)   Short 20 x $100k = $2m over 3 months plus 3 months (6 - 12 month band)

(B)   Calculation

(1)   Maturity Method

(a)   Specific Risk

Position	Debt Instrument	Type	Specific Risk Factor %	Position A$m	Specific Risk A$m
1	Long $25m Sep 2014 7.25% Commonwealth Gov't Bonds	Gov't	0	25	0
2	Short $75m June 2008 12.5% NSW T-Corp Bonds	Gov't	0	75	0
3	Short $100m October 2011 9% Commonwealth Gov't Bonds	Gov't	0	100	0
4	Long $20m Jan 2013 8.8% Westpac Bonds	Qualifying	1.6	20	0.32
5	Long $100m April 2009 10.0% GMAC Bonds	Other	8.0	100	8.00
6	Long 20 June 2006 90 day bank bill *futures*	n/a	0	20	0
7	Short 100 Dec 2005 90 day bank bill *futures*	n/a	0	100	0
8	Long 300 Sep 2004 10 year bond *futures*	n/a	0	30	0
9	Long 500 June 2004 3 year bond *futures*	n/a	0	50	0
10	$200m 9 September 2007 payer *swap*	n/a	0	200	0
11	$100m 9 December 2012 receiver *swap*	n/a	0	100	0
12	Long OTC Nov 2005 6.11% call on $10m	n/a	0	10	0
13	Short OTC Feb 2005 7.3% put on $20m	Does Not Qualify for Building Block Method			
14	Long 15 Sep 2004 calls on Dec 2005 90 day bank bill *futures*	n/a	0	15	0
15	Short 20 Sep 04 puts on Dec 04 3 year bond *futures*	n/a	0	2	0
	Total Specific Risk				8.32

Note, position 13 does not qualify for inclusion in the building block method as it is a written OTC *option*. This example assumes that a debt position risk amount has been calculated on it separately using either the contingent loss matrix method or the basic method[51].

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[51] In practice, if the Participant had written OTC *option*s, the position risk amount on more than just the OTC *option* would be calculated using the contingent loss matrix method.

(b)   General Risk

(i)   Zone 1

Position	Debt Instrument	Position - $m							
		0 – 1 month		> 1 – 3 months		> 3 – 6 months		> 6 – 12 months	
		0 – 1 month		> 1 – 3 months		> 3 – 6 months		> 6 – 12 months	
		Long	Short	Long	Short	Long	Short	Long	Short
8(b)	Long 300 Sep 2004 10 year bond *futures*						30		
9(b)	Long 500 June 2004 3 year bond *futures*		50						
10(b)	$200m 9 September 2007 payer *swap*					200			
11(b)	$100m 9 December 2012 receiver *swap*						100		
15(b)	Short 20 Sep 04 puts on Dec 04 3 year bond *futures*								2
	Total *debt net position*		50			200	130	0	2
	position risk factor	0%		0.2%		0.4%		0.7%	
	weighted *debt net position*	0	0			0.8	0.52	0	0.014
	time band *debt net position*	0		0		0.28		(0.014)	
	Net Position Amount (NPA)	**0.266**							
	Time Band Amount : Matched @ 10% (TBMF)	0		0		0.052		0	
	(TBA) Sum of TBA	**0.052**							
	Unmatched: Net Time Band Position	0		0		0.28		(0.014)	

Zone Amount (ZA)					
	Long *debt net position*	0.28			
	Short *debt net position*	0.014			
	Unmatched	0.266			
	Matched	0.014	Zone 1 Matching Factor	40%	**ZA 0.0056**

(ii)   Zone 2

Position	Debt Instrument	Position - $m					
		> 1 - 2 Years		> 2 - 3 Years		> 3 - 4 Years	
		> 1 – 1.9 Years		> 1.9 – 2.8 Years		> 2.8 – 3.6 Years	
		Long	Short	Long	Short	Long	Short
6	Long 20 June 2006 90 Day bank bill *futures*			20	20		
7	Short 100 Dec 2005 90 day bank bill *futures*	100	100				
9(a)	Long 500 June 2004 3 year bond *futures*					50	
10(a)	$200m 9 September 2007 payer *swap*						200
12	Long OTC Nov 2005 6.11% call on $10m	10					
14	Long 15 Sep 2004 calls on Dec 2005 90 day bank bill *futures*	15	15				
15(a)	Short 20 Sep 04 puts on Dec 04 3 year bond *futures*					2	
	Total *debt net position*	125	115	20	20	52	200
	position risk factor	1.25%		1.75%		2.25%	
	weighted *debt net position*	1.5625	1.4375	0.35	0.35	1.17	4.5
	time band *debt net position*	0.125		0		(3.33)	
	Net Position Amount (NPA)	**(3.205)**					
	Time Band Amount : Matched @ 10% (TBMF) (TBA) Sum of TBA	0.14375		0.035		0.117	
		0.29575					
	Unmatched: Net Time Band Position	0.125		0		(3.33)	

	Zone Amount (ZA)	Long *debt net position*	0.125				
		Short *debt net position*	3.33				
		Unmatched	(3.205)				
		Matched	0.125	Zone 2 Matching Factor	30%	**ZA 0.0375**	

(iii)   Zone 3

Position	Debt Instrument	Position - $m											
		> 4 – 5 Years		> 5 –7 Years		> 7 – 10 Years		> 10 –15 Years		> 15 –20 Years		> 20+ Years	
		> 3.6 – 4.3 Years		> 4.3 – 5.7 Years		> 5.7 – 7.3 Years		> 7.3 –9.3 Years		> 9.3 –10.6 Years		> 10.6 – 12 Years	
		Long	Short	Long	Short	Long	Short	Long	Short	Long	Short	Long	Short
1	Long $25m Sep 2014 7.25% Commonwealth Gov't Bonds							25					
2	Short $75m June 2008 12.5% NSW T-Corp Bonds		75										
3	Short $100m October 2011 9% Commonwealth Gov't Bonds						100						
4	Long $20m Jan 2013 8.8% Westpac Bonds					20							
5	Long $100m April 2009 10.0% GMAC Bonds	100											
8(a)	Long 300 Sep 2004 10 year bond *future*s							30					
11(a)	$100m 9 December 2012 receiver *swap*					100							
	Total *debt net position*	100	75	0	0	120	100	55	0	0	0	0	0
	position risk factor	2.75%		3.25%		3.75%		4.5%		5.25%		6%	
	weighted *debt net position*	2.75	2.0625	0	0	4.5	3.75	2.475	0	0	0	0	0
	time band *debt net position*	0.6875		0		0.75		2.475		0		0	
	Net Position Amount (NPA)	**3.9125**											
	Time Band Amount (TBA) : Matched @ 10% (TBMF)	0.20625		0		0.375		0		0		0	
	Sum of TBA	**0.58125**											
	Unmatched: Net Time Band Position	0.6875		0		0.75		2.475		0		0	

	Zone Amount (ZA)				
		Long *debt net position*	3.9125		
		Short *debt net position*	0		
		Unmatched	3.9125		
		Matched	0	Zone 3 Matching Factor	30%	**ZA 0**

Note: there are no positions with coupon of <3% and time band of ">12-20 Years" and "20+ Years", therefore these time bands are not shown in this table.

(c) **Zone Matching**

		Zone 1	Zone 2	Zone 3
Net Position Amount (NPA)		0.266	(3.205)	3.9125
Adjacent Zone Amounts (AZA) @ 40% (step 5)	b/w Z1 and Z2	0.266 @ 40%	**0.1064**	
	Unmatched	0	(2.939)	
	b/w Z2 and Z3		2.939 @ 40%	**1.1756**
	Unmatched		0	0.9735
Net Position Amounts after AZA Offsets		0	0	0.9735
Non Adjacent Zone Amount (NAZA) @ 100% (step 6)	b/w Z1 and Z3	**0 is matched**		

Note: At the option of the Participant, offsetting between adjacent zones (ie, Zones 1 & 2 and Zones 2 & 3) can be done in reverse order (ie, Zones 2 & 3 before Zones 1 & 2).

(d) **Summary**

	Position Risk Amount A$ million
Net Position Amount	
Zone 1	0.26600
Zone 2	(3.20500)
Zone 3	3.91250
Sub Total - Net Position Amount (NPA)	0.97350
Time Band Amount	
Zone 1 - Vertical Disallowance	0.05200
Zone 2 - Vertical Disallowance	0.29575
Zone 3 - Vertical Disallowance	0.58125
Sub Total - Time Band Amount (TBA)	0.92900
Zone Amounts	
Zone 1 - Horizontal Disallowance 1	0.00560
Zone 2 - Horizontal Disallowance 1	0.03750
Zone 3 - Horizontal Disallowance 1	0
Sub Total - Zone Amount (ZA)	0.04310
Adjacent Zone Amounts	
Horizontal Disallowance 2 - Z1&2	0.10640
Horizontal Disallowance 2 - Z2&3	1.17560
Sub Total - Adjacent Zone Amount (AZA)	1.28200
Non Adjacent Zone Amount (NAZA)	0.00000
Total General Risk Amount (sum of absolute sub totals)	3.2276

(e)   Debt Position Risk amount - Maturity Method

	Position Risk Amount A$m
Specific Risk	8.32000
General Risk	3.2276
Total	11.5476

(2)   Duration Method

Position	Debt Instrument	Modified Duration (years) Near Leg	Far Leg	Position Near Leg	Far Leg	Position x Modified Duration Near Leg	Far Leg	Assumed Change in Yield Near Leg	Far Leg	Weighted *debt net position* Near Leg	Far Leg
1	Long $25m Sep 2014 7.25% Commonwealth Gov't Bonds	n/a	7.026	n/a	25	0	175.65	n/a	0.65	0	1.142
2	Short $75m June 2008 12.5% NSW T-Corp Bonds	n/a	3.00	n/a	(75)	0	(225.00)	n/a	0.75	0	(1.688)
3	Short $100m October 2011 9% Commonwealth Gov't Bonds	n/a	5.25	n/a	(100)	0	(525.00)	n/a	0.70	0	(3.675)
4	Long $20m Jan 2013 8.8% Westpac Bonds	n/a	6.50	n/a	20	0	130.00	n/a	0.65	0	0.845
5	Long $100m April 2009 10.0% GMAC Bonds	n/a	3.00	n/a	100	0	300.00	n/a	0.75	0	2.250
6	Long 20 June 2006 90 day bank bill *futures*	2.00	2.25	(20)	20	(40.0)	45.00	0.80	0.80	(0.320)	0.360
7	Short 100 Dec 2005 90 day bank bill *futures*	1.50	1.75	100	(100)	150.0	(175.00)	0.90	0.90	1.350	(1.575)
8	Long 300 Sep 2004 10 year bond *futures*	0.25	7.04	(30)	30	(7.5)	211.20	1.00	0.65	(0.075)	1.373
9	Long 500 June 2004 3 year bond *futures*	0.03	1.75	(50)	50	(1.5)	87.50	1.00	0.90	(0.015)	0.788
10	$200m 9 September 2007 payer *swap*	0.24	1.85	200	(200)	48.0	(370.00)	1.00	0.90	0.480	(3.330)
11	$100m 9 December 2012 receiver *swap*	0.24	6.00	(100)	100	(24.0)	600.00	1.00	0.65	(0.240)	3.900
12	Long OTC Nov 2005 6.11% call on $10m	n/a	1.42	n/a	10		14.20	n/a	0.90	0	0.128
13	Short OTC Feb 2005 7.3% put on $20m	Must use contingent loss matrix method									
14	Long 15 Sep 2004 calls on Dec 2005 90 day bank bill *futures*	1.5	1.75	(15)	15	(22.5)	26.25	0.90	0.90	(0.203)	0.236
15	Short 20 Sep 04 puts on Dec 04 3 year bond *futures*	0.55	2.00	(2)	2	(1.1)	4.00	1.00	0.80	(0.011)	0.032

(a)   Calculation of Modified Duration

For position 1, assume that the market yield for 10 year government bonds is currently 7.25% (ie, bonds are trading at par). A useful shortcut method to calculate the modified duration of a par bond is the coupon annuity formula which will also provide an approximation of modified duration for bonds that are trading close to par.

The bond in position 1 has 20 coupon payments remaining (this example ignores the period between 5 June 2004 and the next coupon on 15 September 2004). Therefore, the annuity factor for this bond is:

$$a_{\,20}\big|_{\,0.03625} = \frac{\left(1-\left(1+\dfrac{0.0725}{2}\right)^{-20}\right)}{\dfrac{0.0725}{2}} = 14.053 \quad \text{per period. Therefore, the modified duration equals}$$

$$\left(\frac{14.053}{2}\right) = 7.026.$$

The modified duration for the other positions has simply been estimated for the purposes of illustration.

(b)   General Risk

(i)   Zone 1

Position	Debt Instrument	Weighted *debt net position*							
		0-1 month		> 1 - 3 months		> 3 - 6 months		> 6 - 12 months	
		Long	Short	Long	Short	Long	Short	Long	Short
8	Long 300 Sep 2004 10 year bond *futures*				0.075				
9	Long 500 June 2004 3 year bond *futures*		0.015						
10	$200m 9 September 2007 payer *swap*			0.480					
11	$100m 9 December 2012 receiver *swap*				0.240				
15	Short 20 Sep 04 puts on Dec 04 3 year bond *futures*								0.011
	weighted *debt net position*	0	0.015	0.480	0.315	0	0	0	0.011
	time band *debt net position*	(0.015)		0.165		0		(0.011)	
	Net Position Amount (NPA)	**0.139**							
	Time Band Amount : Matched @ 5% (TBMF)	0		0.01575		0		0	
	(TBA) Sum of TBA	**0.01575**							
	Unmatched: Net Time Band Position	(0.015)		0.165		0		(0.011)	

Zone Amount (ZA)	Long *debt net position*	0.165					
	Short *debt net position*	0.026					
	Unmatched	0.139					
	Matched	0.026	Zone 1 Matching Factor	40%	**ZA 0.0104**		

(ii)   **Zone 2**

Position	Debt Instrument	Weighted *debt net position*					
		> 1 - 1.9 Years		> 1.9 - 2.8 Years		> 2.8 - 3.6 Years	
		Long	Short	Long	Short	Long	Short
2	Short $75m June 2008 12.5% NSW T-Corp Bonds						1.688
5	Long $100m April 2009 10.0% GMAC Bonds					2.250	
6	Long 20 June 2006 90 Day bank bill *futures*			0.360	0.320		
7	Short 100 Dec 2005 90 day bank bill *futures*	1.350	1.575				
9	Long 500 June 2004 3 year bond *futures*	0.788					
10	$200m 9 September 2007 payer *swap*		3.330				
12	Long OTC Nov 2005 6.11% call on $10m	0.128					
14	Long 15 Sep 2004 calls on Dec 2005 90 day bank bill *futures*	0.236	0.203				
15	Short 20 Sep 04 puts on Dec 04 3 year bond *futures*			0.032			
	weighted *debt net position*	2.502	5.108	0.392	0.320	2.250	1.688
	time band *debt net position*	(2.606)		0.072		0.562	
	Net Position Amount (NPA)	**(1.972)**					
	Time Band Amount : Matched @ 5% (TBMF)	0.1251		0.016		0.0844	
	(TBA) Sum of TBA	**0.2255**					
	Unmatched: Net Time Band Position	(2.606)		0.072		0.562	

Zone Amount (ZA)	Long *debt net position*	0.634				
	Short *debt net position*	2.606				
	Unmatched	(1.972)				
	Matched	0.634	Zone 2 Matching Factor	30%	**ZA 0.1902**	

(iii) Zone 3

| Position | Debt Instrument | Weighted *debt net position* | | | | | |
| | | > 3.6 - 4.3 Years | | > 4.3 - 5.7 Years | | > 5.7 - 7.3 Years | |
		Long	Short	Long	Short	Long	Short
1	Long $25m Sep 2014 7.25% Commonwealth Gov't Bonds					1.142	
3	Short $100m October 2011 9% Commonwealth Gov't Bonds				3.675		
4	Long $20m Jan 2003 8.8% Westpac Bonds					0.845	
8	Long 300 Sep 2004 10 year bond *futures*					1.373	
11	$100m 9 December 2012 receiver *swap*					3.900	
	weighted *debt net position*	0	0	0	3.675	7.260	0
	time band *debt net position*	0		(3.675)		7.260	
	Net Position Amount (NPA)	**3.585**					
	Time Band Amount : Matched @ 5% (TBMF)	0		0		0	
	(TBA) Sum of TBA	**0**					
	Unmatched: Net Time Band Position	0		(3.675)		7.260	

	Zone Amount (ZA)	Long *debt net position*	7.260			
		Short *debt net position*	3.675			
		Unmatched	3.585			
		Matched	3.675	Zone 3 Matching Factor	30%	**ZA 1.1025**

(iv) Zone Matching

		Zone 1	Zone 2	Zone 3
Net Position Amount (NPA)		0.139	(1.972)	3.585
Adjacent Zone Amounts (AZA) @ 40%	b/w Z1 and Z2	0.139 @ 40%	**0.0556**	
	Unmatched	0	(1.833)	
	b/w Z2 and Z3		1.833@40%	**0.7332**
	Unmatched		0	1.752
Net Position Amounts after AZA Offsets		0	0	1.752
Non Adjacent Zone Amount (NAZA) @ 100%	b/w Z1 and Z3	**0 is matched**		

Note: At the option of the Participant, offsetting between adjacent zones (ie, Zones 1 & 2 and Zones 2 & 3) can be done in reverse order (ie,, Zones 2 & 3 before Zones 1 & 2).

(c)   Summary

	Position Risk Amount A$ million
Net Position Amount	
Zone 1	0.13900
Zone 2	(1.97200)
Zone 3	3.585
Sub Total - Net Position Amount (NPA)	1.75200
Time Band Amount	
Zone 1 - Vertical Disallowance	0.01575
Zone 2 - Vertical Disallowance	0.22550
Zone 3 - Vertical Disallowance	0
Sub Total - Time Band Amount (TBA)	0.24125
Zone Amounts	
Zone 1 - Horizontal Disallowance 1	0.01040
Zone 2 - Horizontal Disallowance 1	0.19020
Zone 3 - Horizontal Disallowance 1	1.10250
Sub Total - Zone Amount (ZA)	1.30310
Adjacent Zone Amounts	
Horizontal Disallowance 2 - Z1&2	0.05560
Horizontal Disallowance 2 - Z2&3	0.73320
Sub Total - Adjacent Zone Amount (AZA)	0.78880
Non Adjacent Zone Amount (NAZA)	0.00000
Total General Risk Amount (sum of absolute sub totals)	4.08515

The calculation of specific risk and the total debt position risk amount is the same as illustrated under the maturity method above.

(d)   Clause 13 - Contingent Loss Matrix Method

(i)   Rule

13.	**CONTINGENT LOSS MATRIX METHOD**

13.1   Application

(a)   Debt Derivative positions which are Options together with physical Debt Instruments and other Debt Derivatives may be included in the contingent loss matrix method but only if used in conjunction with an option pricing model approved by ASX Clear.

(b)   Deleted

(c)   A Participant applying the contingent loss matrix method may use method 1 or method 2 as set out in clauses 13.2 and 13.3.

13.2   Method 1 -DELETED

13.3   Method 2 - maturity method

(a)   This method calculates the risk amount as the aggregate of a specific risk, a general risk and a volatility risk amount for each underlying in a manner similar to the building block method - maturity method.

(b)   The specific risk amount is calculated as the aggregate of each Debt Net Position or the delta weighted value of the underlying instrument calculated by the option pricing model approved by ASX Clear, multiplied by the relevant specific risk Position Risk Factor specified in Table 1.3 of Annexure 5.

(c)   The general risk and volatility risk amounts are calculated as described below.

(d)   The prescribed movements are the Position Risk Factors for the maturity building block method specified in Table 1.2, Annexure 5.

(e)   A separate matrix must be constructed for each individual time band as specified in Table 1.2, Annexure 5.

(f)   Changes in the value of the option portfolio must be analysed over a fixed range of changes above and below the current market rate or price of the underlying position and option implied volatility as follows:

(i)   The relevant Position Risk Factor is to be divided into seven equally spaced rate or price shift intervals (including the current market rate or price); and

(ii)   The relevant implied volatility Position Risk Factor is to be divided into three equally spaced volatility shift intervals (including the current market implied volatility).

(g)   Each option portfolio is to be re-priced using the adjusted underlying price and volatility as described in clause 13.3(f). The value in each element of the contingent loss matrix will be the difference between the revalued option portfolio and the option portfolio calculated using the closing market prices.

(h)   The general risk amount is calculated by:

(i)   identifying from each matrix the greatest loss along the directional axis;

(ii)   creating an equivalent notional position for each greatest loss which is:

(A)   a long position, if the greatest loss occurs for a decrease in the value of the underlying; and

(B)   a short position otherwise;

(iii)   allocating each long and short position into the appropriate time band specified in Table 1.2, Annexure 5 to form the risk weighted values;

(iv)   aggregating these long and short positions in each time band, taking into account the sign, to form the net position amount (NPA) referred to in clause 12.3(a)(iii); and

(v)   applying the principles referred to in clauses 12.3(a)(iv) to (viii) and clause 12.3(b).

(i)   The volatility risk amount is calculated by:

(i)   identifying from each matrix the greatest loss along the volatility axis; and

(ii)   taking the absolute value of the aggregate of the greatest loss for each matrix.

(ii)   Formula

Option Implied Volatility

$$
\begin{array}{c|ccc}
 & \Sigma_{-PRF} & \Sigma_{m} & \Sigma_{+PRF} \\
\hline
\sigma_{-PRF} & P_{PRF} - P_{m} & \cdots & P_{PRF} - P_{m} \\
\sigma_{-PRF\,2/3} & \cdot & & \cdot \\
\sigma_{-PRF\,1/3} & \cdot & \cdot & \cdot \\
\sigma_{m} & \cdot & P_{m} - P_{m} = 0 & \cdot \\
\sigma_{+PRF\,1/3} & \cdot & \cdot & \cdot \\
\sigma_{+PRF\,2/3} & \cdot & \cdot & \cdot \\
\sigma_{+PRF} & P_{PRF} - P_{m} & \cdot\cdot & P_{PRF} - P_{m}
\end{array}
$$

(Rate or Price of Underlying)

(Note, for short positions, the gain or loss in each element will be the market less the adjusted value)

$$
Method\ 2\ \text{-}\ CLMM\ pra_{debt} = \sum_{ccy=1}^{m}\left(\sum_{i=1}^{n}\left(|\Delta\Pi|\times_{s}\sigma_{i}\right)_{i} + GRA + \sum_{i=1}^{n}\left(|\min v_{i}|\right)\right)_{ccy}
$$

Where:

$\Sigma_{+/-PRF}$ = option implied volatility adjusted by the position risk factor

Σ_{m} = closing market option implied volatility

$\sigma_{+/-PRF}$ = underlying position price adjusted by the **position risk factor**

σ_m = closing market underlying position price

P_{PRF} = the value of the option portfolio at prices adjusted by the **position risk factor**s

P_m = the value of the option portfolio at closing market prices

n = the number of time bands

ccy = currency

m = number of currencies

$\Delta\Pi$ = delta weighted portfolio value

$_s\sigma_i$ = specific risk **position risk factor**

$$GRA = NPA + ZA + AZA + NAZA$$

$$NPA = \sum_{i=1}^{n}\left(\min d_i\right)$$

$$ZA = \sum_{j=1}^{b}\min\left(A,B\right)_j \mathrm{x}\,\sigma_{ZMF}$$

$$AZA = \sum_{k=1}^{P}\min\left(AB_j,AB_j\right)_k \mathrm{x}\,\sigma_{AZMF}$$

$$NAZA = \min\left(AB_j,AB_j\right)_z \mathrm{x}\,\sigma_{NAZMF}$$

min v_i = the minimum element along the volatility axis of matrix i (or zero if there are no negative elements)

min d_i = the minimum element along the directional axis of matrix i (or zero if there are no negative elements)

b = the number of zones

P = the number of adjacent zones

j = zone j

k = adjacent zone k

z = non adjacent zone

A = aggregate time band risk weighted long position

B = aggregate time band risk weighted short position

AB_j = net position in zone j

σ = general risk zone matching factor for the relevant zone/s

(iii)   Guidance

(A)   General

The contingent loss matrix method is the more sophisticated method (of those available in Part 2 of Annexure 3) for calculating the position risk amount on a complex debt portfolio that includes **option**s.

The method may be used by Participants that have purchased or written ETO positions or that have purchased OTC **option** positions although other, less complex methods are available under certain conditions for portfolios that include these **option**s.

Physical **debt instruments** and other **debt derivatives** may only be included in the contingent loss matrix method where they are part of the portfolio that contains the **option** position (ie, are either a hedge of the **options** or where the **options** are hedging the underlying physical position)[52]. The reason for this restriction is that the debt contingent loss matrix method does not capture basis risk within a time band and hence it

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[52] This differs from the approach under the equity contingent loss matrix method.

is not prudentially sound to allow non-*option* positions to be included in this method if they are unrelated to an *option* position.

The method can only be used in conjunction with an option pricing model and the Participant must be able to mark to market the physical *debt instruments* and *debt derivative* positions. Prior to a Participant being able to apply the contingent loss matrix method, its option pricing model must be approved by ASX Clear.

The contingent loss matrix method involves the marking to market of an option portfolio with the market price of the underlying and the *option* volatility adjusted by prescribed *position risk factor*s and comparing the values of the portfolio against the value at the market prices and volatility. The differences in value are presented in a matrix which shows the gains and losses on the portfolio that would arise if the adjustments made to the market prices and volatility (ie, the *position risk factor*s) were in fact realised.

A separate matrix must be constructed for each individual time band (for each currency) as specified in Annexure 5, Table 1.2. See section (C) below for guidance on allocating products to time bands. The term "underlying" in clause 13.3(a) refers to a time band.

(B)   Option Pricing Model Approval

Before a Participant will be authorised to use the contingent loss matrix method, it will need to demonstrate that it can calculate prices for the *option*s that it has in its portfolio. For vanilla European *option*s, Black and Scholes is a satisfactory pricing model. For exotic or American or Bermudian styled *option*s, a more sophisticated model such as those that use numerical methods will be required.

Participants that use such models will be required to provide ASX Clear with the technical specifications for the model and details concerning the parameters used in the model. All Participants wishing to use the contingent loss matrix method will be required to provide ASX Clear with details concerning the way in which the pricing model is integrated into the organisation's overall risk management systems and the extent to which it can automate the calculation of the contingent loss matrix.

(C)   Allocating Positions to Time Bands

Under the contingent loss matrix method, a separate matrix must be constructed for each time band in Annexure 5, Table 1.2 and for each currency.

It is important to note that the time band to which a position is allocated varies depending on the coupon associated with the individual instrument being included in the contingent loss matrix method or the underlying instrument in the case of a *derivative*. The time band for an instrument that does not have a coupon (for example, zero coupon bonds and bank bills) will generally be the same as for bonds with a coupon of less than 3% (second column of Annexure 5, Table 1.2).

Positions in a time band in column 1 of Annexure 5, Table 1.2 can be combined with positions in the corresponding column 2 time band to form a single matrix. For example, positions that belong in the 4-5 year time band (column 1) can be included in a single matrix with positions that belong in the 3.6-4.3 year time band (column 2).

As noted previously, physical *debt instrument*s and other *debt derivative*s may only be included in the contingent loss matrix method where they are hedged by, or are hedging, an *option* position.

For positions denominated in a currency other than Australian Dollars, the position risk amount should be calculated in the foreign currency and then converted to Australian Dollars in accordance with the guidance provided below.

In general, *option*s are allocated to a matrix based on the term of the ultimate underlying instrument for the purposes of calculating general risk and volatility risk, while specific risk is calculated on the basis of the residual term of the *option* plus the term of the underlying instrument. Specific guidance on how various debt products should be allocated to matrices is given below.

(1) Physical positions

Physical positions should be included in a matrix based on the time to maturity if it is a fixed rate instrument or based on the time to the next repricing date if it is a floating rate instrument. The specific risk calculation will be based on the residual term to final maturity, regardless of whether it is a fixed or floating rate instrument.

E.g. 5% coupon bond with residual term to maturity of 1.5 years should be included in the 1-2 year matrix (1.5 years). The specific risk charge will be based on 1.5 years (i.e. 1% specific risk charge if it is a qualifying security).

E.g., floating rate note maturing in 3 years with next repricing date in 2 months should be included in the 1-3 month matrix (2 months). The specific risk charge will be based on 3 years (i.e. 1.6% specific risk charge if it is a qualifying security). Note that the time bands in column 2 of Annexure 5, Table 1.2 are used for floating rate notes.

(2) Futures and forwards

*Future*s/forwards should be included in a matrix based on the time between the *future*s/forward expiry and the maturity of the underlying instrument. The specific risk calculation will be based on the residual term of the *future*s/forward contract plus the term of the underlying instrument.

E.g. *future*s contract with 4 months to expiry over a 3 year 6% coupon bond should be included in the 2-3 year matrix (3 years). The specific risk charge will be based on 3.3 years (= 4 months + 3 years).

(3) Options on futures

*Option*s on *future*s should be included in a matrix based on the time between the *future*s expiry and the maturity of the underlying instrument. The specific risk calculation will be based on the residual term of the *option* plus the term of the *future*s contract plus the term of the underlying instrument.

E.g. *option* with 2 months to expiry on a *future*s contract over a 10 year 6% coupon bond where the *future*s expires 3 months after the *option* should be included in the 7-10 year matrix (10 years). The specific risk charge will be based on 10.4 years (= 2 months + 3 months + 10 years).

(4) Options on an interest rate

*Option*s on an interest rate should be included in a matrix based on the term of the underlying interest rate. There is no specific risk charge on these instruments.

E.g., interest rate *option* with 8 months to expiry on 90 day BBSW should be included in the 1-3 month matrix (90 days). Note that the time bands in column 2 of Annexure 5, Table 1.2 are used for *option*s on an interest rate.

(5) Options on a bond

Bond *option*s should be included in a matrix based on the time between the *option* expiry and the maturity of the underlying bond, regardless of whether the bond is already in existence before the *option* expires or whether the bond comes into existence when the *option* expires.   The specific risk calculation will be based on the residual term of the *option* plus the residual term of the underlying bond from the time the *option* expires.

E.g. *option* with 7 months to expiry on a 4% coupon bond which originally had 2 years to maturity but currently has 1 year & 6 months to maturity should be included in the 6-12 months matrix (11 months is the residual term to maturity of the bond when the *option* expires). The specific risk charge will be based on 1.5 years (= 7 months + 11 months).

E.g. *option* with 7 months to expiry on a 2 year 4% coupon bond where the bond comes into existence when the *option* expires should be included in the 1-2 year matrix (2 years). The specific risk charge will be based on 2.6 years (=7 months + 2 years).

(6) Caps

Caps should be treated as a series of call *option*s (caplets) on an interest rate (with the rate based on the reset period). The number of caplets depends on the term of the cap. Each caplet should be included in a matrix based on the reset period (i.e. the term of the interest rate). There is no specific risk charge on these instruments.

E.g. 2 year cap with semi-annual resets (i.e. 3 caplets on the 6 month rate) should be treated as 3 *option*s each included in the 3-6 month matrix (6 months). Note that the time bands in column 2 of Annexure 5, Table 1.2 are used for caps.

(7) Floors

Floors should be treated as a series of put *option*s (floorlets) on an interest rate (with the rate based on the reset period). The number of floorlets depends on the term of the floor. Each floorlet should be included in a matrix based on the reset period (ie, the term of the interest rate). There is no specific risk charge on these instruments.

E.g. 2 year floor with quarterly resets (ie, 7 floorlets on the 3 month rate) should be treated as 7 *option*s each included in the 1-3 month matrix (3 months). Note that the time bands in column 2 of Annexure 5, Table 1.2 are used for floors.

(8) Forward Rate Agreements (FRAs)

FRAs should be included in a matrix based on the time between the settlement date and the maturity date of the FRA or, in other words, the term of the agreed interest rate. There is no specific risk charge on these instruments.

E.g. 3x9 FRA (i.e. the 6 month rate in 3 months time) should be included in the 3-6 month matrix (6 months). Note that the time bands in column 2 of Annexure 5, Table 1.2 are used for FRAs.

(9)   Interest rate swaps

Interest rate **swap**s should be included in a matrix based on the residual term to maturity of the **swap**. There is no specific risk charge on these instruments.

E.g. 5 year **swap** with fixed rate of 4.5% and floating rate of BBSW + 6 bp with semi-annual payments should be included in the 4-5 year matrix (5 years).

(10)   Swaptions

Swaptions should be included in a matrix based on the time between the swaption expiry and the maturity of the **swap** (i.e. the term of the **swap**). There is no specific risk charge on these instruments.

E.g. 2 month **option** on the same interest rate **swap** as in the example above should be included in the 4-5 year matrix (5 years).

(D)   Methods

Participants using the contingent loss matrix method must use Method 2.

(1)   Method 2 - Maturity Method

Three separate calculations are required under this method. The first calculates the specific risk on the **option**s portfolio, the second calculates the general risk on the portfolio and the third calculates the volatility risk on the portfolio.

(a)   Specific Risk

Specific risk measures the market risk on the position associated with factors that are specific to the issuer of the underlying **debt instrument** and that are unlikely to impact the general market.

It is necessary to calculate the delta weighted value of each **option** position (this will be the **debt net position**). The specific risk position risk amount for **options** is the aggregate of the absolute value of each **option** position (the net of the **option** and non-**option** positions in a particular issuer, with the **option**s at the delta weighted value) multiplied by the specific risk **position risk factor** from Annexure 5, Table 1.3. The delta of the **option**s included in the option portfolio must be calculated from an option pricing model approved by ASX Clear or, for exchange traded **option**s, as published in the financial press.

Care must be taken in identifying the issuer of the particular instrument underlying the **debt net position** to ensure that the appropriate specific risk **position risk factor** is applied.

Generally, all instruments that have a specific underlying issuer are subject to a specific risk amount. For example, fixed interest bonds issued by a borrowing authority, financial institution, a corporate and some governments are subject to a specific risk amount as the value of those **debt instruments** (and any **debt derivative**, the price of which is based on or influenced by the value of those bonds) are exposed to factors and events that affect the entity that issued the bonds. An example of another debt based instrument that is subject to a specific risk amount is bank accepted bills or other discount instruments that are accepted by a particular entity.

For *future*s or forwards which comprise a range of deliverable instruments with different issuers, a specific risk amount is only required to be calculated on long positions in the *future*s or forward contract. This is because the holder of a short position can select the most favourable security to deliver and thereby avoid issuer specific risk. The holder of a long position is unable to dictate which security it will receive and therefore remains exposed to issuer specific risk.

~~*Future*s on 90 day bank bills (BAB's) (contract traded on ASX 24) is an exception to this rule. The BAB's contract can be deliverable in which case the holder of the *futures* contract may deliver the contract quantity of bank bills accepted by one of the approved banks as specified by ASX Clear (Futures) (currently National Australia Bank, Commonwealth Bank, ANZ or Westpac). Ordinarily, this would require a specific risk amount for long positions in the BAB *futures* contract. However, in line with the treatment set out in the Australian Prudential Regulation Authority's market risk capital adequacy guidelines for ADIs, no specific risk amount needs to be calculated on long positions in the BAB *futures* contract.~~

Examples of *debt instruments* that are not subject to a specific risk amount include interest rate *swaps* (other than asset *swaps*), *forward rate agreements* and *option*s over an interest reference rate (as opposed to an *option* over a bond). There is also no specific risk amount for *debt instruments* issued by some governments. (Participants should refer to the definition of *government debt instrument* to determine the extent of this concession.)

Qualifying debt instruments are subject to a specific risk amount. Reference should be made to the definition of *qualifying debt instruments* to identify the issuers that fall within this definition. Those issuers not covered in the definitions of *government debt instrument* or *qualifying debt instrument* are subject to the "Other" specific risk *position risk factor* as prescribed in Annexure 5, Table 1.3.

The total contingent loss matrix method specific risk position risk amount is the aggregate of the specific risk position risk amounts calculated for each *debt net position*. That is, there is no offsetting allowed between individual *debt net position*s.

(b)   General Risk and volatility risk

The calculation of the general risk position risk amount follows a process which is a combination of the process for the equity contingent loss matrix method detailed in the guidance to Annexure 3, clause 4 and the general risk position risk amount under the debt building block method as detailed above.

(i)   Price and Yield Shifts

Method 2 applies the general risk *position risk factor*s prescribed for the debt building block method as set out in Annexure 5, Table 1.2. The maturity method *position risk factor*s are used to adjust the current market price of the underlying *debt instrument* at 7 equally spaced intervals. However, where the underlying has no price (for example, an *option* on an interest rate), the current interest rate (yield) should be adjusted instead.

Adjustments are both positive and negative (i.e. to both increase and decrease the current market price/yield) – that is, no change to the current market price/yield, 3 equally spaced cumulative increases to the current market price/decreases to the current yield and 3 equally spaced cumulative decreases to the current market price/increases to the current yield.

(ii) Volatility Shifts

The current market **option** volatility is to be adjusted by the prescribed **position risk factor** from Annexure 5, Table 1.2 in a similar fashion except that the current market volatility is to be adjusted up and down by the full amount of the prescribed **position risk factor** (i.e. there are no intermediate adjustments).

(iii) Price and Volatility Shifts are Proportional Shifts

The **position risk factor**s are expressed as percentages. The price and volatility adjustments are proportional adjustments which means they are to be done by taking the relevant percentage of the current market price or volatility (itself a percentage) and either adding or subtracting that amount from the current market price or volatility. For example, if the current volatility is 10%, the adjustments are – 25% (7.5% volatility), 0% (10% volatility) and +25% (12.5% volatility).

(iv) Yield Shifts are Absolute Shifts

The yield adjustments, on the other hand, are absolute adjustments which means they are done by either adding or subtracting the relevant number of percentage points to the current market yield. For example, if the current yield is 3.5% and the relevant **position risk factor** is 1.00%, the adjustments are –1.00% (2.5% yield), -0.67% (2.83% yield), -0.33% (3.17% yield), 0% (3.5% yield), +0.33% (3.83% yield), +0.67% (4.17% yield) and +1.00% (4.5% yield).

(v) Calculation Method

The contingent loss matrix for each time band (for each underlying currency) can be constructed by following a 17 step process. **Note that for Method 2 the full matrix need not be constructed – only the centre row and centre column are required as price risk and volatility risk are assessed separately**. For ease of presentation and discussion, the full matrix has been constructed and referred to in the following instructions and in the example section below, but the relevant row and column have been highlighted.

Step 1
Allocate positions to one of the time bands in Annexure 5, Table 1.2. Guidance on this is given in section (C) above.

Step 2
For the first time band, calculate the value of the physical **debt** component of the option portfolio. Each element in the 7 by 3 matrix will contain the value of the **debt** position at various prices. The various prices will be the market prices adjusted by the **position risk factor**s. For example, the top left hand element should contain the value of the **debt** position valued at the market price adjusted by the full **position risk factor** for that time band. The next element down should contain the value of the **debt** position at the market price adjusted by two thirds of the **position risk factor**, and so on. As volatility does not impact physical positions, the value of the position at various volatilities will be the same.

Step 3
Using the same approach as in *step 2*, value any non-**option debt derivative** positions in the first time band. Note that where the underlying has no price, the yield should be adjusted instead. The value of the position at the increased yield should be in the element of the matrix that corresponds with values of price based positions at the decreased market price, and vice versa.

Step 4

Aggregate the **debt** and non-**option derivative** values calculated in <u>step 2</u> and <u>step 3</u> above. Each corresponding element in the matrices should be aggregated so that long and short positions are netted.

Step 5

Calculate the gain or loss on the non-**option** component of the option portfolio (from <u>step 4</u>) by deducting the value of the portfolio at current market prices/yields from the value of the portfolio at the various adjusted prices/yields.

Step 6

For the first time band, calculate the value of the **option** position at the various adjusted prices/yields and volatilities. This will involve valuing the **option** 21 times for each combination of underlying price/yield and implied **option** volatility. As noted in <u>step 3</u>, increases in yield (where the underlying is not price based) should be in the element of the matrix that corresponds with decreases in price (where the underlying is a price based instrument). The **option** prices must be calculated by a valuation model that is approved by ASX Clear (as discussed above). The price calculated in each matrix element should then be multiplied by the size of the **option** position.

Step 7

Calculate the gain or loss on the **option** position by deducting the value of the **option** at the current market price/yield from that at the various adjusted prices/yields (for a long **option** position) or by deducting the value of the **option** at the various adjusted prices/yields from that at the current market price/yield (for short **option** positions).

Step 8

Aggregate each corresponding element in the matrices calculated at <u>step 5</u> and <u>step</u> 7 such that gains and losses are netted. This matrix is the gain and loss matrix for the time band.

Step 9

Identify the maximum loss along the directional axis in the consolidated matrix from <u>step 8</u>. The directional axis is that column/row of the matrix relating to price/yield changes (with volatility kept unchanged). Create a notional debt position equal to the greatest loss. If the greatest loss occurs when the price of the underlying increases/yield decreases, the notional debt position will be a short position. If the greatest loss occurs when the price of the underlying decreases/yield increases, the notional debt position will be a long position. The notional debt position is equivalent to the "weighted" **debt net position** in the building block method.

Note that if there is no loss along the directional axis, the notional debt position is zero.

<u>Step 2</u> to <u>step 9</u> is then repeated for each time band for each underlying currency.

Step 10

For all time band matrices in a single currency, allocate each notional debt position to the corresponding time band as prescribed in Annexure 5, Table 1.2. In each time band, the sign of the notional debt position should be preserved so that for each time band there is either a "weighted" <u>long</u> notional debt position or a "weighted" <u>short</u> notional debt position.

Step 11

Calculate the net position amount (NPA). The absolute value of the net of the weighted long and short notional debt positions, taking into account the signs, is the NPA. This amount is a measure of the price sensitivity of the **debt net positions** to assumed changes in interest rates.

Note that since there is only one weighted debt position (i.e. either a long or a short position) in each time band, there will be no time band amounts (TBA). The net time band position will equal the weighted **debt net position** in the time band, either long or short.

Step 12

Calculate the zone amount (ZA). Within each zone, sum all the long net time band positions. Sum all the short net time band positions. Multiply the lesser of the absolute value of the two sums by the zone matching factor (ZMF) from Annexure 5, Table 1.4 corresponding to each zone. The lesser amount is the matched amount. The net of the long and the short net time band positions in each zone is the unmatched amount. Note, in zones where there are only net time band positions that are long or net time band positions that are short (i.e. the lesser of the two is zero), there will be no zone amount. There should be one zone amount per zone (but this could be zero as explained above). The sum of these amounts across zones is the ZA.

Step 13

Once *step 10* to *step 12* has been completed for all zones, calculate the adjacent zone amount (AZA) between zones 1 and 2 and between zones 2 and 3. If, after completion of *step 10* to *step 12*, there exists a long net position amount and a short net position amount in zones 1 and 2 and zones 2 and 3, it is necessary to calculate an adjacent zone amount. This will, for each adjacent zone, be the lesser of the absolute value of the net position amounts in each adjacent zone multiplied by the adjacent zone matching factor (AZMF) as prescribed in Annexure 5, Table 1.4. The net of the net position amounts in adjacent zones is the unmatched net position amount which must be allocated to one of the adjacent zones. That is, if the lower net position amount is a long net position amount in zone 1 (and therefore, zone 2 has a higher short net position amount), the unmatched amount will be short and will be allocated to zone 2.

This process is repeated for adjacent zones 2 and 3. However, the net position amount matched will be the unmatched amount from zone 1 and 2. That is, in the above example, there was a short unmatched position remaining in zone 2. If zone 3 was a long net position amount, there would be a zone 2 and 3 adjacent zone requirement equal to the absolute value of the lower of the net position amounts in zone 2 (i.e. the unmatched amount from zones 1 and 2) and zone 3 multiplied by the AZMF. If, however, after zone 1 and 2 matching, zone 2 contained an unmatched long net position amount, or the unmatched position was allocated to zone 1 (and thus zone 2 contained zero) no matching between zones 2 and 3 could be performed. The total AZA is the sum of the AZA's from zones 1 and 2 and zones 2 and 3.

Note, the order of the matching may make a difference to the total of the AZA and Participants can choose which adjacent zones to match first.

Step 14

Calculate the non adjacent zone amount (NAZA). If, following *step 13*, a long and a short unmatched net position amount exists in zone 1 and zone 3, a non adjacent zone amount must be calculated as the lesser of the absolute value of the two net position amounts multiplied by the non adjacent zone matching factor (NAZMF) prescribed in Annexure 5, Table 1.4. If the non adjacent zones are the same sign or one of them is zero, there will be no NAZA.

Step 15

Calculate the total general risk amount. The total general risk amount is the sum of the risk amounts calculated in *step 11* to *step 14*.

Step 16

For each time band matrix calculated in step 8, identify the maximum loss along the volatility axis. The volatility axis is that row/column of the matrix relating to volatility changes (with prices/yields kept

unchanged). The absolute value of this amount is the volatility risk amount for each individual matrix. If there is no loss along the volatility axis, the volatility risk amount for that matrix is zero.

Step 17
Calculate the total volatility risk amount. The total volatility risk amount is the sum of the volatility risk amounts calculated in *step 16*.

The above steps are not mandatory. An alternate procedure can be followed as long as the same results are achieved.

(c)   Total Position Risk Amount

The total contingent loss matrix method position risk amount for each currency is the sum of the total specific risk amount, the total general risk amount and the total volatility risk amount as calculated above for each currency.

The overall total position risk amount will be the aggregate of the total position risk amounts for each currency. All currency total position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 10.

(iv)   Example

(A)   Portfolio and Other Details

A Participant has the following positions as at 15 July 2004:

1.   Long 7.50% BHP bonds issued in October 2002, maturing 15 July 2008, total face value $47,000,000, yield 5.975%, current market value $49,517,009, S&P rating A-, Moodys rating A3

2.   Long 40 OTC put *option*s on the BHP bond above, expiring 15 January 2005, each *option* contract is on $1,000,000 face value of bonds, strike $1,060,000, volatility 12%, delta −0.23, current *option* position value $114,439

3.   Long 10 call *option*s on the December 2004 6% 3 year bond *future*s contract, strike 95.53, volatility 4.5%, delta 0.57, current *future*s price 95.44, current *option* position value $20,713

4.   Short 9% Commonwealth Government bonds, maturing 15 July 2007, total face value $90,000,000, yield 5.2%, current market value $99,387,475

5.   Short 15 call *option*s on the March 2005 90 day bank bill *future*s contract, strike 96.22, volatility 9%, delta 0.36, current *future*s price 95.62, current *option* position value $612,710

6.   Short 30 March 2005 90 day bank bill *future*s contracts, current *future*s price 95.62

7.   Long ANZ bank bills, maturing 25 September 2004, total face value $40,000,000, current rate 4.61%, current market value $39,639,530

8.   Long OTC interest rate put *option* on face value $1,000,000, expiring 1 September 2004, strike 4.9% (90 day BBSW), volatility 9%, delta −0.62, current 90 day BBSW 4.7%, current *option* position value $3,586

9.   Short 1x4 FRA, notional amount $1,000,000, contract rate 5.6%, current rate 5.2%, settlement date 15 August 2004, maturity date 15 November 2004

Note that the values given throughout this example have not necessarily been calculated and are given purely for illustrative purposes. Participants using this method must calculate **option** prices using a model that has been approved by ASX Clear.

(B)   Calculation

(1)   Method 2 - Maturity Method

The portfolio consists of four **option** positions with underlying debt or **debt derivative** hedges. The portfolio is entirely in Australian dollars.

Physical **debt instrument**s and non-**option debt derivative**s can only be included in the contingent loss matrix method if they are hedging, or being hedged by, an **option** position.

Positions 1 and 2 are related positions, as are positions 3 and 4, positions 5, 6 and 7, and positions 8 and 9.

Method 2 of the contingent loss matrix method requires the calculation of a specific risk amount, a general risk amount and a volatility risk amount for each currency.

(a)   Specific Risk

Position	Debt Instrument	Type	Specific Risk Factor %	Position A$	Specific Risk A$
1	Long July 2008 7.5% BHP bonds	Qualifying	1.6	49,517,009	792,272
2	Long Jan 2005 OTC put on July 2008 BHP bonds	Qualifying	1.6	9,692,691 [1]	155,083
3	Long calls on Dec 2004 3 year bond *futures*	Gov't	0	592,773 [2]	0
4	Short July 2007 9% Commonwealth Gov't bonds	Gov't	0	99,387,475	0
5	Short calls on Mar 2005 90 day bank bill *futures*	n/a	-	-	-
6	Short 30 Mar 2005 90 day bank bill *futures*	n/a	-	-	-
7	Long ANZ bank bill	Qualifying	0.25	39,639,530	99,099
8	Long OTC Sep 04 4.9% put on $1m	n/a	-	-	-
9	Short 1x4 FRA	n/a	-	-	-
	Total Specific Risk				1,046,454

[1] Delta = -0.23, notional debt position = $42,142,135, delta weighted position = -$9,692,691
[2] Delta = 0.57, notional debt position = $1,039,952, delta weighted position = $592,773

(b)   General Risk and Volatility Risk

The calculation of the general and volatility risk amounts can be performed for illustrative purposes in 17 steps.

Step 1
Allocate positions to time bands.

Position 1 – residual term to maturity is 4 years so this position is included in the 3-4 year matrix (also 4 years for specific risk purposes).

Position 2 – time between *option* expiry and bond maturity is 3.5 years so this position is included in the 3-4 year matrix (4 years for specific risk purposes).

Position 3 – time between *future*s expiry and bond maturity is 3 years so this position is included in the 2-3 year matrix.

Position 4 – residual term to maturity is 3 years so this position is included in the 2-3 year matrix.

Position 5 – time between *future*s expiry and bank bill maturity is 90 days so this position is included in the 1-3 month matrix – note that the second column of time bands in Annexure 5, Table 1.2 is used.

Position 6 – time between *future*s expiry and bank bill maturity is 90 days so this position is included in the 1-3 month matrix – note that the second column of time bands in Annexure 5, Table 1.2 is used.

Position 7 – residual term to maturity is 2.4 months so this position is included in the 1-3 month matrix – note that the second column of time bands in Annexure 5, Table 1.2 is used (also 2.4 months for specific risk purposes).

Position 8 – the underlying interest rate is 90 day BBSW so this position is included in the 1-3 month matrix – note that the second column of time bands in Annexure 5, Table 1.2 is used.

Position 9 – time between settlement date and maturity date is 3 months so this position is included in the 1-3 month matrix – note that the second column of time bands in Annexure 5, Table 1.2 is used.

Step 2
Value the physical positions at the adjusted prices. The adjustments to *option* volatility do not impact non-*option* debt positions.

1-3 month matrix

Position 7 – ANZ bank bills					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price/$100 FV			
+0.20%	-1.00%	99.30	39,718,809	39,718,809	39,718,809
+0.13%	-0.67%	99.23	39,691,061	39,691,061	39,691,061
+0.07%	-0.33%	99.17	39,667,278	39,667,278	39,667,278
Market	Market	99.10	39,639,530	39,639,530	39,639,530
-0.07%	+0.33%	99.03	39,611,782	39,611,782	39,611,782
-0.13%	+0.67%	98.97	39,587,999	39,587,999	39,587,999
-0.20%	+1.00%	98.90	39,560,251	39,560,251	39,560,251

2-3 year matrix

Position 4 – Commonwealth Government bonds					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price/$100 FV			
+1.75%	-0.80%	112.36	(101,126,756)	(101,126,756)	(101,126,756)
+1.17%	-0.53%	111.72	(100,550,308)	(100,550,308)	(100,550,308)
+0.58%	-0.27%	111.07	(99,963,922)	(99,963,922)	(99,963,922)
Market	Market	110.43	(99,387,475)	(99,387,475)	(99,387,475)
-0.58%	+0.27%	109.79	(98,811,027)	(98,811,027)	(98,811,027)
-1.17%	-0.53%	109.14	(98,224,641)	(98,224,641)	(98,224,641)
-1.75%	-0.80%	108.50	(97,648,194)	(97,648,194)	(97,648,194)

3-4 year matrix

Position 1 – BHP bonds					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price/$100 FV			
+2.25%	-0.75%	107.73	50,631,142	50,631,142	50,631,142
+1.50%	-0.50%	106.94	50,259,764	50,259,764	50,259,764
+0.75%	-0.25%	106.15	49,888,387	49,888,387	49,888,387
Market	Market	105.36	49,517,009	49,517,009	49,517,009
-0.75%	+0.25%	104.57	49,145,632	49,145,632	49,145,632
-1.50%	+0.50%	103.78	48,774,254	48,774,254	48,774,254
-2.25%	+0.75%	102.98	48,402,877	48,402,877	48,402,877

Step 3

Value the non-*option debt derivative*s positions at the adjusted prices/yields of the underlying. Where the underlying has no price (e.g. FRA), yield is to be adjusted instead of price. The adjustments to *option* volatility do not impact on the non-*option debt derivative* positions.

1-3 month matrix

Position 6 – Bank bill futures					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility			
Underlying Price Shift	Underlying Yield Shift	Price			
+0.20%	-1.00%	95.81	(29,693,314)	(29,693,314)	(29,693,314)
+0.13%	-0.67%	95.74	(29,688,464)	(29,688,464)	(29,688,464)
+0.07%	-0.33%	95.69	(29,684,309)	(29,684,309)	(29,684,309)
Market	Market	95.62	(29,679,462)	(29,679,462)	(29,679,462)
-0.07%	+0.33%	95.55	(29,674,617)	(29,674,617)	(29,674,617)
-0.13%	+0.67%	95.50	(29,670,465)	(29,670,465)	(29,670,465)
-0.20%	+1.00%	95.43	(29,665,622)	(29,665,622)	(29,665,622)

1-3 month matrix

Position 9 – FRA					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility			
Underlying Price Shift	Underlying Yield Shift	Price			
+0.20%	-1.00%	4.20%	989,750	989,750	989,750
+0.13%	-0.67%	4.53%	988,954	988,954	988,954
+0.07%	-0.33%	4.87%	988,134	988,134	988,134
Market	Market	5.20%	987,340	987,340	987,340
-0.07%	+0.33%	5.53%	986,548	986,548	986,548
-0.13%	+0.67%	5.87%	985,733	985,733	985,733
-0.20%	+1.00%	6.20%	984,943	984,943	984,943

Step 4

For each individual time band, calculate the aggregate net value of the debt and non-*option debt derivative*s positions. This is the net of each corresponding element in the above matrices.

1-3 month matrix

Net debt and non-option derivatives positions					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility			
Underlying Price Shift	Underlying Yield Shift	Price			
+0.20%	-1.00%		11,015,245	11,015,245	11,015,245
+0.13%	-0.67%		10,991,551	10,991,551	10,991,551
+0.07%	-0.33%		10,971,103	10,971,103	10,971,103
Market	Market		10,947,409	10,947,409	10,947,409
-0.07%	+0.33%		10,923,714	10,923,714	10,923,714
-0.13%	+0.67%		10,903,266	10,903,266	10,903,266
-0.20%	+1.00%		10,879,571	10,879,571	10,879,571

2-3 year matrix

Net debt and non-option derivatives positions					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price			
+1.75%	-0.80%		(101,126,756)	(101,126,756)	(101,126,756)
+1.17%	-0.53%		(100,550,308)	(100,550,308)	(100,550,308)
+0.58%	-0.27%		(99,963,922)	(99,963,922)	(99,963,922)
Market	Market		(99,387,475)	(99,387,475)	(99,387,475)
-0.58%	+0.27%		(98,811,027)	(98,811,027)	(98,811,027)
-1.17%	-0.53%		(98,224,641)	(98,224,641)	(98,224,641)
-1.75%	-0.80%		(97,648,194)	(97,648,194)	(97,648,194)

3-4 year matrix

Net debt and non-option derivatives positions					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price			
+2.25%	-0.75%		50,631,142	50,631,142	50,631,142
+1.50%	-0.50%		50,259,764	50,259,764	50,259,764
+0.75%	-0.25%		49,888,387	49,888,387	49,888,387
Market	Market		49,517,009	49,517,009	49,517,009
-0.75%	+0.25%		49,145,632	49,145,632	49,145,632
-1.50%	+0.50%		48,774,254	48,774,254	48,774,254
-2.25%	+0.75%		48,402,877	48,402,877	48,402,877

Step 5

For each individual time band, calculate the gain or loss in each element of the previous matrix. This is calculated by deducting the market value of the portfolio at current market prices/yields (the centre element in the matrix) from each surrounding matrix element.

1-3 month matrix

Net debt and non-option derivatives P&L					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price			
+0.20%	-1.00%		67,836	67,836	67,836
+0.13%	-0.67%		44,142	44,142	44,142
+0.07%	-0.33%		23,695	23,695	23,695
Market	Market		0	0	0
-0.07%	+0.33%		(23,695)	(23,695)	(23,695)
-0.13%	+0.67%		(44,142)	(44,142)	(44,142)
-0.20%	+1.00%		(67,838)	(67,838)	(67,838)

2-3 year matrix

Net debt and non-option derivatives P&L					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility			
		Price			
+1.75%	-0.80%		(1,739,281)	(1,739,281)	(1,739,281)
+1.17%	-0.53%		(1,162,833)	(1,162,833)	(1,162,833)
+0.58%	-0.27%		(576,447)	(576,447)	(576,447)
Market	Market		0	0	0
-0.58%	+0.27%		576,447	576,447	576,447
-1.17%	-0.53%		1,162,833	1,162,833	1,162,833
-1.75%	-0.80%		1,739,281	1,739,281	1,739,281

3-4 year matrix

Net debt and non-option derivatives P&L					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility			
		Price			
+2.25%	-0.75%		1,114,133	1,114,133	1,114,133
+1.50%	-0.50%		742,755	742,755	742,755
+0.75%	-0.25%		371,378	371,378	371,378
Market	Market		0	0	0
-0.75%	+0.25%		(371,378)	(371,378)	(371,378)
-1.50%	+0.50%		(742,755)	(742,755)	(742,755)
-2.25%	+0.75%		(1,114,133)	(1,114,133)	(1,114,133)

Step 6

Value the *option* positions at the adjusted prices of the underlying (or adjusted yields where the underlying has no price) and the adjusted volatility. The value of the option portfolio will be the adjusted price of the *option* multiplied by the number of contracts.

1-3 month matrix

Position 5 – option on bank bill futures Option position value					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility	6.75%	9.00%	11.25%
Underlying Price Shift	Underlying Yield Shift	Price			
+0.20%	-1.00%	95.81	(520,565)	(617,144)	(716,671)
+0.13%	-0.67%	95.74	(518,834)	(615,508)	(715,090)
+0.07%	-0.33%	95.69	(517,599)	(614,341)	(713,963)
Market	Market	95.62	(515,873)	(612,710)	(712,387)
-0.07%	+0.33%	95.55	(514,151)	(611,082)	(710,813)
-0.13%	+0.67%	95.50	(512,923)	(609,920)	(709,690)
-0.20%	+1.00%	95.43	(511,207)	(608,297)	(708,120)

1-3 month matrix

Position 8 – OTC interest rate option Option position value					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility	6.75%	9.00%	11.25%
Underlying Price Shift	Underlying Yield Shift	Price			
+0.20%	-1.00%	3.70%	1,645	2,590	3,563
+0.13%	-0.67%	4.03%	1,921	2,894	3,885
+0.07%	-0.33%	4.37%	2,237	3,233	4,238
Market	Market	4.70%	2,576	3,586	4,599
-0.07%	+0.33%	5.03%	2,947	3,963	4,979
-0.13%	+0.67%	5.37%	3,363	4,376	5,391
-0.20%	+1.00%	5.70%	3,799	4,802	5,809

1-3 month matrix (aggregate of above two matrices)

Option position values					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility			
Underlying Price Shift	Underlying Yield Shift	Price			
+0.20%	-1.00%		(518,920)	(614,555)	(713,108)
+0.13%	-0.67%		(516,913)	(612,614)	(711,205)
+0.07%	-0.33%		(515,362)	(611,108)	(709,725)
Market	Market		(513,297)	(609,124)	(707,788)
-0.07%	+0.33%		(511,204)	(607,119)	(705,834)
-0.13%	+0.67%		(509,560)	(605,544)	(704,299)
-0.20%	+1.00%		(507,408)	(603,495)	(702,311)

2-3 year matrix

Position 3 – option on 3 year bond futures Option position value					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility	3.375%	4.500%	5.625%
Underlying Price Shift	Underlying Yield Shift	Price			
+1.75%	-0.80%	97.11	63,509	63,705	64,271
+1.17%	-0.53%	96.56	47,276	47,914	49,089
+0.58%	-0.27%	95.99	31,396	32,937	34,947
Market	Market	95.44	18,162	20,713	23,431
-0.58%	+0.27%	94.89	8,512	11,479	14,447
-1.17%	-0.53%	94.32	2,920	5,311	7,909
-1.75%	-0.80%	93.77	752	2,120	3,967

3-4 year matrix

Position 2 – option on BHP bond Option position value					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility	9%	12%	15%
Underlying Price Shift	Underlying Yield Shift	Price/$100 FV			
+2.25%	-0.75%	107.73	47,819	79,535	112,804
+1.50%	-0.50%	106.94	57,111	90,137	124,174
+0.75%	-0.25%	106.15	67,704	101,758	136,378
Market	Market	105.36	79,674	114,439	149,438
-0.75%	+0.25%	104.57	93,083	128,210	163,375
-1.50%	+0.50%	103.78	107,975	143,096	178,204
-2.25%	+0.75%	102.98	124,372	159,111	193,936

Step 7

For each individual time band, calculate the gain or loss in each element of the previous matrix.

1-3 month matrix

Options P&L					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility			
Underlying Price Shift	Underlying Yield Shift	Price			
+0.20%	-1.00%		90,204	(5,431)	(103,984)
+0.13%	-0.67%		92,211	(3,490)	(102,081)
+0.07%	-0.33%		93,762	(1,984)	(100,601)
Market	Market		95,827	0	(98,664)
-0.07%	+0.33%		97,920	2,005	(96,710)
-0.13%	+0.67%		99,564	3,580	(95,175)
-0.20%	+1.00%		101,716	5,629	(93,186)

2-3 year matrix

Options P&L					
		Volatility Price Shifts	-25%	Market	+25%
		Option Volatility			
Underlying Price Shift	Underlying Yield Shift	Price			
+1.75%	-0.80%		42,796	42,992	43,558
+1.17%	-0.53%		26,563	27,201	28,376
+0.58%	-0.27%		10,683	12,224	14,234
Market	Market		(2,550)	0	2,718
-0.58%	+0.27%		(12,201)	(9,234)	(6,266)
-1.17%	-0.53%		(17,793)	(15,402)	(12,804)
-1.75%	-0.80%		(19,960)	(18,593)	(16,746)

3-4 year matrix

Options P&L					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price			
+2.25%	-0.75%		(66,620)	(34,903)	(1,635)
+1.50%	-0.50%		(57,328)	(24,302)	9,736
+0.75%	-0.25%		(46,735)	12,680)	21,939
Market	Market		(34,765)	0	34,999
-0.75%	+0.25%		(21,356)	13,771	48,936
-1.50%	+0.50%		(6,464)	28,657	63,765
-2.25%	+0.75%		9,933	44,672	79,497

Step 8

Net the profit and loss for each corresponding element in the respective time band matrices in _step 5_ and _step 7_ to calculate the overall profit and loss matrix for each time band.

1-3 month matrix

Net P&L for time band					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price			
+0.20%	-1.00%		158,040	**62,406**	(36,147)
+0.13%	-0.67%		136,353	**40,652**	(57,939)
+0.07%	-0.33%		117,457	**21,711**	(76,906)
Market	Market		**95,827**	**0**	**(98,664)**
-0.07%	+0.33%		74,225	**(21,690)**	(120,405)
-0.13%	+0.67%		55,422	**(40,562)**	(139,317)
-0.20%	+1.00%		33,879	**(62,208)**	(161,024)

2-3 year matrix

Net P&L for time band					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price			
+1.75%	-0.80%		(1,696,485)	**(1,696,289)**	(1,695,289)
+1.17%	-0.53%		(1,136,271)	**(1,135,633)**	(1,134,457)
+0.58%	-0.27%		(565,765)	**(564,224)**	(562,213)
Market	Market		**(2,550)**	**0**	**2,718**
-0.58%	+0.27%		564,246	**567,213**	570,181
-1.17%	-0.53%		1,145,040	**1,147,431**	1,150,030
-1.75%	-0.80%		1,719,320	**1,720,688**	1,722,535

3-4 year matrix

Net P&L for time band					
		Volatility Price Shifts	-25%	Market	+25%
Underlying Price Shift	Underlying Yield Shift	Option Volatility Price			
+2.25%	-0.75%		1,047,513	**1,079,229**	1,112,498
+1.50%	-0.50%		685,427	**718,453**	752,491
+0.75%	-0.25%		324,642	**358,697**	393,317
Market	Market		**(34,765)**	**0**	**34,999**
-0.75%	+0.25%		(392,734)	**(357,606)**	(322,442)
-1.50%	+0.50%		(749,219)	**(714,098)**	(678,990)
-2.25%	+0.75%		(1,104,199)	**(1,069,460)**	(1,034,636)

Step 9

For each time band, identify the greatest loss along the directional axis and create a notional debt position equal to the greatest loss. If the matrix is constructed as a 7 by 3 matrix, the directional axis is the centre column. If the matrix is constructed as a 3 by 7 matrix, the directional axis is the centre row. In this example, the outcomes along the directional axis are in the centre <u>column</u> of each matrix.

In the 1-3 month matrix, the greatest loss along the directional axis is $62,208 which occurs when the price of the underlying falls proportionally by 0.20% (or the yield increases absolutely by 1.00%). The notional position created for this time band is +$62,208. This is a long position because the greatest loss occurs for a decrease in the value of the underlying.

In the 2-3 year matrix, the greatest loss along the directional axis is $1,696,289 which occurs when the price of the underlying increases proportionally by 1.75% (or the yield falls absolutely by 0.80%). The notional position created for this time band is -$1,696,289. This is a short position because the greatest loss occurs for an increase in the value of the underlying.

In the 3-4 year matrix, the greatest loss along the directional axis is $1,069,460 which occurs when the price of the underlying falls proportionally by 2.25% (or the yield increases absolutely by 0.75%). The notional position created for this time band is +$1,069,460. This is a long position because the greatest loss occurs for a decrease in the value of the underlying.

Steps 10-15

The notional positions created in *step 9* should be put through a calculation as per the debt building block method (maturity method) of clause 12, as illustrated below. This calculation must be done separately for each currency.

Note that the notional positions are "risk weighted" values and therefore there is no need to apply the **position risk factor**s for the building block method. Also note that, since there can only be one position for each time band, there will be no time band amounts.

References to steps in the following tables are references to steps for the building block method (maturity method). See guidance for clause 12 for further details.

Zone 1

Debt Instrument	Position - $							
	0 - 1 month		>1 - 3 months		>3 - 6 months		>6 - 12 months	
	0 - 1 month		>1 – 3 months		>3 – 6 months		>6 – 12 months	
	Long	Short	Long	Short	Long	Short	Long	Short
Weighted positions			62,208					
time band *debt net position*			62,208					
Net Position Amount (NPA)	**62,208**							
Time Band Amount : Matched @ 10% (TBMF)	0		0		0		0	
(TBA) Sum of TBA	**0**							
Unmatched: Net Time Band Position	0		62,208		0		0	
Zone Amount (ZA)	Long *debt net position*	62,208						
	Short *debt net position*	0						
	Unmatched	62,208						
	Matched	0	Zone 1 Matching Factor	40%		**ZA 0**		

Zone 2

Debt Instrument	Position - $					
	>1 - 2 Years		>2 - 3 Years		>3 - 4 Years	
	>1 – 1.9 Years		>1.9 – 2.8 Years		>2.8 – 3.6 Years	
	Long	Short	Long	Short	Long	Short
Weighted positions				1,696,289	1,069,460	
time band *debt net position*	0		(1,696,289)		1,069,460	
Net Position Amount (NPA)	**(626,829)**					
Time Band Amount : Matched @ 10% (TBMF)	0		0		0	
(TBA) Sum of TBA	**0**					
Unmatched: Net Time Band Position	0		(1,696,289)		1,069,460	
Zone Amount (ZA)	Long *debt net position*	1,069,460				
	Short *debt net position*	1,696,289				
	Unmatched	(626,829)				
	Matched	1,069,460	Zone 2 Matching Factor	30%	**ZA 320,838**	

Zone 3

Debt Instrument	Position - $											
	>4 – 5 Years		>5 – 7 Years		>7 – 10 Years		>10 – 15 Years		>15 – 20 Years		>20 Years	
	>3.6 - 4.3 Years		>4.3 - 5.7 Years		>5.7 - 7.3 Years		>7.3 - 9.3 Years		>9.3 - 10.6 Years		>10.6 – 12 Years	
	Long	Short	Long	Short	Long	Short	Long	Short	Long	Short	Long	Short
Weighted positions												
time band **debt net position**	0		0		0		0		0		0	
Net Position Amount (NPA)	**0**											
Time Band Amount (TBA) : Matched @ 10% (TBMF)	0		0		0		0		0		0	
Sum of TBA	**0**											
Unmatched: Net Time Band Position	0		0		0	0		0				0	

Zone Amount (ZA)	Long **debt net position**	0				
	Short **debt net position**	0				
	Unmatched	0				
	Matched	0	Zone 3 Matching Factor	30%	**ZA 0**	

Zone Matching

		Zone 1	Zone 2	Zone 3
Net Position Amount (NPA)		62,208	(626,829)	0
Adjacent Zone Amounts (AZA) @ 40% (step 5)	b/w Z1 and Z2	62,208 @ 40%	**24,883**	
	Unmatched	0	(564,621)	
	b/w Z2 and Z3		0 @ 40%	**0**
	Unmatched		0	0
Net Position Amounts after AZA Offsets		0	(564,621)	0
Non Adjacent Zone Amount (NAZA) @ 100% (step 6)	b/w Z1 and Z3	**0 is matched**		

Note: At the option of the Participant, offsetting between adjacent zones (i.e. Zones 1 & 2 and Zones 2 & 3) can be done in reverse order (ie, Zones 2 & 3 before Zones 1 & 2).

General Risk Summary

	Position Risk Amount - $
Net Position Amount	
Zone 1	62,208
Zone 2	(626,829)
Zone 3	0
Sub Total - Net Position Amount (NPA)	(564,621)
Time Band Amount	
Zone 1 - Vertical Disallowance	0
Zone 2 - Vertical Disallowance	0
Zone 3 - Vertical Disallowance	0
Sub Total - Time Band Amount (TBA)	0
Zone Amounts	
Zone 1 - Horizontal Disallowance 1	0
Zone 2 - Horizontal Disallowance 1	320,838
Zone 3 - Horizontal Disallowance 1	0
Sub Total - Zone Amount (ZA)	320,838
Adjacent Zone Amounts	
Horizontal Disallowance 2 - Z1&2	24,883
Horizontal Disallowance 2 - Z2&3	0
Sub Total - Adjacent Zone Amount (AZA)	24,883
Non Adjacent Zone Amount (NAZA)	0
Total General Risk Amount (sum of absolute sub totals)	910,342

Step 16

Going back to the matrices in *step 8*, for each time band, identify the greatest loss along the volatility axis. If the matrix is constructed as a 7 by 3 matrix, the volatility axis is the centre row. If the matrix is constructed as a 3 by 7 matrix, the volatility axis is the centre column. In this example, the outcomes along the volatility axis are in the centre <u>row</u> of each matrix. The absolute value of the greatest loss is the volatility risk amount for the time band.

In the 1-3 month matrix, the greatest loss along the volatility axis is $98,664 which occurs when volatility increases by 25%.

In the 2-3 year matrix, the greatest loss along the volatility axis is $2,550 which occurs when volatility decreases by 25%.

In the 3-4 year matrix, the greatest loss along the volatility axis is $34,765 which occurs when volatility decreases by 25%.

Step 17

The total volatility risk amount is calculated as the sum of the volatility risk amounts calculated in step 16.

Time Band	Volatility Risk Amount - $
Zone 1	
0-1 month / 0-1 month	
1-3 months / 1-3 months	98,664
3-6 months / 3-6 months	
6-12 months / 6-12 months	
Zone 2	
1-2 years / 1-1.9 years	
2-3 years / 1.9-2.8 years	2,550
3-4 years / 2.8-3.6 years	34,765
Zone 3	
4-5 years / 3.6-4.3 years	
5-7 years / 4.3-5.7 years	
7-10 years / 5.7-7.3 years	
10-15 years / 7.3-9.3 years	
15-20 years/ 9.3-10.6 years	
20+ years / 10.6-12 years	
/ 12-20 years	
/ 20+ years	
Total Volatility Risk Amount (sum of absolute sub totals)	135,979

(c)   Total Position Risk Amount

The overall position risk amount is the sum of the specific risk, general risk and volatility risk amounts:

Risk Type	Position Risk Amount A$
Specific	1,046,454
General	910,342
Volatility	135,979
Position Risk Amount	2,092,775

(e)   Clause 14 - Margin Method

(i)   Rule

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14.   MARGIN METHOD

14.1   Application

Debt Derivative positions which are exchange traded and have a positive Primary Margin Requirement must be included in the margin method if the Participant:

(a)   has not been approved by ASX Clear to use the contingent loss matrix method; and

(b)   is not permitted to use any of the other methods referred to in clause 10.2 of this Annexure 3.

14.2   Method

(a)   The position risk amount for Debt Derivative positions under the margin method is 100% of the Primary Margin Requirement for those Debt Derivative positions as determined by the relevant exchange or clearing house in respect of each position multiplied by 4.

(b)   Deleted

(ii)   Formula

$$MM\ pra_{debt} = \sum_{ccy=1}^{m} (\sum_{i=1}^{n} Margin_i \times 4)_{ccy}$$

Where:
*Margin = the **primary margin requirement** on exchange position i*
*n   = the number of separate positions that have **primary margin requirement**s*
m   = number of currencies
ccy   = currency

(iii)   Guidance

(A)   General

The purpose of including the margin method in the Rule is to provide a methodology that permits all Participants to calculate, in a simple manner, a capital requirement where it transacts exchange traded **derivative**s as principal.

However this method is capital intensive relative to the other methods available within the Rule. The method is most appropriate for Participants that have very limited positions in exchange traded **derivative**s and who may not have the capability to mark those positions to market. This method offers a simple means for calculating the capital requirement on such positions. The trade off a Participant accepts in choosing this method is simplicity versus cost.

As the method uses amounts sourced from the derivatives clearing house, which are outside of the Participant's internal records, there will be a delay in determining the exact capital charge until the

appropriate report is received. It is nevertheless the responsibility of the Participant to ensure that the available capital is at all times sufficient to ensure that the capital charge is covered as soon as it is known. As this method is only recommended for simple positions it is unlikely that in normal circumstances the margin would change significantly on a daily basis and hence capital coverage of the relevant amount should not be an issue.

(B)   Method

Using the margin method, the position risk amount equals the ***primary margin requirement*** multiplied by four. A margin method position risk amount per currency is calculated as the sum of all individual position risk amounts denominated in a particular currency. The total margin method position risk amount is then the sum of the converted position risk amounts for each currency. All position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 10.

(C)   Primary Margin Requirement

The ***primary margin requirement*** is a defined term and it has been used to describe, in the Australian context, the "risk margin" component of the "total margin" as calculated by ASX Clear Pty Ltd (ASX Clear) and the "scanning risk" component of the "total initial margin" as calculated by ASX Clear (Futures) Pty Ltd.

Even though a ***primary margin requirement*** will not in all instances be required to be actually lodged with the relevant clearing house, as for example where a bought ***option*** position is opened with ASX Clear and the premium has been paid, it is nevertheless a requirement of the Rule that the ***primary margin requirement*** calculated by the clearing house for that position be used in calculating the capital requirement.

The ***primary margin requirement*** is as calculated by the relevant exchange or clearing house. The calculation of this amount may or may not reflect netting across positions in the same or different underlying instruments. This is obviously as determined by the relevant exchange or clearing house. For the purposes of the capital requirements, it has been deemed appropriate to rely on the expertise of the relevant exchange or clearing house in determining the basis of calculating the ***primary margin requirement***.

(iv)   Example

(A)   Position and Other Details

A Participant is long and short the following ASX 24 ***futures*** positions:

Futures Position	Scanning Risk per Contract $	Total Scanning Risk $
bought 50 3 year bond contracts	900	45,000
sold 10 90 day bill ***futures*** contracts	700	7,000
Total		**52,000**

(B)   Calculation

Therefore the position risk amount is four times the total scanning risk of $52,000 = $208,000.

(f)   Clause 15 - Basic Method

(i)   Rule

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15.   BASIC METHOD

15.1   Application

Debt Derivative positions which are purchased (long) or written (short) Options may be included in the basic method.

15.2   Method

(a)   The position risk amount for a purchased Option is the lesser of:

    (i)   the mark to market value of the underlying debt position multiplied by the standard method Position Risk Factor for the underlying position specified in Table 1.2, Annexure 5; and

    (ii)   the mark to market value of the Option.

(b)   The position risk amount for a written Option is:

    (i)   the mark to market value of the underlying debt position multiplied by the standard method Position Risk Factor for the underlying position specified in Table 1.2, Annexure 5 reduced by:

        (A)   any excess of the exercise value over the current market value of the underlying position in the case of a call Option, but limited to nil if it would otherwise be negative; or

        (B)   any excess of the current market value of the underlying position over the exercise value in the case of a put Option, but limited to nil if it would otherwise be negative.

(ii)   Formula

$$BM\ pra_{debt} = \sum_{ccy=1}^{m}\left[\sum_{i=1}^{nl}\left(\min\left[(S_{mtm}\times\sigma_{sm}),\mathrm{P}_m\right]\right)_i + \sum_{i=1}^{ns}\left(\max\left[(S_{mtm}\times\sigma_{sm})-\phi_i,0\right]\right)_i\right]_{ccy}$$

Where:

S_{mtm} *= the mark to market value of the underlying position i*

σ_{sm} *= the relevant **position risk factor** under the standard method*

P_m *= the mark to market value of the **option***

nl   *= number of long positions to which the basic method is applied*

ns   *= number of short positions to which the basic method is applied*

m   *= number of currencies*

ccy   *= currency*

ϕ_i *= $X_i - S_{mtm}$ for a call **option** or $S_{mtm} - X_i$ for a put **option***

X_i *= exercise value of **option** i*

(iii)   Guidance

(A)   General

The purpose of including the basic method in the Risk Based Capital Requirements is to provide a methodology that permits Participants to calculate, in a simple manner, a capital requirement where it transacts *option*s as principal (ETO and/or OTC).

(B)   Method

The calculation of position risk amounts under the basic method varies for purchased *options* and written *option*s.

(1)   Purchased Options

The position risk amount for purchased *option*s is the lesser of the market value of the *option* and the market value of the notional physical *debt* position underlying the *option* multiplied by the standard method *position risk factor* for the relevant *debt instrument* underlying the *option* from Annexure 5, Table 1.2.

The market value of the *option* should be calculated as the current price of the *option* multiplied by the number of *option*s. The notional market value of the physical *debt* position underlying the *option* should be the price the Participant would have to pay for the *debt instrument* underlying the *option* if it were to take a long position in that instrument at current interest rates. If the *option* is over a *futures* contract over a physical *debt instrument*, the notional position should be in the physical *debt instrument*.

(2)   Written Options

The position risk amount for written *option*s is the market value of the notional physical *debt* position underlying the *option* multiplied by the standard method *position risk factor* for the relevant *debt instrument* underlying the *option* from Annexure 5, Table 1.2, reduced by the amount by which the *option* is out of the money (if any). The position risk amount is limited to nil, i.e. the out of the money amount cannot be used to reduce the position risk amount below zero.

For a call *option*, the out of the money amount is the excess of the exercise price over the current market price of the underlying *debt instrument*, multiplied by the number of *option*s/number of securities underlying the *option*.

For a put *option*, the out of the money amount is the excess of the current market price of the underlying *debt instrument* over the exercise price, multiplied by the number of *option*s/number of securities underlying the *option*.

(3)   Total Position Risk Amount

A basic method position risk amount per currency is calculated as the sum of all position risk amounts for purchased and written *options* denominated in a particular currency. The total basic method position risk amount is then the sum of the converted position risk amounts for each currency. All position risk amounts are to be converted to Australian Dollars prior to aggregation in accordance with the guidance given for Annexure 3, clause 10.

(iv) Example

(A) Position and Other Details

A Participant holds the following *option* positions as at 6 December 2004:

Option Debt Derivatives						
Contract	Expiry	Position	Number of Contracts	Strike	Option Premium (% pa)	Current Price of Underlying
90 day bank bill *futures*	Mar 2005	Short calls	20	94.75	0.075	94.73
3 year bond *futures*	Dec 2004	Long puts	10	95.00	0.030	95.05

(B) Calculation

(1) Purchased Options

To calculate the market value of the *option*, it is first necessary to calculate the tick value of the *option* as follows:

$$\text{Tick }_{95.00 \, (5.00\%)} =$$

$$\left[\frac{3{,}000 \times \left(1 - \frac{1}{(1+0.05/2)^6} \right)}{0.05/2} + \frac{100{,}000}{(1+0.05/2)^6} \right] - \left[\frac{3{,}000 \times \left(1 - \frac{1}{(1+0.0501/2)^6} \right)}{0.0501/2} + \frac{100{,}000}{(1+0.0501/2)^6} \right] =$$

$27.9964968

Option premium per contract is tick value (for 1 point of premium) times number of points of premium
= $27.9964968 x 3
= $83.99

Total market value of *option* position = 10 x $83.99 = $839.90

The current market value of the December 2004 3 year bond *futures* contract at 95.05 is:

$$\text{YT }_{95.05 \, (4.95\%)} = \frac{3{,}000 \times \left(1 - \frac{1}{(1+0.0495/2)^6} \right)}{0.0495/2} + \frac{100{,}000}{(1+0.0495/2)^6} = \$102{,}894.19$$

The total market value of the underlying *futures* position
= 10 x $102,894.19
= $1,028,941.90

Contract	Market Value of Underlying	Position Risk Factor	Notional Value of Position multiplied by PRF	Market Value of Option	Position Risk Amount (min value)
3 year bond *futures*	$1,028,941.90	1.75%[53]	$18,006.48	$839.90	$839.90

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[53] Standard method *position risk factor* for a *government debt instrument*, 2-3 years.

(2)   Written Options

The current market value of the March 2005 30 day bank bill *futures* contract at 94.73 is:

$$\text{BAB}_{94.73\ (5.27\%)} = \frac{1,000,000}{1 + (0.0527 \times 90 \div 365)} = \$987,172.17$$

The total market value of the underlying *futures* position
= 20 x $987,172.17
= $19,743,443.40

The exercise value of a single *option* at a strike of 94.75 is:

$$\text{BAB}_{94.75\ (5.25\%)} = \frac{1,000,000}{1 + (0.0525 \times 90 \div 365)} = \$987,220.23$$

The total exercise value
= 20 x $987,220.23
= $19,744,404.63

Contract	Market Value of Underlying Position	Position Risk Factor	Notional Value of Position multiplied by PRF	Exercise Value	Excess of Exercise Value over Notional Value for calls (vice versa for puts)	Position Risk Amount
90 day bank bill *futures*	$19,743,443.40	0.45%[54]	$88,845.50	$19,744,404.63	$961.23	$87,884.27

(3)   Total Position Risk Amount

The overall position risk amount from the basic method is the sum of the position risk amounts for purchased and written *options*:

Option Type	Position Risk Amount $
Purchased Options	839.90
Written Options	87,884.27
Position Risk Amount	88,724.17

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[54] Standard method *position risk factor* for a *qualifying debt instrument*, 1-3 months.

(g) Clause 16 – Calculation of Debt Equivalent Positions

(i) Rule

16. CALCULATION OF DEBT EQUIVALENT POSITIONS

16.1 Swaps

The Debt Equivalent for a Swap is two notional positions, one for each leg of the Swap under which:

(a) there is a notional long position in a Debt Instrument or Debt Derivative on the leg of the Swap on which interest is received with a maturity equal to either the next interest reset date for a floating rate payment or the maturity of the Swap for a fixed rate payment; and

(b) there is a notional short position in a Debt Instrument or Debt Derivative on the leg of the Swap on which interest is paid with a maturity equal to either the next interest reset date for a floating rate payment or the maturity of the Swap for a fixed rate payment.

If one of the legs of the Swap provides for payment or receipt based on some reference to an Equity or Equity Derivative, the position risk amount for that leg of the Swap should be assessed in accordance with Part 1 of this Annexure.

16.2 Options

The Debt Equivalent for an Option is:

(a) for purchased call Options or written put Options, a long notional position:

(i) in the underlying Debt Instrument, in the case of an Option over a single Debt Instrument, and at the mark to market value of the Debt Instrument and its residual maturity; or

(ii) in the Debt Instrument with the longest residual maturity, in the case of an Option over Debt Instruments or interest rate index, and at the mark to market value;

(b) for purchased put Options or written call Options, a short notional position:

(i) in the underlying Debt Instrument, in the case of an Option over a single Debt Instrument, and at the mark to market value of the Debt Instrument and its residual maturity; or

(ii) in the case of an Option over a debt or interest rate index, in the Debt Instrument with the longest residual maturity in the index, at the mark to market value of the index; and

(c) for purchased call Options or written put Options on a Future, a long notional position calculated under clause 16.3(a) and for purchased put Options or written call Options on a Future, a short notional position calculated under clause 16.3(b).

16.3 Futures, forwards and forward rate agreements and options on futures

The Debt Equivalent for a Future, forward contract or Forward Rate Agreement is:

(a)   if purchased, a combination of a long position in a notional Debt Instrument with a maturity equal to the combined term of the contract plus the term of the underlying Debt Instrument, and a short position in the notional Debt Instrument with a maturity equal to the term of the contract;

(b)   if sold, a combination of a short position in a notional Debt Instrument with a maturity equal to the combined term of the contract plus the term of the underlying Debt Instrument, and a long position in the notional Debt Instrument with a maturity equal to the term of the contract;

(c)   if over an index, a combination of a notional position in the instrument with the longest term, with a maturity equal to the combined term of the contract plus the term of that Debt Instrument, and an opposite position in that Debt Instrument with a maturity equal to the term of the contract; and

(d)   if a range of deliverable instruments can be delivered to fulfil the contract the Participant may elect which Debt Instrument goes into the time band, Table 1.2, Annexure 5 but should take account of any conversion factor for the purposes of calculating the position risk.

16.4   Convertible Notes

The Debt Equivalent for a convertible note which is not within clause 8.4(a) or (b), is a position in a Debt Instrument.

16.5   Basket or index products

The Debt Equivalent for a basket or index product, where there is a known weight for each component Debt Instrument, is a position in a portfolio of Debt Instruments with corresponding weights and if the basket or index is based on:

(a)   Government Debt Instruments, then a zero specific risk Position Risk Factor should be used; and

(b)   Qualifying Debt Instruments or other Debt Instruments, then the appropriate specific risk Position Risk Factor should be used.

16.6   Other positions

The Debt Equivalent of a debt position arising under any other Financial Instrument is as prescribed by ASX Clear.

(ii)   **Guidance**

Clause 16 of Annexure 3 prescribes the way *debt derivative* positions are to be converted into *debt equivalent* positions.

(A)   **Swaps**

The *debt equivalent* of a *swap* that is valued by reference to one or more notional positions in *debt instruments* is a notional position in each *debt instrument* underlying the *swap*. The notional positions should then be marked to market as if they were actual positions in those underlying *debt instruments*. The notional position created on the floating rate leg of the *swap* will have a maturity equal to the term to

the next interest rate reset and not the term of the *swap*. The maturity of the notional position on the fixed rate leg of the *swap* will have a maturity equal to the term to maturity of the *swap*.

(B)   Options

Conversion of an *option* over an underlying *debt instrument*, interest rate or *swap* into a notional debt position involves determining whether the position in the underlying is a long or short position. If exercise of the *option* leads to the purchase of the underlying, the notional debt position is long. If exercise of the *option* leads to the sale of the underlying, the notional debt position is short[55].

The value of the notional debt position will be:

1.   for an *option* over a *debt instrument*, the current market value of that *debt instrument*. The maturity of the notional position in the *debt instrument* will be the term to maturity of the underlying *debt instrument* (and not the term to expiry of the *option*); or

2.   for an *option* over an interest rate, the current market value of a zero coupon *government debt instrument* yielding the interest rate underlying the *option*. The maturity of the notional position in the *debt instrument* will be the combined period of the term to expiry of the *option* plus the term of the interest rate underlying the *option*; or

3.   for an *option* over a *swap*, the principal amount of the underlying *swap*. The maturity of the notional debt position will be the term to maturity of the underlying *swap*. The notional position will have a coupon rate equal to the fixed rate of the underlying *swap*.

For *option*s over *futures* contracts, the *debt equivalent* position will be an equivalent position in the *futures* contract and not the physical position underlying the *futures* contract. Therefore, the conversion of the *option* position should follow the guidance for clause 16.3.

(C)   Futures, Forwards and FRAs and Options over Futures

The *debt equivalent* of these types of contracts consists of two positions in the underlying *debt instrument* (or in a notional *debt instrument* where there is no underlying *debt instrument* (e.g. a FRA) or where the underlying is a *debt derivative* (e.g. a *swap future*s contract)).

One position will have a maturity equal to the combined term of the *future*s/forward contract and the underlying *debt instrument* or *debt derivative* (or in the case of a FRA, the maturity date or end date of the FRA). The other position will have a maturity equal to the term of the *future*s/forward contract (or in the case of a FRA, the settlement date or commencement date of the FRA).

A "purchased" position should be interpreted as meaning that the holder of the position is an investor (i.e. has bought a *future*s/forward contract or has sold a FRA). A "sold" position should be interpreted as meaning that the holder of the position is a borrower (i.e. has bought a FRA or sold a *future*s/forward contract).

The following are three examples of how these types of contracts are broken down into the two positions:

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[55] In the case of an *option* over a *swap*, "purchase of the underlying" means receiving fixed rate payments under the *swap* and "sale of the underlying" means paying fixed rate payments under the *swap*.

1. A long position in a 3 year bond *futures* contract, with the *futures* expiring in 6 months time, will be treated as a long position in a bond maturing in 3 years and 6 months and a short position in a bond maturing in 6 months.

2. A bought position in a 2 x 8 FRA will be treated as a long position in a notional bond maturing in 2 months and a short position in a notional bond maturing in 8 months.

3. A bought position in a 10 year interest rate *swap future*s contract, with the *future*s expiring in 1 months time, will be treated as a long position in a notional bond maturing in 10 years & 1 month and a short position in a notional bond maturing in 1 month.

(D) Convertible Notes

The market value of a convertible note (also referred to as convertible bonds) has two components. Firstly, the note's value will be the greater of the value as a straight bond (i.e. debt) and the note's conversion value (i.e. as *equity*). The second component of the note's value is the value of the *option* that the holder of the note can convert it into *equity* at a point in time in the future.

Thus, if the value of the note issuer's debt is greater than its *equity*, the note's value will be influenced by the price of debt of an equivalently rated debt issuer. If, however, the value of the note issuer's *equity* is greater than its debt, the value of the note will be influenced by the value of the shares underlying the note at the current market price of the issuer's *equity*. If the latter, the value of the *option* component will be less than under the former case as the purchaser is obtaining an instrument at a price that reflects the higher value of *equity* and is not going to pay as much for the conversion *option* than if the price of the note reflected debt with a possibility to convert to *equity* if the value of *equity* increased.

There are two possible treatments for convertible notes for the purpose of calculating a position risk amount.

(1) As Equity

If the difference between the market value of the note and the market value of the *equity* (called the premium) is less than 10% of the market value of the *equity*, the note should be treated as an *equity* position. The market value of the *equity* is the value of the note if it is immediately converted to *equity* at current market prices (i.e. conversion ratio times the number of notes times the current price of the issuer's *equity* per share).

(2) As Debt

If the 10% criteria detailed above is not satisfied, the note is to be treated as a **debt instrument**. Generally the convertible note will pay a coupon and it is to be treated in the same manner as any other coupon paying bond as set out in Part 2 - Debt Position Risk.

The rationale for this approach is that the premium can never be negative as the price of the note will always reflect either the value as a bond or the value as *equity*, which ever is greater. If the premium is greater than 10% of the value as *equity*, it means that the value of *equity* is less than the value of the note as debt and therefore the instrument should be treated as a **debt instrument**.

The market value of the note and the market value of the *equity* should be compared daily to determine whether the convertible note should be treated as debt or *equity* for the purposes of the Risk Based Capital Requirements.

(E)   Basket or Index Products

No guidance necessary.

(F)   Income Securities

Income securities should be treated as debt positions, not *equity* positions, based on their market value. The *position risk factor*s to be applied under the standard method or the building block method will be based on the time until the next repricing date. The second column of time bands in Annexure 5, Table 1.2 should be used.

(G)   Other Positions

If a Participant has a principal position in a debt based *financial instrument*, the treatment of which is not detailed in the Rule or in this Handbook, it must in accordance with Rule S1.2.9 contact ASX Clear to determine the appropriate treatment.

(H)   Forward Foreign Exchange

At this stage, there is no requirement for Participants to calculate a debt position risk amount on the interest rate component of forward foreign exchange contracts. ASX Clear will be monitoring the impact of this concession and may at a later date include a requirement for its calculation and inclusion in the *debt position risk requirement*.

Forward foreign exchange contracts, however, are to be included in the calculation of the foreign exchange *position risk requirement* which is detailed in Annexure 3, Part 3.

(h)   Clause 17 – Calculation of Debt Net Positions

(i)   Rule

17.	**CALCULATION OF DEBT NET POSITIONS**

The debt net position is either the long or short position resulting from offsetting positions in Debt Instruments and Debt Derivatives in the following way:

(a)   subject to clause 17(c) and (d), short Debt Instrument and Debt Equivalent positions may be directly offset against long Debt Instrument and Debt Equivalent positions provided that the issuer, coupon, maturity are identical;

(b)   if the contingent loss matrix method is not used for Options, then an Option position can only be offset if it is In the Money by at least the standard method Position Risk Factor specified in Table 1.2 of Annexure 5 applicable to the underlying position;

(c)   a matched position in a Future or forward contract and its underlying may be offset provided that:

   (i)   the term to maturity of the Future or forward contract is included in the relevant time band specified in Table 1.2 of Annexure 5;

   (ii)   where the Future or the forward contract comprises a range of deliverable instruments, offsetting of positions in the Future or forward contract and the underlying is only permissible when there is a readily identifiable underlying which is profitable for the short position holder to deliver; and

   (iii) for a Future or forward contract where a Participant has a right to substitute cash settlement for physical delivery and the price at settlement is calculated with reference to a general market price indicator then no offset is allowed against the underlying; and

(d)   to qualify for offsets across product groups, the positions must relate to the same underlying instrument type, be of the same nominal value, and:

   (i)   in relation to Futures, the offsetting positions and the notional or underlying instruments to which the Futures relate must be identical products and mature within 7 days of each other;

   (ii)   in relation to Swaps and Forward Rate Agreements the reference rate (for floating rate positions) must be identical and the coupon closely matched (within 15 basis points); and

   (iii) in relation to Swaps, Forward Rate Agreements and forward contracts, the next interest fixing date, or, for fixed coupon positions or forward contracts, the residual maturity (or, where there is a call or put option in the relevant instrument, the effective maturity of the instrument) must correspond within the following limits:

      (A)   less than 1 month hence, same day;

      (B)   between one month and one year hence, within 7 days; and

      (C)   over one year hence, within 30 days.

(ii)   Guidance

The purpose of clause 17 is to prescribe the way in which positions in different **debt instruments**, whether they be **debt instruments** or **debt derivative** instruments, may be offset or netted prior to the calculation of a position risk amount.

The overriding principle for the calculation of **debt net position**s is that long and short positions may only be offset if they are identical in terms of issuer, coupon and term to maturity. For example, a long position in NSW T-Corp December 2007 5% bonds <u>cannot</u> be offset against a short position in NSW T-Corp November 2007 5.5% bonds.

(A)   Securities Lending and Borrowing

It should be noted that **securities lending and borrowing** transactions cannot be offset against underlying long and short **debt net positions**. This is because **securities lending and borrowing** arrangements are considered to be funding arrangements rather than arrangements that alter the position in a **debt** security (i.e. they do not change the market risk profile of the underlying position).

For example, if a Participant has an investment in government bonds and lends the bonds out under a **securities lending and borrowing** arrangement, it may <u>not</u> offset that lending arrangement against the long **debt net position** (i.e. reduce it by the amount lent) for the purposes of calculating a position risk amount on that long position. Similarly, securities borrowed to fund a short position in bonds <u>cannot</u> be offset against the short position for the purposes of calculating a position risk amount on the short **debt net position**.

Securities that have been lent out under a securities borrowing and lending arrangement or that have been sold under a repurchase agreement remain a principal position of the Participant for which a position risk amount must still be calculated, notwithstanding that a counterparty risk amount must also be calculated under the securities lending and borrowing method (Annexure 1, clause 4). The securities are to be included as Financial Assets in the returns lodged with ASX Clear.

(B)   Options

A position in an **option** over a **debt instrument**, **debt derivative** or interest rate may only be offset against a position in the underlying if the **option** is **in the money** by at least the standard method **position risk factor** prescribed in Annexure 5, Table 1.2 **and** the additional criteria of same issuer, coupon and maturity are met. If it is not sufficiently **in the money**, the position risk amount on the **option** position will need to be calculated under one of the methods provided for **option**s. The rationale for this restriction is that if the **option** is **in the money** by at least the prescribed **position risk factor**, its delta is likely to be close or equal to 1, allowing a one for one offset with an opposite position in the underlying.

It is important to note that the definition of **in the money** does not change relative to the **option** being bought or written. That is, **in the money** simply means that the market price of the underlying exceeds the strike price of the **option** for a call, and that the strike price of the **option** exceeds the market price of the underlying for a put. Therefore, for example, the writer of an **in the money** call is in fact carrying a position that is, for the writer, generating an unrealised loss.

Two examples follow of the offsetting of an **option** position against a position in the underlying.

The **debt equivalent** of an **option** over a **future**s contract is a notional position in the **future**s contract. Therefore, an **option** over a **future**s contract can be offset against an opposite position in the **future**s contract itself. For example, a long position in a call **option** on the Dec 04 3 year bond **future**s contract would be represented as a short position at December 2004 (expiry of the **future**s contract) and a long position at December 2007 (expiry of the underlying bond). A short position in the Dec 04 3 year bond **future**s contract would be represented as a long position at December 2004 and a short position at December 2007. Since the issuer, coupon and maturity criteria are met, the **option** position may be offset against the **future**s position and excluded from the position risk calculation.

The **debt equivalent** of an OTC bond **option** is a notional position in the underlying bond at the current market value of that bond and with maturity equal to the term to maturity of the bond. An OTC bond **option** can be offset against an opposite physical position in the bond. For example, a long position in a put **option** on a 7.5% coupon bond issued by BHP which expires in 6 years would be represented as a short 6 year position in that bond. A long physical position in that same bond (same issue, coupon, maturity, face value) would be represented as a long 6 year position. The **option** position may be offset against the physical bond position and excluded from the position risk calculation.

(C)   Futures and Forwards

A position in a **future** or forward contract can be offset against a position in the underlying instrument provided that the criteria of same issuer, coupon and maturity are met. Note that the position representing the time to expiry of the **future** or forward contract must be included in the calculation of a position risk amount. In other words, the net exposure from combining the **future** or forward positions and the physical position must still be included in the calculation.

For example, a long position in a $10m government bond with a coupon of 6% and with 10 years & 3 months to maturity would be represented as a long 10 year & 3 month position. A short position in 100 ASX 24 **future**s contracts on the 10 year 6% coupon government bond where the **future**s expires in 3 months would be represented as a long 3 month position and a short 10 year & 3 month position (see guidance for clause 16). Since the issuer, coupon and maturity criteria are met, the long and short 10 year & 3 month positions are offset and excluded from the calculation, while the long 3 month position is included in the position risk calculation.

A position in a **future** or forward contract over a range of deliverable instruments, where the instrument that is delivered on settlement is that which is the cheapest for the organisation that is short the contract to deliver (i.e. "cheapest-to-deliver" security), can be offset against a physical **debt instrument** only where that **debt instrument** is the cheapest to deliver.

For a **future** or forward contract over a **debt instrument** that can either be physically delivered or settled in cash ~~(e.g. the ASX 24 90 day bank bill contract)~~ and where the settlement price is calculated with reference to a general market price indicator ~~(e.g. 90 day bank bills),~~ the **futures** position cannot be offset against a position in the underlying **debt instrument** ~~(e.g. a 90 day bank bill **futures** contract cannot be offset against a physical position in 90 day bank bills).~~

Positions relating to two **futures** contracts can only be offset if the underlying **debt instruments** are identical, are of the same nominal value and mature within 7 days of each other. For example, if two different exchanges offered **future**s contracts over a particular **debt instrument**, for a long position in one contract to be offset against a short position in the other contract, the underlying **debt instruments** (issuer, coupon and maturity) and the nominal value of the **future**s would have to be identical and the two contracts would have to mature within 7 days of each other.

For example, consider a long position in a *future*s contract over a 10 year 6% coupon government bond traded on Futures Exchange A expiring in 1 month and a short position in a *future*s contract over a 10 year 6% coupon government bond traded on Futures Exchange B expiring in 1 month & 5 days. Assume the two contracts have the same nominal value. The position in the Exchange A contract would be represented as a short 1 month position and a long 10 year & 1 month position. The position in the Exchange B contract would be represented as a long 1 month & 5 day position and a short 10 year, 1 month & 5 day position. Since the underlying *debt instrument*s (issuer, coupon and maturity) and the nominal value of the *future*s are identical and the two *future*s contracts mature within seven days of each other, the short 1 month position can be offset against the long 1 month & 5 day position and the long 10 year & 1 month position can be offset against the short 10 year, 1 month & 5 day position. Therefore, the positions relating to these two *future*s contracts can be completely excluded from the calculation.

(D)   Swaps and Forward Rate Agreements

For opposite positions in *swaps* or *forward rate agreements* (FRAs) to be offset, the reference rate for the floating leg has to be identical and the coupon or fixed rate has to be within 15 basis points of each other. The reference rate for the floating leg is the rate on which floating payments are based (e.g. BBSW). Note that the margins above the reference rate need not be identical.

For example a position in a "borrower" FRA and a position in a "lender" FRA can be offset as long as the reference rate for both is identical (e.g. 90 day bank bills).

In addition to the above, if the next floating rate fixing occurs within the next month, the rate fixing for both positions must occur on the same day for the positions to be offset. The same criteria applies for the fixed rate leg where the residual maturity is one month or less.

If the above rate fixing dates or residual maturities will occur between 1 month and 1 year, the two positions can be offset as long as the rate fixing dates or residual maturities are within 7 days of each other.

If the above rate fixing dates or residual maturities will occur in greater than 1 years time, the two positions can be offset as long as the rate fixing dates or residual maturities are within 30 days of each other.

This is illustrated in the following example. A position in a receiver *swap* with a notional amount of $10m, fixed rate of 5%, floating rate of BBSW plus 6 basis points, next repricing in 2 months and a residual maturity of 5 years would be represented by a short 2 month position and a long 5 year position (see guidance for clause 16). A position in a payer *swap* with a notional amount of $10m, fixed rate of 5.14%, floating rate of BBSW + 7 basis points, next repricing in 2 months & 6 days and a residual maturity of 5 years & 20 days would be represented by a long 2 month & 6 day position and a short 5 year & 20 day position. Since the two *swap*s have the same nominal value, the floating rate legs have the same reference rate (BBSW), the coupons on the fixed rate legs are within 15 basis points of each other, the next repricing dates are in 1 month to 1 year and are within seven days of each other, and the residual maturities of the *swap*s are beyond one year and are within 30 days of each other, the positions relating to these two *swap*s can be offset and excluded from the capital calculation.

(E)   **Exchange Traded Funds and Other Managed Funds**

(1)   **Hybrid Exchange Traded Funds (ETFs)**

(a)   **Definition and Classification**

Refer to the guidance for Annexure 3, Part 1, clause 9 for the definition of hybrid ETFs and how these are classified for the purposes of the Risk Based Capital Requirements.

In the instance where a Participant buys units in a hybrid ETF and the responsible entity for the hybrid ETF is a *related/associated person* of the Participant, the investment is not considered a *related/associated person balance* and as such is not an *excluded asset* on this basis.

(b)   **Position Risk Guidance**

As hybrid ETFs are considered to be *equity* or *debt instruments* for the purposes of the Risk Based Capital Requirements, principal positions in hybrid ETF units should be treated as follows.

1. There is no difference between the primary market and secondary market for the purposes of calculating position risk amounts.

2. Principal positions in hybrid ETFs commence at T_0 and the underlying risk variable is the market price of the hybrid ETF unit.

3. A hybrid ETF cannot be broken down into any notional positions in the underlying.

4. The *position risk factors* to be applied to hybrid ETFs that are classified as *debt instruments* (i.e. hybrid ETFs issued over physical *debt instrument*s only) are:

   (a) as specified in Annexure 5, Table 1.2 where the assets underlying the hybrid ETF can be specifically identified, up to a maximum of 16% (standard method) or 8% for general risk and 8% for specific risk (building block method – maturity method). The *position risk factor* is to be selected from Table 1.2 based on the following:

   (i)   The time bands for coupon < 3% must be used.

   (ii) The time band chosen should be based on the average investment term. If it can be identified that more than 80%[56] of the assets underlying the hybrid ETF by value fall in a particular time band, the *position risk factor* for that time band may be applied to the entire position.

   For example, assume that a Participant has a position in a hybrid ETF with a market value of $2 million, the total fund size is $500 million and the Participant can identify the underlying assets. If there are total underlying assets with a value of **over** $400 million in the 6-12 month time band, the *position risk factor* for this time band may be applied to the Participant's entire $2 million position in the hybrid ETF. If, however, there was only, say, $390 million in the 6-12 month time band and the remaining $110 million of the underlying assets fall in the 2.8-3.6 year time band, then

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[56] For practical reasons, 80% has been chosen as the threshold as it is consistent with the market value percentage used in the equity arbitrage method.

the **position risk factor** for the 2.8-3.6 year time band must be used for the Participant's entire $2 million position.

    (iii)   The standard method 'other' column (or the 'other' column in Table 1.3 for specific risk if the building block method is used) should generally be used. However, if a Participant can identify that any assets underlying the hybrid ETF satisfy the definition of **qualifying debt instrument**, the 'qualifying' column can be used for that portion of the fund on a proportional basis to the individual holding. The 'other column must be used for the remainder of the position. When reporting the position risk amounts in the capital liquidity return, the 'qualifying' and 'other' portions will need to be reported separately.

    (b)   in all other instances (i.e. where the assets underlying the hybrid ETF cannot be specifically identified), 16% (standard method) or 8% for general risk and 8% for specific risk (building block method – maturity method).

The position risk treatment for hybrid ETFs that are classified as **equities** is set out in the guidance for Annexure 3, Part 1, clause 9.

The same liquidity tests will apply to positions in hybrid ETF units as they do to all positions in **debt instruments** to determine if they should be treated as **excluded assets**. That is, if the Participant is unlikely to be able to liquidate its position in a hybrid ETF within 31 days, taking into account factors including the size of its position and the volume of that hybrid ETF traded in the market, it must exclude the market value of that position from **liquid capital**.

(2)   Other Managed Funds

(a)   Definition and Classification

Refer to the guidance for Annexure 3, Part 1, clause 9 for the definition of other managed funds and how these are classified for the purposes of the Risk Based Capital Requirements.

In the instance where a Participant buys units in an other managed fund and the responsible entity for the other managed fund is a **related/associated person** of the Participant, the investment is not considered a **related/associated person balance** and as such is not an **excluded asset** on this basis.

(b)   Position Risk Guidance

As other managed funds are considered to be **equity** or **debt instruments** for the purposes of the Risk

Based Capital Requirements, principal positions in other managed funds units should be treated as follows.

    1.   Principal positions in other managed funds commence at T_0 and the underlying risk variable is the market price of the other managed fund unit.

    2.   An other managed fund cannot be broken down into any notional positions in the underlying.

    3.   The **position risk factors** to be applied to other managed funds that are classified as **debt instruments** (i.e. other managed funds issued over physical **debt instruments** only) are:

        (a)   as specified in Annexure 5, Table 1.2 where the assets underlying the other managed funds can be specifically identified, up to a maximum of 16% (standard method) or 8% for general

risk and 8% for specific risk (building block method – maturity method). The **position risk factor** is to be selected from Table 1.2 based on the following:

(i)   The time bands for coupon < 3% must be used.

(ii)   The time band chosen should be based on the average investment term. If it can be identified that more than 80%[57] of the assets underlying the other managed fund by value fall in a particular time band, the **position risk factor** for that time band may be applied to the entire position.

For example, assume that a Participant has a position in an other managed fund with a market value of $2 million, the total fund size is $500 million and the Participant can identify the underlying assets. If there are total underlying assets with a value of **over** $400 million in the 6-12 month time band, the **position risk factor** for this time band may be applied to the Participant's entire $2 million position in the other managed fund. If, however, there was only, say, $390 million in the 6-12 month time band and the remaining $110 million of the underlying assets fall in the 2.8-3.6 year time band, then the **position risk factor** for the 2.8-3.6 year time band must be used for the Participant's entire $2 million position.

(iii)   The standard method 'other' column (or the 'other' column in Table 1.3 for specific risk if the building block method is used) should generally be used. However, if a Participant can identify that any assets underlying the other managed fund satisfy the definition of **qualifying debt instrument**, the 'qualifying' column can be used for that portion of the fund on a proportional basis to the individual holding. The 'other column must be used for the remainder of the position. When reporting the position risk amounts in the capital liquidity return, the 'qualifying' and 'other' portions will need to be reported separately.

(b)   in all other instances (i.e. where the assets underlying the other managed fund cannot be specifically identified), 16% (standard method) or 8% for general risk and 8% for specific risk (building block method – maturity method).

The position risk treatment for other managed funds that are classified as **equities** is set out in the guidance for Annexure 3, Part 1, clause 9.

The same liquidity tests will apply to positions in other managed funds units as they do to all positions in **debt instruments** to determine if they should be treated as **excluded assets**. That is, if the Participant is unlikely to be able to liquidate its position in an other managed fund within 31 days, taking into account factors including the size of its position relative to the size of the fund, it must exclude the market value of that position from **liquid capital**.

In addition, if a daily price cannot be obtained and/or if the number of units on issue cannot be determined on a daily basis, the fund would have to be treated as an **excluded asset** as it would not be possible to value the investment in accordance with the requirements of Rule S1.2.8. This treatment is consistent with the treatment for all unlisted products within the Risk Based Capital Requirements.

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[57] For practical reasons, 80% has been chosen as the threshold as it is consistent with the market value percentage used in the equity arbitrage method.

(F) Depository Receipts

A position in a depsitory receipt can be treated as if that position were in the **debt instrument** that underlies the depository receipt. For example, the holder of an exchange traded Government Bond Depositary Interest[58] traded on the ASX has beneficial ownership of a government bond in the form of a CHESS Depository Interest[59], and such a position should be treated as if it is a position in the underlying government bond.

(G) Inflation Linked Securities

Inflation linked securities should be treated as a separate currency (that is, kept separate from other debt products in that currency), and therefore there are no hedging allowances between inflation linked positions and other positions. However, an inflation linked security can be treated as a conventional debt position (that is, it need not be subject to a separate calculation) once the final coupon and redemption value are known.

It should specifically be noted that, in calculating a debt position risk amount in relation to inflation linked securities, Participants must not use the building block duration method. The **position risk factor** applicable to an inflation linked security is to be selected from Annexure 5, Table 1.2 based on the time bands for coupon $\geq$ 3%.

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[58] As defined in the ASX Operating Rules.
[59] As defined in the ASX Settlement Operating Rules

SECTION 3E.III –ANNEXURE 3: PART 3 – FOREIGN EXCHANGE POSITION RISK

(a) Clause 18 – Foreign Exchange Position Risk Amount

(i) Rule

PART 3 - FOREIGN EXCHANGE POSITION RISK

Note: *Part 3 only deals with the calculation of foreign exchange position risk amounts under the methods set out within this Part 3 (i.e. all available methods for foreign exchange positions other than the internal models approach set out in Part 4). Participants using a combination of Parts 3 and 4 for foreign exchange positions, as per part (c) of the definition of Position Risk Requirement, should note that the contents of Part 3 do not reflect the availability of the internal models approach of Part 4.*

18. FOREIGN EXCHANGE POSITION RISK AMOUNT

18.1 Nature of foreign exchange position risk amount

The foreign exchange position risk amount in relation to a Participant's foreign exchange positions is the absolute sum of the individual position risk amounts for foreign exchange positions calculated using the methods of calculation set out in this Annexure 3.

18.2 Overview Of Methods

(a) The standard method is the main method for measuring the foreign exchange position risk amount. The method is supplemented by other methods, the use of which largely depends on the Financial Instruments in which principal positions are taken.

(b) In calculating foreign exchange position risk amounts, the following methods must be used:

Nature of Positions	Standard Method	Contingent Loss Matrix Method
Physical* (not foreign exchange derivatives)	Yes	Yes In conjunction with positions in options
Non-option foreign exchange derivatives	Yes, if converted to foreign exchange equivalent positions	Yes In conjunction with positions in options
Foreign Exchange Options	Yes, if satisfy relevant criteria and not permitted to use contingent loss matrix method	Yes, must be used for all written options. Pricing model must be approved by ASX Clear

* A physical position in Part 3 of this Annexure 3 includes foreign currency assets and liabilities and Equity and Debt Instruments denominated in a foreign currency.

(ii) Formula

$$PRR_{fx} = \sum \left| pra_{method} \right|$$

Where:

pra $_{method}$ = the position risk amount calculated under each method in accordance with Part 3 of Annexure 3

(iii) Guidance

(A) General

Part 3 of Annexure 3 sets out various methods that Participants may use in calculating position risk amounts with respect to foreign currency assets and liabilities, and principal positions (i.e. proprietary trading or investment positions) in foreign exchange contracts and other ***financial instruments*** that derive their value from foreign exchange rates. The absolute sum of the position risk amounts calculated for foreign exchange based principal positions are a component of the overall ***position risk requirement*** calculation.

(B) Methods

Two methods are provided for the calculation of the foreign exchange position risk amount.

Standard Method - Clause 19

The main method for calculating the foreign exchange position risk amount. Designed for those Participants with basic foreign exchange exposures resulting from positions in foreign currency denominated assets, liabilities, ***equity net positions*** and ***debt net positions*** and positions in foreign exchange contracts.

Contingent Loss Matrix Method - Clause 20

A method specifically for the calculation of a position risk amount on ***option*** portfolios. Designed to be used by Participants that have substantial foreign exchange ***option***s portfolios. Participants that have written currency ***option*** positions must use either this method or the internal models approach (Part 4 of Annexure 3).

A detailed discussion of each method along with qualifying criteria are presented in the guidance for clauses 19 and 20.

(C) Position Risk Factors

(1) General

All methods refer to the use of ***position risk factors*** to calculate the position risk amount. These ***position risk factors*** are located in Annexure 5, Table 1.7.

The ***position risk factors*** have been determined after taking into account international and local standards.

(D)   Foreign Currency

Participants may have foreign currency assets and liabilities or principal positions in **equity** or **debt instruments** (i.e. **financial instruments**) that are denominated in a currency other than Australian Dollars. A position risk amount is required to be calculated on **equity** and debt principal positions to measure the equity price risk and interest rate risk (Part 1 and Part 2 of Annexure 3 respectively) and a position risk amount is also required to be calculated to measure the foreign exchange risk inherent in such positions.

Foreign exchange positions must be converted to Australian Dollars at the daily **market spot exchange rate**. This rate is the "closing" rate of exchange (mid rate) between each currency and the Australian dollar and can be sourced from either the daily financial press or from providers of foreign exchange markets information such as Reuters. It is possible that closing rates from alternate sources may differ but this is acceptable. Those organisations that subscribe to market information providers that supply 24 hour market data (i.e. the foreign exchange market runs 24 hours and there is no "closing" rate) should establish a procedure whereby the rate is taken at the close of business each day at, for example, 4:00 pm.

(b)   Clause 19 - Standard Method

(i)   Rule

19.   STANDARD METHOD

19.1   Application

(a)   Foreign currency physical positions may be included in standard method.

(b)   Foreign Exchange Derivative positions other than Options may be included in the standard method if the positions are converted to Foreign Exchange Equivalents according to clause 21.

(c)   Foreign Exchange Derivative positions which are Options may be included in the standard method only if they are purchased positions and the purchased positions are converted to a Foreign Exchange Equivalent according to clause 21.

If the above criteria are not met, the Options must be treated under the contingent loss matrix method set out in clause 20.

19.2   Method

(a)   The position risk amount for foreign exchange positions to which the standard method is applied is the greater of the absolute value of the aggregate of the converted:

(i)   net open long position in foreign currencies; and

(ii)   net open short position in foreign currencies,

multiplied by the Position Risk Factor specified in Table 1.7, Annexure 5.

(b)   Foreign Exchange Derivative positions which are purchased Options and are In the Money by at least the standard method Position Risk Factor specified in Table 1.7, Annexure 5, are to be converted to a Foreign Exchange Equivalent in accordance with clause 21 and included in the net open position in accordance with clause 22.

(c)   Foreign Exchange Derivative positions which are purchased Options and are not In the Money by at least the standard method Position Risk Factor specified in Table 1.7, Annexure 5, are to be converted to a Foreign Exchange Equivalent in accordance with clause 21 and:

(i)   where the resulting currency positions from the option increases the net open position in the currency if included, the position must be included in the net open position; and

(ii)   where the resulting currency positions from the option decreases the net open position in the currency if included, the position must be excluded in the net open position.

(ii) Formula

$$SM\ pra_{fx} = \max\left[\ \left|\sum_{l=1}^{n} nop_l\right|\ ,\ \left|\sum_{s=1}^{m} nop_s\right|\ \right] \times \sigma_{fx}$$

Where:

σ_{fx} = *currency position risk factor*

nop   = *A\$ equivalent net open position, either long (l) or short (s) for each currency*

(iii) Guidance

(A) General

The standard method is the simplest method for calculating a position risk amount for physical positions in foreign exchange instruments and ***foreign exchange derivatives***. While it does have limited application to ***foreign exchange derivatives***, it is designed primarily for use by those Participants with principal positions **that are limited to a small number of foreign exchange positions**.

(B) Method

The first step in calculating the foreign exchange position risk amount using the standard method is to calculate a net open position in each currency which is then converted to Australian dollars. The converted currency net open positions are then sorted into long positions and short positions. All long positions are summed and all short positions are summed. The greater of the absolute values of the two amounts, either the long or the short, is then multiplied by the standard method ***position risk factor*** prescribed in Annexure 5, Table 1.7 to give the foreign exchange position risk amount.

Positions in each currency must be converted to Australian Dollars at the daily ***market spot exchange rate***. This rate is the "closing" rate of exchange (mid rate) between each currency and the Australian dollar and can be sourced from either the daily financial press or from providers of foreign exchange markets information such as Reuters. It is possible that closing rates from alternate sources may differ but this is acceptable. Those organisations that subscribe to market information providers that supply 24 hour market data (ie, the foreign exchange market runs 24 hours and there is no "closing" rate) should establish a procedure whereby the rate is taken at the close of business each day at, for example, 4:00 pm.

(C) Net Open Positions

The standard method involves calculating a net open position in each currency in which positions are held. Guidance on the calculation of currency net open positions is provided in clause 22. For the purposes of the standard method, positions in ***foreign exchange derivatives*** may be incorporated into the currency net open position only under certain circumstances.

1. Non-***option foreign exchange derivatives*** must be converted to ***foreign exchange equivalents*** to be incorporated into a currency net open position. Guidelines for converting ***foreign exchange derivatives*** into ***foreign exchange equivalents*** is provided in clause 21.

2. Positions in foreign currency ***option***s may be included in the currency net open position but only if:

    (a) they are purchased ***option***s (OTC or ETO calls or puts);

(b) they are *in the money* by the standard method *position risk factor*; and

(c) they are converted to a *foreign exchange equivalent* position.

With respect to point 2(b), as a general rule, an *option* can only be included in the currency net open position if it has a positive intrinsic value and that intrinsic value, as a percentage of the strike price of the *option*, is greater than or equal to the foreign exchange *position risk factor* specified in Annexure 5, Table 1.7. See the guidance for the definition of *in the money* in Section 3, Tab A of this Handbook.

If the *foreign exchange equivalent* of an *option* that is not *in the money* by at least the *position risk factor* increases the net open position, it should be included in the net open position. If, however, it reduces the net open position, it should be excluded from the net open position.

It is important to note that the definition of *in the money* does not change relative to the *option* being bought or written. That is, *in the money* simply means that the market price of the underlying exceeds the strike price of the *option* for a call, and that the strike price of the *option* exceeds the market price of the underlying for a put. Therefore, for example, the writer of an *in the money* call is in fact carrying a position that is, for the writer, generating an unrealised loss.

With respect to point 2(c), positions in *option*s that satisfy points 2(a) and 2(b) must be converted to *foreign exchange equivalents* for the purposes of including them in the currency net open position. Guidelines for converting *option* positions into *foreign exchange equivalents* is provided in clause 21.

If a Participant has an *option* position that does not satisfy the above criteria it must calculate a position risk amount on that position using another method. Such *option* positions can only be taken where the Participant has sophisticated systems in place to enable it to monitor the risks on those positions.

In particular, written currency *option*s can only be entered if the Participant uses the contingent loss matrix method or the internal models approach which require it to have the capability to price *option*s and must be approved by ASX Clear.

(iv) Example

(A) Positions and Other Details

A Participant has the following positions:

Type	Currency 1		Currency 2	
	Currency	Value (Long / (Short))	Currency	Value (Long / (Short))
FX Spot	AUD	10,000,000	USD	(6,300,000)
FX Forward	GBP	(5,000,000)	JPY	946,650,000
FX Option - 13% i.t.m.	JPY	(10,000,000,000)	AUD	138,888,000
FX Option - 4% i.t.m.	USD	(5,000,000)	GBP	3,000,000
FX Futures	HKD	(12,000,000)	USD	1,540,000
Equity	USD	10,000,000		
	GBP	7,000,000		
	HKD	15,000,000		
Debt	USD	(2,000,000)		
	GBP	5,000,000		
	JPY	5,000,000,000		
Other Assets & Liabilities	USD	250,000		
	GBP	(50,000)		
	HKD	(125,000)		
	JPY	15,000,000		
	USD	(550,000)		

Current Spot Exchange Rates (to AUD)	
USD	0.6330
JPY	72.23
GBP	0.3815
HKD	4.9217

(B)   Calculation

Type	Currency Positions [1]			
	USD	GBP	JPY	HKD
FX Spot	(6,300,000)			
FX Forward		(5,000,000)	946,650,000	
FX Option - 13% i.t.m.			(10,000,000,000)	
FX Futures	1,540,000			(12,000,000)
Equity	10,000,000			
		7,000,000		
				15,000,000
Debt	(2,000,000)			
		5,000,000		
			5,000,000,000	
Other Assets & Liabilities	250,000			
		(50,000)		
				(125,000)
			15,000,000	
	(550,000)			
Net Open Position	2,940,000	6,950,000	(4,038,350,000)	2,875,000
FX Option - 4% i.t.m.	(5,000,000)	3,000,000		
Net Open Position [2]	2,940,000	9,950,000	(4,038,350,000)	2,875,000
Exchange Rate	0.6330	0.3815	72.23	4.9217
AUD Equivalent	4,644,550	26,081,258	(55,909,594)	584,148

1. Note that AUD positions are not included in this table because there is no foreign exchange risk on such positions.

2. Note, the net open positions for USD and GBP need to be notionally adjusted for the *option* position that is not *in the money* by at least the *position risk factor* to determine its impact on the net open position in each currency. The notional adjustment to USD reduces the net open position and it is therefore excluded from the USD net open position. The adjustment to GBP increases the net open position and it is therefore included in the GBP net open position.

Total Long Positions	**31,309,956**
Total Short Positions	**(55,909,594)**

Therefore, the foreign exchange position risk amount under the standard method is:

A\$55,909,594 x 8% = A\$4,472,768

(c)　　Clause 20 - Contingent Loss Matrix Method

(i)　　Rule

20.　　**CONTINGENT LOSS MATRIX METHOD**

20.1　　**Application**

(a)　　Foreign Exchange Derivative positions which are Options together with physical foreign exchange and other Foreign Exchange Derivative positions may be included in the contingent loss matrix method but only if used in conjunction with an option pricing model approved by ASX Clear.

(b)　　Foreign Exchange Derivative positions which are written Options must be included in the contingent loss matrix method.

20.2　　**Method**

(a)　　The position risk amount for foreign exchange positions to which the contingent loss matrix method is applied is the greatest loss arising from simultaneous prescribed movements in the closing market rate of the underlying currency pairing and the option implied volatility.

(b)　　The prescribed movements are the Position Risk Factors for the standard method that are specified in Table 1.7, Annexure 5.

(c)　　A separate matrix must be constructed for each option portfolio and associated hedges in an individual currency pairing.

(d)　　Changes in the value of the option portfolio must be analysed over a fixed range of changes above and below the current market exchange rate and option implied volatility as follows:

(i)　　the relevant Position Risk Factor is to be divided into seven equally spaced rate shift intervals (including the current market rate); and

(ii)　　the implied volatility Position Risk Factor is to be divided into three equally spaced volatility shift intervals (including the current market implied volatility).

(e)　　Each option portfolio is to be re-priced using the adjusted underlying and volatility price as described in clause 20.2(d). The value in each element of the contingent loss matrix will be the difference between the revalued option portfolio and the option portfolio measured using the closing market rates.

(ii)   Formula

Option Implied Volatility

Rate or Price of Underlying	Σ_{-PRF}	Σ_m	Σ_{+PRF}
σ_{-PRF}	$P_{PRF} - P_m$	. . .	$P_{PRF} - P_m$
$\sigma_{-PRF}2/3$	.		.
$\sigma_{-PRF}1/3$	. .		.
σ_m	.	$P_m - P_m = 0$	.
$\sigma_{+PRF}1/3$	.	.	.
$\sigma_{+PRF}2/3$	.	.	.
σ_{+PRF}	$P_{PRF} - P_m$	. .	$P_{PRF} - P_m$

(Note, for short positions, the gain or loss in each element will be the market less the adjusted value)

$$CLMM\ pra_{fx} = \sum_{i=1}^{n} \left| \min_i \right|$$

Where:

$\Sigma +/-PRF$ = *option implied volatility adjusted by the position risk factor*

Σm = *closing market option implied volatility*

$\sigma +/-PRF$ = *underlying exchange rate adjusted by the position risk factor*

σm = *closing market underlying exchange rate*

P_{PRF} = *the value of the option portfolio at rates adjusted by the position risk factors*

P_m = *the value of the option portfolio at closing market rates*

$\min_i$ = *the minimum value in matrix i (ie, the maximum loss) or zero if no element of the matrix contains a loss amount*

n = *the number of separate matrices (ie, the number of separate currency pairings)*

(iii)   Guidance

(A)   General

The contingent loss matrix method is the more sophisticated method (of those available in Part 3 of Annexure 3) for calculating the position risk amount on a foreign exchange portfolio that includes *option*s.

The method may be used by Participants that have purchased ETO positions or purchased OTC *option* positions although a less complex method (standard method) is available under certain conditions for portfolios that include these *option*s. Physical foreign exchange contracts and other *foreign exchange derivatives* may be included in the contingent loss matrix method where they are part of the portfolio that contains the *option* position (i.e. are either a hedge of the *option*s or where the *option*s are hedging the underlying physical position).

The method must be used by a Participant that has an options portfolio that includes written *options*[60]. Further, the method can only be used in conjunction with an option pricing model and the Participant must be able to mark to market the foreign exchange and *foreign exchange derivative* positions. Prior to a Participant being able to apply the contingent loss matrix method, its foreign exchange and option valuation models must be approved by ASX Clear.

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[60] Unless the Participant uses the internal models approach of Part 4 of Annexure 3 for its *option* positions.

The contingent loss matrix method involves the marking to market of an option portfolio (i.e. all positions in an individual currency pairing) with the market exchange rate and the option volatility adjusted by prescribed **position risk factor**s and comparing the values of the portfolio against the value at the market rate and volatility. The differences in value are presented in a matrix which shows the gains and losses on the portfolio that would arise if the adjustments made to the market exchange rate and volatility (i.e. the **position risk factor**s) were in fact realised. The greatest loss is the position risk amount for that currency pair.

(B)   Option Pricing Model Approval

Before a Participant will be authorised to use the contingent loss matrix method, it will need to demonstrate that it can calculate prices for the **option**s that it has in its portfolio. For vanilla European **option**s, Black and Scholes is a satisfactory pricing model. For exotic or American or Bermudian styled **option**s, a more sophisticated model such as those that use numerical methods will be required.

Participants that use such models will be required to provide ASX Clear with the technical specifications for the model and details concerning the parameters used in the model. All Participants wishing to use the contingent loss matrix method will be required to provide ASX Clear with details concerning the way in which the pricing model is integrated into the organisation's overall risk management systems and the extent to which it can automate the calculation of the contingent loss matrix.

(C)   Option Portfolio

The contingent loss matrix method calculates the position risk amount based on an option portfolio. An option portfolio is a portfolio that contains **option**s over a particular currency pair. The portfolio may also contain physical foreign exchange positions in the same currency pair. A unique matrix must be constructed for each option portfolio/currency pair.

(D)   Method

The contingent loss matrix method applies the **position risk factor**s prescribed for the standard method for foreign exchange positions as set out in Annexure 5, Table 1.7. The **position risk factors** are used to adjust the current market exchange rates of the underlying currency pairs at 7 equally spaced intervals. Adjustments are both positive and negative (i.e. to both increase and decrease the current exchange rate) – that is, no change to the current market exchange rate, 3 equally spaced cumulative increases to the current market exchange rate and 3 equally spaced cumulative decreases to the current market exchange rate.

The current market option volatility is to be adjusted by the prescribed **position risk factor** from Annexure 5, Table 1.7 in a similar fashion except that the current market volatility is to be adjusted up and down by the full amount of the prescribed **position risk factor** (ie, there are no intermediate adjustments).

The **position risk factors** are expressed as percentages. The adjustments to the current market exchange rate and volatility are to be done by taking the relevant percentage of the current market exchange rate or volatility (itself a percentage) and either adding or subtracting that amount from the current market exchange rate or volatility.

The contingent loss matrix for each option portfolio/currency pair can be constructed by following a 7 step process:

Step 1
Calculate the value of the physical foreign exchange positions which are included in the option portfolio. Each element in the 7 by 3 matrix will contain the value of the positions at various exchange rates. The various rates will be the market rate adjusted by the **position risk factors**. For example, the top left hand element should contain the value of the position valued at the market rate adjusted by the full **position risk factor** for that currency pair. The next element down should contain the value of the position at the market rate adjusted by two thirds of the **position risk factor**, and so on. As volatility does not impact physical positions, the value of the position at various volatilities will be the same.

Step 2
Using the same approach as in *step 1*, value any non-**option derivative** foreign exchange positions.

Step 3
Aggregate the physical foreign exchange and non-**option derivative** values calculated in *step 1* and *step 2* above. Each corresponding element in the matrices should be aggregated so that long and short positions are netted.

Step 4
Calculate the gain or loss on the non-**option** component of the option portfolio (from *step 3*) by deducting the value of the portfolio at current market rates from the value of the portfolio at the various adjusted rates.

Step 5
Calculate the value of the **option** position at the various adjusted rates and volatilities. This will involve valuing the **option** 21 times for each combination of underlying rate and implied option volatility. The option prices must be calculated by a valuation model that is approved by ASX Clear (as discussed above). The price calculated in each matrix element should then be multiplied by the size of the **option** position.

Step 6
Calculate the gain or loss on the **option** position by deducting the value of the **option** at the current market rates from that at the various adjusted rates (for a long **option** position) or by deducting the value of the **option** at the various adjusted rates from that at the current market rates (for short **option** positions).

Step 7
Aggregate each corresponding element in the matrices calculated at *step 4* and *step 6* such that gains and losses are netted. This matrix is the gain and loss matrix for the option portfolio/currency pair. The position risk amount for that option portfolio will be the amount in the element that contains the maximum loss (or zero if there are no loss amounts in the matrix).

The above steps are not mandatory. An alternate procedure can be followed as long as the same results are achieved.

This process is repeated for each option portfolio/currency pair. The overall position risk amount will be the aggregate of the absolute value of the maximum losses from each individual option portfolio/currency pair matrix. Prior to aggregation, the maximum losses for option portfolios that are priced and revalued in a currency other than Australian Dollars should be converted to Australian Dollars in accordance with the guidance given for Annexure 3, clause 18.

(iv)   **Example**

An example of the foreign exchange contingent loss matrix method has not been prepared as the principles behind the method (_step 1_ through to _step 7_) are identical to the equity contingent loss matrix method. Complete detailed examples of that method have been provided in the guidance for Annexure 3, Part 1, clause 4.

(d) Clause 21 – Calculation of Foreign Exchange Equivalent Positions

(i) Rule

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21. CALCULATION OF FOREIGN EXCHANGE EQUIVALENT POSITIONS

21.1 Options

The Foreign Exchange Equivalent for an Option is:

(a) for purchased call Options and written put Options, a long position at the notional face value of the underlying contract; and

(b) for purchased put Options and written call Options, a short position at the notional face value of the underlying contract.

21.2 Futures

The Foreign Exchange Equivalent for a currency Future is the notional face value of the underlying contract.

21.3 Forward contracts

The Foreign Exchange Equivalent for a forward contract including a future exchange associated with a cross currency Swap is at the discretion of the Participant either the:

(a) face value of the contract; or

(b) net present value of the contract.

21.4 Other positions

The Foreign Exchange Equivalent of a foreign exchange position arising under any other Financial Instrument is as prescribed by ASX Clear.

(ii) Guidance

Clause 21 of Annexure 3 prescribes the way *foreign exchange derivative* positions are to be converted into *foreign exchange equivalent* positions. In general a foreign exchange contract involves the purchase of one currency in exchange for another. The number of combinations of currency pairings in a foreign exchange contract is limited only by the number of currencies in the world and people who will trade them. The value of a particular currency is measured generally by its rate of exchange with another currency (and usually this is United States Dollars (USD)). The exchange rate expresses the price of one currency (known as the "commodity" currency) in terms of another currency (known as the "terms" currency).

For example, the AUD/USD exchange rate of 0.63 indicates that 1 Australian Dollar, the commodity currency, will cost, or could be sold for, 63 United States cents, the terms currency. The way the currencies are quoted is arbitrary but market practice has been to quote all currencies against the USD (ie, with USD as the commodity currency) except for the currencies of the former British empire countries (Australia, Great Britain, Hong Kong, etc.) which are quoted "indirectly" with the local currency being quoted as the commodity currency.

A *foreign exchange derivative* is a contract that is valued from a foreign exchange rate and underlying exchange amount and may, at expiry or maturity, involve the "delivery" or creation of a foreign exchange contract (spot or forward or a *futures* contract).

Unless specified otherwise in the Rule, the value of the notional positions is to be the same value attached to the *foreign exchange derivative* contract. For example, the *foreign exchange equivalent* of a USD/EUR *future*s contract for the purchase of USD10,000,000 and sale of EUR 16,906,000 when the current USD/EUR exchange rate is 1.6898 (i.e. EUR 16,898,000) is a long position in USD10,000,000 and a short position in EUR 16,906,000 and not at the current value of EUR 16,898,000.

(A)   Options

An *option* over a foreign exchange contract is usually expressed in terms of a currency pairing. The *option* will grant the purchaser the right but not the obligation to buy or sell one currency (the commodity currency) in exchange for another currency (the terms currency) at an agreed exchange rate on or before an agreed expiry date. Exchange traded currency *option*s are generally expressed such that a quantity of currency is purchased or sold (the commodity currency) against the USD (the terms currency). Over the counter *option*s can be priced with any combination of currencies.

A call *option*, for example, over the GBP/USD (Great Britain Pound against the United States Dollar) will give the holder of the *option* the right but not the obligation to purchase the contracted amount of GBP in exchange (i.e. sale) for a quantity of USD, the amount of which is determined by the strike rate.

The *foreign exchange equivalent* position for an *option* will involve creating two currency positions, one for the commodity currency and the other for the terms currency. If a currency is being purchased, it will be a long position and if it is being sold, it will be a short position.

(B)   Futures

The *foreign exchange equivalent* position of a *futures* contract over a foreign exchange contract is the same as for the *option*. That is, the *futures* contract, at maturity, will require the purchaser of the *futures* contract (if the contract is "deliverable" and not cash settled or liquidated prior to settlement) to enter a foreign exchange contract for the purchase or sale of one currency in exchange for another.

The *foreign exchange equivalent* position for a *future* will involve creating two currency positions, one for the commodity currency and the other for the terms currency. If a currency is being purchased, it will be a long position and if it is being sold, it will be a short position.

(C)   Forward Contracts

A forward foreign exchange contract is a contract for the exchange of currencies on a date in the future. The pricing of a forward currency contract is determined by the current spot price for the two currencies and the interest rate differential between the interest rates in the two currencies.

The *foreign exchange equivalent* position for a forward will involve creating two currency positions, one for the commodity currency and the other for the terms currency. If a currency is being purchased, it will be a long position and if it is being sold, it will be a short position. The value of each position will be the face value of the contract (i.e. the amount of currency being exchanged). However, if Participants value forward foreign exchange contracts on a net present value basis, the value of the currency amounts allocated to the positions may be the net present values.

Net present values are acceptable under the Risk Based Capital Requirements as foreign exchange desks often manage the interest rate risk on their forward books in this manner. The difference between the spot and forward price is essentially the differential between the interest rates (reference rates) for the two currencies underlying the forward. However, the face values are expressed in terms of future value and therefore to accurately manage the exposure, they are discounted back to today.

(D)   Other Positions

If a Participant has a principal position in a foreign exchange based *financial instrument*, the treatment of which is not detailed in the Rule or in this Handbook, it must in accordance with Rule S1.2.9, contact ASX Clear to determine the appropriate treatment.

(e) Clause 22 – Calculation of a Converted Net Open Position

(i) Rule

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22. **CALCULATION OF A CONVERTED NET OPEN POSITION**

(a) To calculate a net open position in a foreign currency, a Participant must aggregate in each currency all:

(i) Financial Instruments; and

(ii) other assets and liabilities,

other than Excluded Assets and foreign exchange contracts hedging Excluded Assets.

(b) To convert a net open position to an equivalent Australian dollar amount a Participant must use:

(i) the Market Spot Exchange Rate; or

(ii) in the case where a foreign currency asset or liability is specifically matched or hedged by a forward currency contract, the rate of exchange stated in the forward currency contract.

(ii) Guidance

(A) General

Participants will be required to calculate a net open position in each currency that it has actual or notional positions (excluding Australian Dollars). This includes all *financial instruments* (i.e. *equity* and *debt instruments*) that are denominated in a currency other than Australian Dollars and all other assets and liabilities (including revenue and expense balances) denominated in a currency other than Australian Dollars.

A net open position in a particular currency is the net of all long and short positions that are denominated in that currency as calculated in accordance with the requirements of Annexure 3. All long and short positions are aggregated to arrive at an overall long or short position for that currency.

The net long or short position in each currency should then be converted to Australian Dollars at the *market spot exchange rate*. The *market spot exchange rate* is the "closing" rate of exchange between each currency and the Australian dollar and can be sourced from either the daily financial press or from providers of foreign exchange markets information such as Reuters. It is possible that closing rates from alternate sources may differ but this is acceptable. Those organisations that subscribe to market information providers that supply 24 hour market data (ie, the foreign exchange market runs 24 hours and there is no closing rate) should establish a procedure whereby the rate is taken at the close of business each day at, for example, 4:00 pm.

It should be noted that clause 22(b)(ii) is intended for those Participants that convert assets and liabilities into Australian Dollars on an individual basis before calculating the net open position (rather than calculating the net open position first and then converting into Australian Dollars). In such a case, converting an asset or liability which has been hedged by a forward foreign exchange contract using the

spot exchange rate would give an incorrect net open position. This is illustrated in the examples section below.

(iii)   Examples

(A)   Fully Hedged

Where a foreign currency asset or liability is fully hedged, there will be no resulting net open position.

For example, assume a Participant has a USD receivable of USD100 due in three months and that this foreign exchange position was fully hedged by a three month forward foreign exchange contract to sell USD100 and buy AUD. In this case, the net open position in USD is zero.

(B)   Partially Hedged

If, however, the USD receivable was only partially hedged, this would result in a net open position in USD. If the forward foreign exchange contract was only to sell USD90, then there would be a long net open position of USD10. This should be converted to AUD at the ***market spot exchange rate***.

(C)   Clarification of Clause 22(b)(ii)

As noted above, clause 22(b)(ii) is intended for those Participants that convert assets and liabilities into Australian Dollars on an individual basis before calculating the net open position (rather than calculating the net open position first and then converting into Australian Dollars). Converting an asset or liability which has been hedged by a forward foreign exchange contract using the spot exchange rate would give an incorrect net open position.

This is now illustrated using the fully hedged position in the example above:

Receivable	+USD 100	Converted using the spot rate	+AUD 170
Forward Contract	-USD 100	Converted using the contracted forward rate	-AUD 180
Net Open Position	USD 0		-AUD 10

Converting the receivable using the spot rate gives a false net open position. In order to overcome this, the receivable should be converted to AUD using the contracted forward rate. This would ensure that both the asset and the hedge are converted at the same rate resulting in a nil open position, reflecting the fact that the foreign currency asset has been fully hedged. This only applies to foreign currency assets and liabilities that are specifically hedged by a forward foreign exchange contract.

SECTION 3E.IV –ANNEXURE 3: PART 4 –THE INTERNAL MODELS APPROACH

(a)   Clause 23 – Introduction

(i)   Rule

PART 4 - THE INTERNAL MODELS APPROACH

23   **INTRODUCTION**

(a)   Subject to the prior written approval of ASX Clear, a Participant may calculate its Position Risk Requirement using its own internal risk measurement system instead of, or in conjunction with, the prescribed methods set out in Parts 1 to 3 of Annexure 3.

(b)   ASX Clear may require independent verification, at the Participant's expense, of the Participant's compliance with the criteria set out in this Part 4 of Annexure 3.

(ii)   Guidance

(A)   General

Part 4 of Annexure 3 allows Participants to use their internal value at risk (VaR) models to calculate their position risk amounts, subject to certain conditions being met. The internal models approach in the Risk Based Capital Requirements is broadly consistent with the internal models approach in the 1996 market risk capital framework of the Basel Committee on Banking Supervision[61].

The internal models approach is based on the use of VaR techniques. VaR is widely used by financial institutions in the measurement of market risk. VaR measures the potential loss on a portfolio that may be expected to be incurred with a given level of confidence over a given period of time as a result of adverse movements in the market rates and prices that affect the portfolio's value.

The internal models approach is only intended for use by Participants that undertake significant principal trading activities.

Depending on the individual Participant's circumstances, the internal models approach may be used on its own to calculate the entire **position risk requirement** or it may be used in conjunction with the prescribed methods set out in Parts 1 to 3 of Annexure 3. The guidance for clause 30 deals with the combined use of the internal models approach and the prescribed methods. This includes details on how the total **position risk requirement** is to be calculated in such a situation and an example of this calculation.

Use of the internal models approach is subject to authorisation by ASX Clear. Authorisation will be dependent on a Participant satisfying certain qualitative and quantitative criteria. Details on the approval process for the internal models approach can be found in the guidance for clause 29.

It is possible that ASX Clear may need to seek the assistance of an external party in verifying or assessing a Participant's compliance with any of the requirements of the internal models approach. The need for this

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[61] Amendment to the Capital Accord to Incorporate Market Risks, Basel Committee on Banking Supervision, January 1996.
Supervisory Framework for the use of "Backtesting" in Conjunction with the Internal Models Approach to Market Risk Capital Requirements, Basel Committee on Banking Supervision, January 1996.

will be discussed with the Participant concerned before the services of the external party are engaged. The use of an external party will be at the Participant's expense.

(B)   Excluded Assets

(1)   Unlisted Financial Instruments

If a Participant holds an unlisted *financial instrument* as principal, then the Participant needs to determine whether the position can be liquidated within 31 days (that is, whether it should be treated as an *excluded asset*).

(2)   Securities Subject to Trading Halts or Suspension

If a Participant holds a principal position in a security that is subject to a trading halt, the position does not have to be treated as an *excluded asset* (assuming that the position meets the definition of *liquid*) and a position risk amount must be calculated. This treatment applies because trading halts are only placed on securities for two days.

If a Participant holds a long principal position in a security that is subject to suspension, the position must be treated as an *excluded asset* on the basis that the security is not *liquid*. If a Participant holds a short principal position in a security that is subject to suspension, the Participant must calculate a position risk amount on the position. This is due to the fact that the short position is treated as a liability on the balance sheet and as such the concept of an *excluded asset* does not apply to it.

(3)   Liquidity

The guidance provided on *excluded asset*s in the introductory section of this section of the Handbook (i.e. Annexure 3 – Position Risk Requirement) must be considered in assessing whether or not a position can be considered *liquid*.

(b) Clause 24 – General Criteria

(i) Rule

24	**GENERAL CRITERIA**

(a) The use of an internal model will be conditional upon the prior written approval of ASX Clear. ASX Clear will only give its approval if at a minimum it is satisfied that:

   (i) the Participant's risk management system is conceptually sound and is implemented with integrity;

   (ii) the Participant has sufficient numbers of staff skilled in the use of sophisticated models not only in the trading area but also in the risk control, audit and back-office areas;

   (iii) the Participant's models have a proven track record of reasonable accuracy in measuring risk; and

   (iv) the Participant will regularly conduct stress tests as discussed in clause 28.

(b) ASX Clear may require a period of initial monitoring and live testing of a Participant's internal model before it is used for supervisory capital purposes. Participants that wish to use their internal model must be able to participate in testing exercises to provide ASX Clear with any additional information required to satisfy ASX Clear of the adequacy of the model.

(c) In addition to these general criteria, Participants using internal models for capital purposes will be subject to the requirements detailed in clauses 25 to 32.

(ii) Guidance

(A) General

Participants cannot use the internal models approach without being authorised by ASX Clear. Authorisation will only be granted where Participants have demonstrated that they adequately meet the qualitative and quantitative criteria set out in Part 4 of Annexure 3.

ASX Clear will need to be satisfied that the models to be used are accurate (for example, as shown by back testing results). However, since having accurate models is not sufficient in itself, ASX Clear will also need to be satisfied with the control environment surrounding the use of those models. Details on the approval process for the internal models approach can be found in the guidance for clause 29.

The model will need to have a proven track record of reasonable accuracy in measuring risk. This means that the model will need to have been used by the Participant for internal purposes for a period of time before it can be used for regulatory capital purposes. If this is not the case, ASX Clear is likely to require an initial period of live operation of the model. The performance of the model in this period will be taken into account in determining whether or not the model will be authorised for use under the Risk Based Capital Requirements and, if authorised, in determining the level at which the multiplication factor is initially set.

(c)   Clause 25 – Qualitative Standards

(i)   Rule

25	**QUALITATIVE STANDARDS**

(a)   There are a number of qualitative criteria that a Participant has to meet before it will be permitted to use an internal model. The extent to which a Participant satisfies the qualitative criteria may influence the level at which ASX Clear sets the multiplication factor referred to in clause 27(j).

(b)   The qualitative criteria are:

(i)   The Participant must have an independent risk control unit that is responsible for the design and implementation of the Participant's risk management system. The unit must produce and analyse daily reports on the output of the Participant's risk measurement model, including an evaluation of limit utilisation. This unit must be independent from business trading and other risk taking units and should report directly to senior management of the Participant.

(ii)   The unit must conduct a regular (at least monthly) back testing program. More detailed discussion of back testing is provided in clause 32.

(iii)   The Participant's board of directors and senior management must be actively involved in the risk control process and must regard risk control as an essential aspect of the business to which significant resources need to be devoted. In this regard, the daily reports prepared by the independent risk control unit must be reviewed by a level of management with sufficient seniority and authority to enforce both reductions of positions taken by individual traders and reductions in the Participant's overall risk exposure.

(iv)   The internal risk measurement model must be closely integrated into the day-to-day risk management process of the Participant. Accordingly, the output of the model must be an integral part of the process of planning, monitoring and controlling the Participant's market risk profile.

(v)   The risk measurement system must be used in conjunction with internal trading and exposure limits. While individual dealers' trading limits need not necessarily be expressed in terms of value-at-risk, trading limits should be related to the Participant's risk measurement model in a manner that is consistent over time and that is well understood by both traders and senior management.

(vi)   A routine and rigorous program of stress testing must be in place as a supplement to the risk analysis based on the day-to-day output of the Participant's risk measurement model. The results of stress testing exercises must be reflected in the policies and limits set by management and the board. The results of stress testing must be routinely communicated to senior management and, periodically, to the Participant's board.

(vii)   The Participant must have a routine in place for ensuring compliance with a documented set of internal policies, controls and procedures concerning the operation of the risk measurement system. The Participant's risk measurement system must also be well documented.

(viii)   An independent review of the risk measurement system must be carried out regularly as part of the Participant's own internal audit process. This review must include both the activities of the business trading units and of the independent risk control unit. A review of the overall risk management process must take place at regular intervals and at least annually and a copy of the review report must be provided to ASX Clear annually. The review must specifically address, at a minimum:

A.   the scope of market risks captured by the risk measurement model;

B.   the integrity of the management information system;

C.   the accuracy and completeness of position data;

D.   the verification of the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources;

E.   the accuracy and appropriateness of volatility and correlation assumptions;

F.   the accuracy of valuation and risk transformation calculations;

G.   the verification of the model's accuracy through frequent back testing as described in clause 25(b)(ii) and in clause 32;

H.   the approval process for risk pricing models and valuation systems used by front- and back-office personnel;

I.   the validation of any significant change in the risk measurement process;

J.   the adequacy of the documentation of the risk management system and process;

K.   the organisation of the risk control unit; and

L.   the integration of market risk measures into daily risk management.

(ix)   If the Participant wishes to use its risk measurement model to cover trading activities outside Australia, it must provide to ASX Clear, on an annual basis, an audit report(s) confirming that the risk management systems and controls in each overseas location are operating effectively. The report(s) must specifically address:

A.   whether all positions feeding into the model are monitored via a comprehensive limit structure, and adherence to the limits is monitored by a unit independent of the front office on a daily basis and in a timely manner;

B.   whether senior management both abroad and in Australia are aware and understand the scale of the risks being run, and are promptly informed of any limit breaches;

C.   whether limits are reviewed regularly and risks run are reported to the Participant's Risk Management Committee (or equivalent);

D.   whether controls are in place to ensure that all genuine trades (and only genuine trades) are recorded within the model in a timely manner, by a unit independent of the front office;

E.   whether the mathematics (software) of the model for deriving both revaluations and market risk are independent of front office revision. Any development of these models and the inclusion of new products in existing models should follow the same process as laid down for products in Australia;

F.   whether repricing inputs are obtained independently of the front office and whether this is done on a daily basis. In instances where these are particularly difficult to obtain (e.g. some option volatilities), a minimum standard would be to obtain independent inputs at least monthly (e.g. from screens, brokers, etc.);

G.   whether the output from the models is reported back to Australia by a unit independent of the front office to a similar unit in Australia on a daily basis; and

H.   whether there are adequate disaster recovery plans in place so that the Participant is able to manage its exposures despite any disruption to the primary modeling system in any location.

(ii)   Guidance

(A)   General

Clause 25 sets out the qualitative criteria that a Participant must meet in order to be able to use the internal models approach. These requirements are imposed because it is important for a Participant to have an adequate risk management framework surrounding the use of its VaR models. Meeting the qualitative criteria is equally as important as having an accurate VaR model.

The extent to which a Participant satisfies the qualitative criteria may influence the level at which ASX Clear sets the multiplication factor referred to in clause 27(j). Only those Participants that adequately satisfy both the qualitative and quantitative standards will be eligible for application of the minimum multiplication factor of 3.

Each of the qualitative criteria are briefly discussed below.

(1)   Clause 25(b)(i) – Risk Control Unit

The Participant must have a risk management unit that is independent of the trading area. This unit should report directly to senior management of the Participant. The risk management unit should be responsible for the VaR model and should produce and analyse daily reports on the output of the VaR model, including monitoring of limit utilisation.

(2)   Clause 25(b)(ii) – Back Testing

The Participant's risk management unit must conduct back testing. This involves comparing the daily VaR measures against daily profit and loss outcomes and must be done at least monthly. Back testing is discussed further in the guidance for clause 32.

(3)   Clause 25(b)(iii) – Board and Senior Management

The Participant's board of directors and senior management are expected to be actively involved in the risk control process and must regard risk control as an essential aspect of the business to which significant resources need to be devoted. The daily risk reports must be reviewed by a level of management that has sufficient authority to enforce reductions in exposures.

(4)   Clause 25(b)(iv) – Internal Process

The VaR model must be integrated into the Participant's internal risk management processes. The output of the VaR model must be an integral part of the process of planning, monitoring and controlling the Participant's market risk profile. It would be totally unacceptable for the Participant to only use its VaR model for regulatory capital purposes.

(5)   Clause 25(b)(v) – Limits

The VaR model should be linked to the Participant's internal limits. Trading limits should be related to the VaR model in a manner that is consistent over time and that is well understood by both traders and senior management. However, this does not require VaR limits to be set for individual dealers.

(6)   Clause 25(b)(vi) – Stress Testing

Stress testing must be performed as a supplement to the output from the VaR model. Stress testing results must be reflected in the policies and limits set by management and the board of the Participant. The results must be reported to senior management and, periodically, to the Participant's board. Details of stress testing requirements are set out in clause 28.

(7)   Clause 25(b)(vii) – Documentation

The Participant must have a routine in place to ensure compliance with its documented internal policies, controls and procedures relating to the operation of the model. The risk measurement system must be well documented, for example, in a risk management manual that describes the basic principles of the risk management system and provides an explanation of the empirical techniques used to measure market risk.

(8)   Clause 25(b)(viii) – Independent Review

An independent review of the risk measurement system must be carried out at least annually as part of the Participant's internal audit process. The aim of the review is to indicate to ASX Clear that the model's framework and calculations can be relied on for the purposes of the Risk Based Capital Requirements.

This review must be conducted and a copy of the report provided to ASX Clear as part of the model recognition process. Subsequent to this, a copy of the review report must be provided to ASX Clear annually. In relation to the annual review, ASX Clear does not expect the same level of detail that would be necessary to authorise a Participant to use the internal models approach.

A Participant may use an external party for this review provided that the review is not performed by anyone involved in the design or operation of the VaR model or the risk management function.

The review must specifically address each of the items set out in clause 25(b)(viii) and the review report should specifically opine on each of these items.

The following is a general guide to the minimum standards that must be covered in the review.

1.   The scope of market risks captured by the risk measurement model:

   (a)   Are all market risks that the Participant is exposed to captured by the VaR model?

   (b)   Are all products traded being captured?

   (c)   Are the risk factors in the VaR model sufficient to capture the market risks the Participant is exposed to (refer clause 26)?

   (d)   Are the risks associated with *option* positions being captured?

2.   The integrity of the management information system:

   (a)   Is the reporting to the Participant's management and board reliable in that it correctly reflects the Participant's risk? Refer clause 25(b)(iii).

3.   The accuracy and completeness of position data:

   (a)   Are all genuine positions being recorded in the model?

   (b)   Does the position data used in the model accurately reflect the actual positions held by the Participant?

4.   The verification of the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources:

   (a)   Is the revaluation data used obtained independently of the front office?

   (b)   Is this data obtained consistently, i.e. always from the same source?

   (c)   Is this data current?

5.   The accuracy and appropriateness of volatility and correlation assumptions:

   (a)   Are the volatilities and correlations used in the model calculated accurately?

   (b)   Are any assumptions made in the volatility and correlation calculations reasonable?

6.   The accuracy of valuation and risk transformation calculations:

   (a)   Are the valuation calculations (e.g. option pricing valuations) accurate?

   (b)   Are the VaR calculations accurate?

   (c)   Are the VaR calculations consistent with the quantitative standards set out in clause 27?

7.   The verification of the model's accuracy through frequent back testing as described in clause 25(b)(ii) and in clause 32:

(a)   Is the Participant undertaking back testing as per the requirements of clause 32?

8.   The approval process for risk pricing models and valuation systems used by front- and back-office personnel:

(a)   Is there an adequate process for approving pricing models and systems (e.g. option pricing models) used by the Participant?

9.   The validation of any significant change in the risk measurement process:

(a)   Is there an adequate process whereby any significant changes in the risk measurement process (e.g. change to the model, change in systems used, introduction of a new product) are checked and approved prior to implementation?

(b)   Are you aware of any significant changes since the previous review?

10.   The adequacy of the documentation of the risk management system and process:

(a)   Is the operation of the VaR model and calculation process documented as per clause 25(b)(vii)?

(b)   Is it evident that the documented processes are being followed?

11.   The organisation of the risk control unit:

(a)   Is the Participant's risk control unit independent of the trading area? Refer clause 25(b)(i).

(b)   Is the Participant's risk control unit adequately resourced?

12.   The integration of market risk measures into daily risk management:

(a)   Is the output of the VaR model a key part of the Participant's risk management processes as per clauses 25(b)(iv) and (v)?

(9)   Clause 25(b)(ix) – Offshore Trading Activities

A Participant that wishes to use its VaR model to cover trading activities outside Australia must provide a further report(s) to ASX Clear as part of the model recognition process and then on an annual basis. The purpose of this report is to confirm that the risk management systems and controls in each overseas location are operating effectively. This is required because it is not possible for ASX Clear to visit each overseas location to satisfy itself of the adequacy of the operational controls in each location. The report(s) must specifically address each of the items set out in clause 25(b)(ix) and must be based on an independent review by the Participant's internal or external auditors. A single report may be provided to cover all locations or the Participant can provide separate reports for each location.

(d) Clause 26 – Specification of Market Risk Factors

(i) Rule

26	**SPECIFICATION OF MARKET RISK FACTORS**

A Participant's internal market risk measurement system must specify an appropriate set of market risk factors. The risk factors contained in a market risk measurement system must be sufficient to capture the risks inherent in the Participant's portfolio of on- and off-balance sheet trading positions.

26.1 **Interest Rates**

(a) There must be a set of risk factors corresponding to interest rates in each currency in which the Participant has interest rate sensitive on- or off-balance sheet positions.

(b) The risk measurement system should model the yield curve using one of a number of generally accepted approaches. The yield curve should be divided into various maturity segments and there will typically be one risk factor corresponding to each maturity segment. For material exposures to interest rate movements in the major currencies and markets, Participants must model the yield curve using a minimum of six risk factors.

(c) The risk measurement system should incorporate separate risk factors to capture basis risk.

26.2 **Equity Prices**

There must be risk factors corresponding to each of the equity markets to which the Participant is exposed.

26.3 **Exchange Rates (Including Gold)**

There must be risk factors corresponding to the exchange rate between the domestic currency and each foreign currency to which the Participant is exposed.

26.4 **Commodity Prices**

There must be risk factors corresponding to each of the commodity markets in which the Participant holds positions.

(ii) Guidance

(A) General

A Participant's VaR model must specify an appropriate set of market risk factors, i.e. the market rates and prices that affect the value of the Participant's market related positions. The risk factors contained in the risk measurement system should be sufficient to capture the risks inherent in the Participant's trading portfolio. Although Participants will have some discretion in specifying the risk factors for their internal models, the criteria set out in clause 26 should be met.

(B)   Method

(1)   Interest Rates

There must be a set of risk factors corresponding to interest rates in each currency in which the Participant has interest rate sensitive positions.

The risk measurement system should model the yield curve using one of a number of generally accepted approaches, for example, by estimating zero coupon yields. The yield curve should be divided into various maturity segments in order to capture variation in the volatility of rates along the yield curve; there will typically be one risk factor corresponding to each maturity segment. For material exposures to interest rate movements in the major currencies and markets, Participants must model the yield curve using a minimum of six risk factors.

Ultimately, the number of risk factors used should be driven by the nature of the Participant's trading strategies. For instance, a Participant with a portfolio of various types of securities across many points of the yield curve and that engages in complex arbitrage strategies would require a greater number of risk factors to capture interest rate risk accurately.

The risk measurement system should incorporate separate risk factors to capture basis risk (e.g. between bonds and *swap*s). A variety of approaches may be used to capture the basis risk arising from less than perfectly correlated movements between government and other fixed income interest rates, such as specifying a completely separate yield curve for non-government fixed income instruments (for instance, *swap*s or municipal securities) or estimating the spread over government rates at various points along the yield curve.

(2)   Equity Prices

There should be risk factors corresponding to each of the equity markets to which the Participant is exposed.

At a minimum, there should be a risk factor that is designed to capture market wide movements in *equity* prices (e.g. a market index). Positions in individual securities or in sector indices could be expressed in "beta equivalents" relative to the market wide index.

A somewhat more detailed approach would be to have risk factors corresponding to various sectors of the overall equity market (for instance, industry sectors). As above, positions in individual securities within each sector could be expressed in beta equivalents relative to the sector index.

The most extensive approach would be to have risk factors corresponding to the volatility of individual *equity* issues.

The sophistication and nature of the modelling technique for a given market should correspond to the Participant's exposure to the overall market as well as its concentration in individual *equity* issues in that market.

(3)   Exchange Rates (Including Gold)

The risk measurement system should incorporate risk factors corresponding to the individual foreign currencies in which the Participant's positions are denominated.

Given that the VaR figure calculated by the risk measurement system will be expressed in Australian dollars, any net position denominated in a foreign currency will introduce a foreign exchange risk. Thus, there must be risk factors corresponding to the exchange rate between the domestic currency (Australian dollars) and each foreign currency to which the Participant is exposed.

Gold is to be treated as a foreign exchange position rather than as a commodity position because its volatility is more in line with foreign currencies and it is typically managed in a similar manner to foreign currencies.

(4) Commodity Prices

There should be risk factors corresponding to each of the commodity markets in which the Participant holds positions.

For Participants with relatively limited positions in commodity based instruments, a straightforward specification of risk factors would be acceptable. Such a specification would be likely to entail one risk factor for each commodity price to which the Participant is exposed. In cases where the aggregate positions are quite small, it might be acceptable to use a single risk factor for a relatively broad sub-category of commodities (for instance, a single risk factor for all types of oil).

For more active trading, the model should encompass:

1. directional risk, to capture the exposure from changes in spot prices arising from net open positions;

2. forward gap and interest rate risk, to capture the exposure to changes in forward prices; and

3. basis risk, to capture the exposure to changes in the price relationships between two similar, but not identical, commodities.

The model must also take account of variation in the "convenience yield" between *derivative*s positions, such as forwards and *swap*s, and cash positions in the commodity.

(e)   Clause 27- Quantitative Standards

(i)   Rule

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27   **QUANTITATIVE STANDARDS**

Participants will have flexibility in devising the precise nature of their models, but the following minimum standards will apply for the purpose of calculating their capital charge. Individual Participants will have discretion to apply stricter standards.

(a)   "Value-at-risk" must be computed on a daily basis.

(b)   In calculating value-at-risk, a 99th percentile, one-tailed confidence interval is to be used.

(c)   In calculating value-at-risk, an instantaneous price shock equivalent to a movement in prices over 10 Trading Days is to be used, ie the minimum "holding period" must be 10 Trading Days. Participants may use value-at-risk numbers calculated according to shorter holding periods scaled up to 10 days by multiplying by the square root of the value obtained by dividing 10 by the number of days used (for the treatment of options, also see clause 27(h)).

(d)   The choice of historical observation period for calculating value-at-risk will be constrained to a minimum length of one year. For Participants that use a weighting scheme or other method for the historical observation period, the weighted average time lag of the individual observations cannot be less than 6 months. ASX Clear may also require a Participant to calculate its value-at-risk using a shorter observation period if, in ASX Clear's judgement, this is justified by a significant upsurge in price volatility.

(e)   Participants must update their data sets no less frequently than once every 3 months and should also reassess them whenever market prices are subject to material changes.

(f)   No particular type of model is prescribed.

(g)   Participants will have discretion to recognise empirical correlations within and across broad risk categories provided that ASX Clear is satisfied that the Participant's system for measuring correlations is sound and implemented with integrity.

(h)   Participants' models must accurately capture the unique risks associated with options within each of the broad risk categories. The following criteria apply to the measurement of options risk:

    (i)   Participants' models must capture the non-linear price characteristics of option positions;

    (ii)   Participants are expected to ultimately move towards the application of a full 10 day price shock, as described in clause 27(c) above, to options positions or positions that display option-like characteristics. In the interim, ASX Clear may require Participants to adjust their capital measure for options risk through other methods, eg periodic simulations or stress testing; and

    (iii)   each Participant's risk measurement system must have a set of risk factors that captures the volatilities of the rates and prices underlying the option positions, ie vega risk. Participants with relatively large and/or complex options portfolios should have detailed specifications of the relevant

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volatilities. This means that Participants should measure the volatilities of options positions broken down by different maturities.

(i) Each Participant must, on a daily basis, calculate its position risk requirement as the higher of:

    (i) an average of the daily value-at-risk measures on each of the preceding 60 days, multiplied by a scaling factor (the total of a multiplication factor and a plus factor); and

    (ii) its previous day's value-at-risk number.

(j) The multiplication factor will be set by ASX Clear on the basis of its assessment of the quality of each Participant's risk management system, subject to an absolute minimum of 3. Only those Participants deemed by ASX Clear to satisfy adequately the qualitative and quantitative standards will be eligible for application of the minimum multiplication factor of 3. Participants will be required to add to this factor a "plus" directly related to the ex post performance of the model. The plus factor will range from 0 to 1 based on the outcome of back testing. Clause 32 presents in detail the approach to be applied for back testing and the plus factor.

(k) Participants using models will also be subject to a capital charge to cover the specific risk of interest rate related instruments and equity securities. The manner in which the specific risk capital charge is to be calculated is set out in clause 31.

(ii) Formula

$$Clause\ 27(i): \qquad PRA_{VaR} = \max\left[\left(\left(\sum_{i=1}^{60}\frac{VaR_i}{60}\right) \times (MF + PF)\right), VaR_{60}\right]$$

Where:
VaRi = VaR number for day i where day 1 is 60 days ago, day 2 is 59 days ago, etc
MF = multiplication factor set by ASX Clear
PF = plus factor set by ASX Clear based on back testing results

(iii) Guidance

(A) General

Clause 27 sets out the quantitative criteria that a Participant must meet in order to be able to use the internal models approach. These are the minimum standards that apply to the use of a Participant's VaR model for regulatory capital purposes.

Participants have some flexibility in devising the precise nature of their VaR models, but the criteria set out in clause 27 are the minimum standards that must be met for the purposes of calculating **position risk requirement**s under the internal models approach.

A Participant may apply stricter standards if it wishes to do so (for example, calculating VaR more frequently than once per day, using a confidence level greater than 99 per cent or using a historical observation period of more than one year).

It should be noted that the quantitative standards apply to the use of the VaR model for regulatory capital purposes. These standards do not need to be followed by a Participant for its own internal risk

management purposes. For example, a Participant may use a one day holding period and 95 per cent confidence interval in calculating VaR for internal risk management purposes and this is perfectly acceptable. However, for the purposes of the Risk Based Capital Requirements, VaR must be calculated using a 10 day holding period and 99 per cent confidence interval.

Participants should also refer to the reporting instructions in the RLM System User Guide.

(1)   Clause 27(a) – Frequency of Calculation

The Participant must calculate its VaR on a daily basis.

(2)   Clause 27(b) – Confidence Interval

A 99 per cent, one-tailed confidence interval must be used in calculating VaR for the purposes of the Risk Based Capital Requirements. The confidence interval represents the proportion of losses that are expected to be greater than the VaR amount calculated by the model. Participants may use a lower confidence interval in running their VaR models for internal risk management purposes.

(3)   Clause 27(c) – Holding Period

A 10 day holding period must be used in calculating VaR for the purposes of the Risk Based Capital Requirements. The holding period is the time over which changes in portfolio value are measured and is designed to recognise the time taken to close out a portfolio. Price movements over 10 **trading days** are required to be applied to a Participant's portfolio. The use of a 10 day holding period reflects the possibility that, in a crisis situation, markets may become illiquid making it impossible to close out positions quickly. Participants may calculate VaR using a holding period shorter than 10 days, but the VaR numbers must be scaled up to 10 days by multiplying by the square root of the value obtained by dividing 10 by the number of days used. For example, VaR calculated using a 1 day holding period would need to be scaled up by $\sqrt{10}$ for the purposes of the Risk Based Capital Requirements.

(4)   Clause 27(d) – Historical Data

VaR must be calculated using a minimum of one year of historical price, rate and volatility data. If a Participant uses some sort of weighting scheme for the historical data, the weighted average time lag of the individual observations cannot be less than six months.

ASX Clear may require Participants to use a shorter historical observation period if this is justified by a significant increase in volatility.

(5)   Clause 27(e) – Updating of Data Sets

Participants must update their historical data sets at least quarterly and should also reassess them whenever market prices are subject to material changes.

(6)   Clause 27(f) – Type of VaR Model

No particular type of model is prescribed. The most common VaR methods are variance-covariance, historical simulation and Monte Carlo simulation. A Participant can choose the type of VaR methodology

which is best suited to its activities and systems so long as the model used captures all the material risks run by the Participant.

(7) Clause 27(g) – Correlations

Participants are able to recognise correlations within and across risk categories so long as ASX Clear is satisfied with the Participant's system for measuring correlations. This means that, unlike under the prescribed methods in Parts 1 to 3 of Annexure 3, Participants using the internal models approach may obtain a capital benefit due to the diversification effects across risk categories.

(8) Clause 27(h) – Options

The VaR model must accurately capture *option*s risk. If this is not the case (e.g. for Participants using a variance-covariance model), the Participant must use one of the prescribed methods in Parts 1 to 3 of Annexure 3 to calculate their position risk on *option* positions.

In relation to the measurement of *option*s risk:

1. the model must capture the non-linear price characteristics of *option* positions;

2. Participants are expected to move towards the use of a full 10 day holding period for *option* positions (as per clause 27(c)), rather than using a shorter holding period and scaling up the result. ASX Clear may require Participants that do not use the full 10 day holding period for *option* positions to adjust their capital requirement for *option* positions through other methods (e.g. periodic simulations or stress testing); and

3. the model must have a set of risk factors that captures the volatilities of the rates and prices underlying the *option* positions (i.e. vega risk must be captured). Where large and/or complex *option* portfolios are held, a Participant should measure volatilities broken down by different maturities.

(9) Clause 27(i) – Position Risk Requirement

The *position risk requirement* under the internal models approach is to be calculated as the higher of an average of the VaR numbers for the preceding 60 days multiplied by a scaling factor, and the previous day's VaR number. The scaling factor is equal to the total of the multiplication factor and the plus factor.

An example of the calculation of a *position risk requirement* under the internal models approach is provided in the example section below. An example of the calculation of a *position risk requirement* where the internal models approach is used in conjunction with the prescribed methods of Parts 1 to 3 of Annexure 3 is given in the guidance for clause 30.

(10) Clause 27(j) – Multiplication Factor and Plus Factor

(a) Multiplication Factor

The multiplication factor will be set by ASX Clear for each Participant on the basis of its assessment of the quality of each Participant's risk management system, subject to an absolute minimum of three. The extent to which a Participant meets the qualitative criteria may influence the level at which ASX Clear sets the

multiplication factor. Only those Participants that ASX Clear considers adequately satisfy the qualitative and quantitative standards will be eligible for the minimum multiplication factor.

The multiplication factor translates the daily VaR estimate into a capital charge that provides a sufficient cushion for cumulative losses arising from adverse market conditions over an extended period of time. The multiplication factor is also designed to account for potential weaknesses in modelling techniques. Such weaknesses exist because:

1. market price movements often display patterns (such as "fat tails") that differ from the statistical simplifications used in modelling (such as the assumption of a "normal distribution");

2. the past is not always a good approximation of the future (for example, volatilities and correlations can change abruptly);

3. VaR estimates are typically based on end-of-day positions and generally do not take account of intra-day trading risk;

4. models cannot adequately capture event risk arising from exceptional market circumstances; and

5. many models rely on simplifying assumptions to value the positions in the portfolio, particularly in the case of complex instruments such as *option*s.

(b) Plus Factor

The plus factor will range from zero to one, depending on the performance of the model as indicated by a Participant's back testing results. The plus factors are set out in Table 1.8 of Annexure 5. Back testing is discussed further in the guidance for clause 32.

(c) Maximum Scaling Factor

The scaling factor is the sum of the multiplication factor and the plus factor.

It should be noted that there is, in theory, no limit on how high the scaling factor may be. In particular, the scaling factor is not restricted to the range of three to four. The multiplication factor is subject to an absolute minimum of three, but no maximum has been set. The plus factor is restricted to the range of zero to one. Therefore, the scaling factor, as the sum of the multiplication factor and the plus factor, is subject to an absolute minimum of three but no set maximum.

In practice, however, a very high multiplication factor would probably not be set by ASX Clear. A very high multiplication factor would indicate significant issues with a Participant's compliance with the qualitative and quantitative standards. In this case, it is more likely that ASX Clear would refuse to allow the Participant to use the internal models approach, rather than granting authorisation and setting a high multiplication factor.

(11) Clause 27(k) – Specific Risk

Participants will also be subject to a capital charge for specific risk on positions in debt and *equity* securities. This may be calculated using the debt and equity building block methods or under the internal models approach. Further information on the treatment of specific risk is given in the guidance for clause 31.

A Participant may use the internal models approach to calculate its capital requirement for general market risk only, while using the equity and debt building block methods (Parts 1 and 2 of Annexure 3) to calculate its capital requirement for specific risk.

(iv) Example

(A) Position and Other Details

A Participant has VaR data as given below. These are based on a 99% confidence level and a 10 **trading day** holding period.

VaR (calculated on portfolio at cob 01/07/04), ie, VaR_{60}	$1,100,000
Average VaR for 60 days (up to and including 01/07/04), ie, $\Sigma(VaR/60)$	$1,000,000
Multiplication factor	3.5
Plus factor	0

(B) Calculation

The position risk amount as at cob 01/07/04 is calculated as:

$$PRA_{VaR} = max\left[\left(\left(\sum_{i=1}^{60}\frac{VaR_i}{60}\right) \times (MF + PF)\right), VaR_{60}\right]$$

$$= max[(\$1,000,000 \times 3.5), \$1,100,000]$$

$$= max[\$3,500,000, \$1,100,000]$$

$$= \$3,500,000$$

(f)   Clause 28- Stress Testing

(i)   Rule

28	**STRESS TESTING**	
	(a)	Participants that use the internal models approach for calculating position risk requirements must have in place a comprehensive stress testing program. Stress testing to identify events or influences that could greatly impact on the value of trading portfolios is a key component of a Participant's assessment of its capital position.
	(b)	Each Participant must combine the use of supervisory stress scenarios with an internally developed stress testing program that reflects the risk characteristics of the Participant's portfolio. Specifically, ASX Clear will ask Participants to provide information on stress testing in three broad areas, which are discussed in turn below.
28.1	**Supervisory Scenarios Requiring No Simulations By The Participant**	
	Participants must report to ASX Clear information on the five largest daily losses experienced for the total Trading Book during the reporting period.	
28.2	**Supervisory Scenarios Requiring A Simulation By The Participant**	
	(a)	Participants must subject their portfolios to a series of standard stress scenarios stipulated by ASX Clear and provide ASX Clear with the results monthly.
	(b)	A Participant may be required to evaluate the sensitivity of portfolio value to changes in the internal model's assumptions about correlations.
28.3	**Scenarios Developed By The Participant To Capture The Specific Characteristics Of Its Portfolio**	
	(a)	In addition to the scenarios prescribed by ASX Clear, a Participant must develop its own stress tests which it identifies as most adverse based on the characteristics of its portfolio. Participants must provide ASX Clear with a description of the methodology used to identify scenarios and to carry out the stress tests.
	(b)	The results of the stress tests must be reviewed periodically by senior management and must be reflected in the policies and limits set by management and the Board. Moreover, if the testing reveals particular vulnerability to a given set of circumstances, ASX Clear would expect the Participant to take prompt steps to manage those risks appropriately.

(ii)   Guidance

(A)   General

Stress testing is an important supplement to a Participant's VaR model. It involves examining the impact of very low probability events on the value of a trading portfolio. The objectives of stress testing are to identify events or influences that could significantly impact on the value of a Participant's trading portfolio and to evaluate whether a Participant has the capacity to absorb the potentially large losses resulting from large market shocks. It also aims to identify steps the Participant can take to reduce its risk and conserve capital.

Stress testing is a requirement of the internal models approach for a number of reasons. Firstly, it assists in compensating for some of the quantitative shortcomings of a VaR model and for the limited informational content of a VaR number. Secondly, stress tests allow for the consideration of events that are not covered by a VaR model, for example, a decrease in liquidity in a particular market that may mean a Participant is unable to close out its positions. Finally, stress testing focuses on "market meltdown" situations rather than the day-to-day operations that a VaR model is more concerned with.

The internal models approach requires Participants to conduct three different types of stress tests and each of these are discussed further below.

(B)   Method

(1)   Supervisory Scenarios Requiring No Simulations By the Participant

Participants simply need to report to ASX Clear on a monthly basis the five largest daily losses experienced for the total **trading book**. This loss information can then be compared to the level of capital that results from the Participant's VaR model. For example, it will provide ASX Clear with a picture of how many days of peak day losses would have been covered by a given VaR estimate.

(2)   Supervisory Scenarios Requiring Simulation By the Participant

Participants must subject their **trading book** to a series of standard stress scenarios and report the resultant profit and loss outcomes to ASX Clear on a monthly basis. Full revaluation is required rather than estimates of changes in portfolios based on delta, duration, etc. Although the results must be reported to ASX Clear, they do not impact upon the capital calculations. The scenarios are set out in the returns in the Return Lodgement & Monitoring (RLM) system.

Participants should refer to the RLM System User Guide for reporting instructions.

The scenarios consist of price and implied volatility shifts for interest rates, equities and foreign exchange[62]. The scenarios currently specified are based on an analysis of historical ten-day movements in market prices and implied volatilities. It is acknowledged that this approach has an implicit assumption that the past is an adequate predictor of future market movements. ASX Clear may change the specified scenarios from time to time.

ASX Clear may also require Participants to perform correlation based stress tests, i.e. evaluating the sensitivity of portfolio value to changes in the internal model's assumptions about correlations. Applying this test will require an evaluation of the historical range of variation for volatilities and correlations and evaluation of the Participant's current positions at the extreme values of this range. Due consideration should be given to the sharp variation that at times has occurred in a matter of days in periods of significant market disturbance. Such events have involved correlations within risk factors approaching the extreme values of 1 or –1 for several days at the height of the disturbance. ASX Clear has not specified any correlation based stress tests at this point in time.

(3)   Scenarios Developed By the Participant Itself

Participants must develop their own stress testing scenarios to suit their particular trading activities. The Participant's stress tests should be of both a quantitative and qualitative nature, incorporating both market

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[62] Note that although commodity positions can be included in the VaR model for the purposes of calculating a position risk amount, no commodities (including gold) stress scenarios have been specified by ASX Clear at this time. Any Participants with commodity positions will need to discuss this matter with ASX Clear.

risk and liquidity aspects of market disturbances. Quantitative criteria should identify plausible stress scenarios to which a Participant could be exposed. Qualitative criteria should emphasise that the two major goals of stress testing are to evaluate the capacity of the Participant's capital to absorb potential large losses and to identify steps the Participant can take to reduce its risk and conserve capital.

The Participant's stress testing program must be documented. This should include, at a minimum:

1.   a description of the stress testing scenarios,

2.   details on the methodology for identifying scenarios to be applied,

3.   the frequency of conducting the stress tests, and

4.   the reporting of stress test results.

The Participant's chosen scenarios should, of course, be reviewed from time to time to ensure they remain suited to the Participant's changing risk profile. ASX Clear would expect Participants to perform their internal stress tests at least monthly.

As required under clause 25(b)(vi), the stress testing results must be reported to senior management and, periodically, to the board of directors. The results must be taken into account in the Participant's internal risk management processes. If the results reveal vulnerability to a given set of circumstances, ASX Clear expects Participants to take prompt steps to manage those risks appropriately, for example by hedging against that outcome or reducing the size of the exposures.

Note that the standard stress tests set by ASX Clear are not a substitute for the Participant developing its own stress scenarios.

(g)   Clause 29- Model Review

(i)   Rule

<table>
<tr>
<td>29</td>
<td colspan="2">MODEL REVIEW</td>
</tr>
<tr>
<td></td>
<td colspan="2">In reviewing a Participant's internal models ASX Clear will, at a minimum, require assurance that:</td>
</tr>
<tr>
<td></td>
<td>(a)</td>
<td>the internal validation processes described in clause 25(b)(viii) are operating in a satisfactory manner;</td>
</tr>
<tr>
<td></td>
<td>(b)</td>
<td>the formulae used in the calculation process as well as for the pricing of options and other complex instruments are validated by a qualified unit, which in all cases should be independent from the trading area;</td>
</tr>
<tr>
<td></td>
<td>(c)</td>
<td>the structure of the internal models is adequate with respect to the Participant's activities and geographical coverage;</td>
</tr>
<tr>
<td></td>
<td>(d)</td>
<td>the results of the Participant's back testing of its internal measurement system (ie comparing value-at-risk estimates with profit and loss outcomes) ensure that the model provides a reliable measure of potential losses over time; and</td>
</tr>
<tr>
<td></td>
<td>(e)</td>
<td>data flows and processes associated with the risk measurement system are transparent and accessible. In particular, it is necessary that auditors or ASX Clear are in a position to have easy access, whenever they judge it necessary and under appropriate procedures, to the model's specifications and parameters.</td>
</tr>
</table>

(ii)   Guidance

(A)   General

ASX Clear will undertake a review as part of the authorisation process for the internal models approach. This review will cover the actual risk measurement model as well as the control framework in place. In particular, ASX Clear will, at a minimum, seek assurance with regards to:

1.   the internal validation process described in clause 25(b)(viii);

2.   the validation of the formulae used in the VaR model and option pricing models by a qualified unit which is independent of the trading area;

3.   whether all of the Participant's trading activities in all geographic locations are adequately covered;

4.   the reliability and accuracy of the VaR model in measuring risk, as indicated by back testing results; and

5.   the transparency and accessibility of data flows and processes associated with the VaR model. The Participant's auditors and ASX Clear must have easy access to the model's specifications and parameters whenever either party deems it necessary.

(B)   Method

The process that Participants must go through in order to be granted authorisation to use the internal models approach is termed the model recognition process. The steps involved in the model recognition process are set out below.

1.   The Participant should write to Counterparty Risk Assessment stating that it wishes to apply to use the internal models approach of the Risk Based Capital Requirements. This application should only be made after the Participant has thoroughly reviewed the requirements set out in Part 4 of Annexure 3 and the additional guidance provided in this Handbook, and only if the Participant believes it can meet ASX Clear's requirements. The Participant will then need to submit its response to the Model Recognition Questionnaire. The questionnaire asks for information on the Participant's risk management framework as well as technical details of the models for which the Participant is seeking recognition. A copy of the Model Recognition Questionnaire can be obtained from Counterparty Risk Assessment.

2.   ASX Clear will review the Participant's response to the questionnaire and will make an initial assessment of whether there are any significant issues which will prevent the application from progressing. If there are any such issues, ASX Clear will discuss these with the Participant. It is then up to the Participant to decide whether it wants to take action to address those issues or whether it wants to withdraw its application.

3.   ASX Clear will conduct a review at the Participant's offices in order to observe the models in operation and the control environment surrounding the use of the models. It is envisaged that the review will involve staff at the Participant that are involved in the trading activities and associated support functions, particularly the risk management function.

    Participants should note that ASX Clear may need to use an independent party to assist in the verification of some models and this may be at the Participant's expense. The need to use an independent party should become apparent at the time of ASX Clear's review of the Participant's questionnaire response or possibly during the on-site review. This matter will be discussed with the Participant prior to engaging the services of the independent party.

4.   Based on the review and information provided by the Participant, ASX Clear will assess how well the minimum requirements have been met and decide whether or not to grant model recognition. It is quite possible that ASX Clear will decide that certain issues need to be addressed before ASX Clear would be willing to grant recognition. If this is the case, ASX Clear will write to the Participant setting out the issues that need to be addressed before recognition can be granted. It is then up to the Participant to address those issues if it wishes to proceed with its application and then approach ASX Clear when it believes it can demonstrate that the issues have been addressed. ASX Clear may need to do a follow-up review to confirm that the issues have been addressed satisfactorily.

5.   Once ASX Clear has decided that it is willing to grant model recognition, it will write to the Participant advising it of this decision. This letter will also request that two of the Participant's directors provide a sign-off acknowledging that the model is the Participant's responsibility, that in granting model recognition ASX Clear is only approving the use of the model for the purposes of calculating a position risk amount under the Risk Based Capital Requirements, that ASX Clear is not endorsing the accuracy of the model, and undertaking to keep ASX Clear informed of any changes or issues with the model or operational controls.

6.   Following receipt of the directors' acknowledgement, ASX Clear will write to the Participant formally authorising the Participant to use the internal models approach under the Risk Based Capital Requirements.

The time taken for the model recognition process will vary for each Participant depending on their circumstances and the extent of issues raised during the review process. If the Participant adequately meets all of the requirements and there are no significant issues with its model or risk management framework, model recognition may be granted within six to nine months of the Participant submitting its questionnaire response to ASX Clear.

It is likely that a Participant may subsequently make changes to its models or may alter the products in which it trades. Therefore, a Participant that has been granted model recognition must notify ASX Clear in writing if it is planning any changes to its model or the products covered by the model. These changes will be subject to approval by ASX Clear before taking effect for the purposes of calculating position risk amounts under the Risk Based Capital Requirements.

(h)   Clause 30- Combination of the Internal Models Approach and the Prescribed Methods set out in Parts 1 to 3 of Annexure 3

(i)   Rule

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30   COMBINATION OF THE INTERNAL MODELS APPROACH AND THE PRESCRIBED METHODS SET OUT IN PARTS 1 TO 3 OF ANNEXURE 3

(a)   Unless a Participant's exposure to a particular risk factor is insignificant, the internal models approach will, in principle, require Participants to have an integrated risk measurement system that captures the broad risk factor categories (ie, interest rates, exchange rates (which may include gold), equity prices and commodity prices, with related options volatilities being included in each risk factor category). Thus, a Participant that starts to use an internal model for one or more risk factor categories will be expected, over time, to extend the model to all its significant market risks. A Participant which has developed a model will not be able to revert to measuring risk using a prescribed method, except with ASX Clear's prior approval.

(b)   The following conditions will apply to Participants using such combinations:

(i)   each broad risk factor category must be assessed using a single approach (either internal model or prescribed method), ie no combination of the two methods will in principle be permitted within a risk category. However, Participants may incur risks in positions which are not captured by their models, for example, in minor currencies or in negligible business areas. Such risks should be measured according to the prescribed methods described in Parts 1 to 3 of this Annexure 3;

(ii)   all of the criteria laid down in this Part 4 of Annexure 3 will apply to the model being used;

(iii)   Participants may not modify the combination of the two approaches they use without justifying to ASX Clear that they have a good reason for doing so;

(iv)   no element of market risk may escape measurement, ie exposures to all risk factors, whether calculated according to a prescribed method or an internal model, must be captured; and

(v)   the capital charges assessed under the prescribed methods and the internal model approach must be summed.

(ii)   Formula

Total PRR = PRA_{equity} + PRA_{debt} + PRA_{fx} + PRA_{VaR}
   Where:
   PRA_{equity} = equity position risk amount calculated under Annexure 3, Part 1
   PRA_{debt} = debt position risk amount calculated under Annexure 3, Part 2
   PRA_{fx} = foreign exchange position risk amount calculated under Annexure 3, Part 3
   PRA_{VaR} = position risk amount calculated under Annexure 3, Part 4

(iii)   Guidance

Under the internal models approach, Participants are generally expected to have an integrated risk measurement system that captures all of the broad risk factor categories[63] to which the Participant has significant exposures. Therefore, it is expected that a Participant that starts to use the internal models approach for one or more risk factor categories will, over time, extend the model to cover all of its significant market risks. So, for example, a Participant with significant equities and foreign exchange trading activities that initially only uses the internal models approach to capture the equities risk will be expected to eventually extend the model so that it also captures the foreign exchange risk. Note, however, that such a change in the products captured under the internal models approach will be subject to authorisation by ASX Clear.

The expectation that the model be extended does not include areas of negligible business. For example, if the Participant in the previous example had some small debt related positions, it would not be expected to extend the model to cover interest rate risk. It would be expected that the Participant would use one of the prescribed methods for its debt related positions.

Once a Participant has started using the internal models approach for a particular risk category, it will not be able to revert to using a prescribed method for that risk category, unless approved by ASX Clear. Such approval will generally only be given in exceptional circumstances. An example of this may be where a Participant uses the internal models approach for its equities, interest rate and foreign exchange trading activities, but then decides to close down its foreign exchange trading business. In this case, ASX Clear would allow the Participant to cease using the internal models approach for foreign exchange risk as this is no longer a significant trading activity for the Participant. A prescribed method would then be used for any foreign exchange risk remaining.

In general, Participants that use a combination of the internal models approach and the prescribed methods set out in Parts 1 to 3 of Annexure 3 must use a single approach (i.e. either internal model or prescribed method) for each risk category. However, this does not preclude Participants from using, say, the internal models approach for equity general market risk and the equity building block method for equity specific risk. As another example, a Participant whose VaR model does not satisfy all of the quantitative standards for *option* positions could use the internal models approach for non-*option* positions and the contingent loss matrix method for *option*s.

Participants must contact ASX Clear if they want to change the combination of the internal models approach and the prescribed methods being used. ASX Clear will need to be satisfied that the model adequately captures any new risk factors and that the qualitative and quantitative criteria are still met.

All market risk factors to which the Participant is exposed must be captured, whether by the internal models approach or a prescribed method.

Participants that use a combination of the internal models approach and the prescribed methods must calculate their total *position risk requirement* by summing the position risk amounts calculated under each approach.

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[63] Interest rates, exchange rates (including gold), *equity* prices and commodity prices.

(iv) Example

(A) Position and Other Details

The following example shows the calculation of total **position risk requirement** as at close of business 30 September 2004.

Assume a Participant uses the internal models approach for equities and interest rate risk (general market risk only) and the prescribed methods for equity specific risk, interest rate specific risk and foreign exchange risk. The VaR numbers given below are based on a 99 per cent confidence level and a 10 **trading day** holding period.

VaR (calculated on portfolio at cob 30/9/04), ie, VaR_{60}	$12,000,000
Average VaR for 60 days (up to and including 30/9/04) ie, $\Sigma(VaR/60)$	$10,000,000
Multiplication factor	3
Plus factor	0.40
Equity Building Block Method – specific risk position risk amount	$1,500,000
Debt Building Block Method – specific risk position risk amount	$800,000
Foreign Exchange Standard Method – position risk amount	$2,000,000

(B) Calculation

$$PRA_{VaR} = max\left[\left(\left(\sum_{i=1}^{60}\frac{VaR_i}{60}\right) \times (MF + PF)\right), VaR_{60}\right]$$

= max[($10,000,000 x 3.40), $12,000,000]

= max[$34,000,000, $12,000,000]

= $34,000,000

Total PRR = PRA_{equity} + PRA_{debt} + PRA_{fx} + PRA_{VaR}

= $1,500,000 + $800,000 + $2,000,000 + $34,000,000

= $38,300,000

(i)   Clause 31- Treatment of Specific Risk

(i)   Rule

31	**TREATMENT OF SPECIFIC RISK**

(a)   Participants using internal models will be permitted to base their specific risk capital charge on modelled estimates if the models meet all of the qualitative and quantitative requirements for general market risk models as well as the additional criteria set out below. Participants which are unable to meet these additional criteria will be required to calculate the specific risk capital charge using the equity building block method and the debt building block method.

(b)   Specific risk is decomposed into two components: idiosyncratic risk, and event and default risk. Participants are required to hold capital against both types of specific risk.

(c)   In order to be used as a means of calculating the capital charge for the idiosyncratic risk component of specific risk, a Participant's specific risk model must:

(i)   explain the historical price variation in the portfolio;

(ii)   demonstrably capture concentration;

(iii)   be robust to an adverse environment; and

(iv)   be validated through back testing aimed at assessing whether idiosyncratic risk is being accurately captured.

(d)   In addition, the Participant must be able to demonstrate that it has methodologies in place which allow it to adequately capture event and default risk for its Trading Book debt and equity positions.

(e)   If a Participant meets the criteria set out above for idiosyncratic risk but does not adequately model event and default risk, the Participant will be required to add a surcharge to the internal model capital charge. An additional factor of one would be added to the scaling factor and applied to the estimate of specific risk until such time as a Participant can demonstrate that the methodologies it uses adequately capture event and default risk. Once a Participant is able to demonstrate this, the additional factor would be reduced to zero. The surcharge does not replace the requirement for a plus factor based on back testing results.

(f)   For Participants applying the surcharge, the total capital requirement will equal the scaling factor multiplied by the internal model's general and specific risk measure plus a surcharge in the amount of either:

(i)   the specific risk portion of the value-at-risk measure which should be separated from the model's estimate of general market risk; or

(ii)   the value-at-risk measures of sub-portfolios of debt and equity positions that contain specific risk. (This would apply to sub-portfolios containing positions that would be subject to specific risk under the equity building block method and the debt building block method.)

(g)   Participants using internal models of specific risk are required to conduct back testing aimed at assessing whether specific risk is being accurately captured. To validate its

> specific risk estimates a Participant should perform separate back tests using daily data on sub-portfolios subject to specific risk.
>
> (h) Participants are required to have in place a process to analyse exceptions identified through the back testing of specific risk. This process is intended to serve as the fundamental way in which Participants correct their models of specific risk in the event that they become inaccurate.
>
> (i) There will be a presumption that models that incorporate specific risk are unacceptable if the results at the sub-portfolio level produce a number of exceptions commensurate with the red zone defined in clause 32. A Participant with an unacceptable specific risk model is expected to take immediate action to improve the model and to ensure that there is a sufficient capital buffer to absorb the risk that the back test showed had not been adequately captured.

(ii) Guidance

(A) General

As per clause 27(k), Participants are subject to a capital charge for specific risk on positions in debt and *equity* related instruments.

Participants may be permitted to use their internal models for their specific risk capital charge if the models meet all of the qualitative and quantitative requirements for general market risk models as well as the additional criteria set out in clause 31. Participants which are unable to meet these additional criteria will be required to calculate the specific risk capital charge using the equity building block method (clause 3.2(b) of Annexure 3, Part 1) and the debt building block method (clause 12.2(b) of Annexure 3, Part 2).

Specific risk is decomposed into two components:

1. **idiosyncratic risk**, which is the day-to-day variation in individual security prices not explained by general market movements, and

2. **event and default risk**.

(B) Method

Participants must hold capital against both types of specific risk.

In order to be used for calculating the capital charge for **idiosyncratic risk**, a Participant's specific risk model must:

1. explain the historical price variation in the portfolio[64];

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[64] The key ex ante measures of model quality are 'goodness-of-fit' measures which address the question of how much of the historical variation in price is explained by the model. One often used measure of this type is an R-squared measure from regression methodology. If this measure is to be used, the Participant's model would be expected to be able to explain a high percentage, such as 90 per cent, of the historical price variation or to explicitly include estimates of the residual variability not captured in the factors included in the regression. For some types of models, it may not be feasible to calculate a goodness-of-fit measure. In such an instance, the Participant must agree an acceptable alternative measure with ASX/ASX Clear.

2. demonstrably capture concentration (the Participant would be expected to demonstrate that the model is sensitive to changes in portfolio construction and that higher capital charges result for portfolios that have greater concentrations);

3. be robust to an adverse environment[65]; and

4. be validated through back testing aimed at assessing whether idiosyncratic risk is being accurately captured.

In addition, the Participant must be able to demonstrate that it can adequately capture **event and default risk**.

A capital surcharge in the form of an increase in the multiplication factor will be imposed if a Participant meets the above criteria for idiosyncratic risk but does not adequately model event and default risk. This surcharge is designed to treat the modelling of specific risk on the same basis as a general market risk model that has proven deficient during back testing. That is, an additional factor of one (1) would be added to the multiplication factor and applied to the estimate of specific risk until such time as the Participant's model can adequately capture event and default risk. The specific risk surcharge does not replace the requirement for a plus factor based on the Participant's back testing results.

For Participants subject to the surcharge, the position risk amount under the internal models approach will equal the scaling factor multiplied by the internal model's general and specific risk measure plus a surcharge in the amount of either:

1. the specific risk portion of the VaR measure which should be separated from the model's estimate of general market risk; or

2. the VaR measures of sub-portfolios of debt and *equity* positions that contain specific risk. (This would apply to sub-portfolios containing positions that would be subject to specific risk under the equity building block method and debt building block method.)

Techniques for separating general market risk and specific risk under part 1. of the previous paragraph may include the following:

1. for interest rate related instruments, the market may be identified with a relevant reference curve. For example, the reference curve might be a government bond yield curve or a swap curve. The curve should be based on a well-established and liquid underlying market and should be widely accepted as a reference curve for the market concerned.

2. for equities, the market may be identified by a single factor that is representative of the market as a whole, for example, a broadly-based stock index for the country concerned (such as the S&P/ASX 200 in Australia). Participants that use factor models may assign one factor of their model, or a single linear combination of factors, as their general market risk factor.

Acceptable techniques for identifying the specific risk component of the VaR measure include:

1. using the incremental increase in VaR arising from the modelling of specific risk factors;

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[65] The Participant must be able to demonstrate that the model will signal rising risk in an adverse environment. This could be achieved by incorporating into the historical estimation period of the model at least one full credit cycle and ensuring that the model would not have been inaccurate in the downward portion of the cycle, or by simulating historical or plausible worst-case environments.

2. using the difference between the VaR measure and a measure calculated by substituting each individual **equity** position by a representative index; or

3. using an analytic separation between general market risk and specific risk implied by a particular model.

Participants using internal models of specific risk are required to conduct back testing aimed at assessing whether specific risk is being accurately captured. To validate its specific risk estimates a Participant should perform separate back tests using daily data on sub-portfolios subject to specific risk. The key sub-portfolios for this purpose are traded debt and **equity** positions. However, if a Participant decomposes its trading portfolio into finer categories (for example, emerging markets, traded corporate debt, etc), it is appropriate to keep these distinctions for sub-portfolio back testing purposes. The Participant is required to commit to a sub-portfolio structure. Changes to the sub-portfolio structure may only be made where there is a business case for such a change and must be agreed with ASX Clear.

Participants must have a process in place to analyse exceptions identified through back testing of specific risk. Specific risk models will be considered unacceptable if the back testing results at the sub-portfolio level fall into the red zone as described in clause 32(g)(iii). In this case, the Participant will need to take immediate steps to correct the model and will also need to ensure it has a sufficient capital buffer to absorb the specific risk that, as indicated by the back testing results, has not been adequately captured.

(iii) Example

(A) Position and Other Details

The following is an example of the application of the specific risk surcharge.

Assume the following:

1. a Participant uses the internal models approach for **equity** positions only;

2. the Participant's VaR model captures idiosyncratic risk but does not capture event and default risk;

3. the Participant is able to separately identify the general risk component and the specific risk (idiosyncratic risk) component of the VaR measure; and

4. the Participant is subject to a multiplication factor of 3 and a plus factor of 0. Therefore, the scaling factor for general market risk (SF_{gen}) is 3 and the scaling factor for specific risk (SF_{spec}) is 4.

Total VaR (calculated on portfolio at cob 01/07/04)	$2,000,000
General risk (average for 60 days up to and including 01/07/04)	$1,300,000
Specific risk (average for 60 days up to and including 01/07/04)	$ 800,000

(B) Calculation

Scaled average VaR = average general risk x SF_{gen} + average specific risk x SF_{spec}
$$= \$1,300,000 \times 3 + \$800,000 \times 4$$
$$= \$3,900,000 + \$3,200,000$$
$$= \$7,100,000$$

$PRA_{VaR} = $ max[$7,100,000, $2,000,000]

$\quad\quad\quad = $ $7,100,000

(j)   Clause 32- Framework for the Use of Back Testing

(i)   Rule

32	**FRAMEWORK FOR THE USE OF BACK TESTING**

(a)   This section presents the framework for incorporating back testing into the internal models approach to position risk requirements. It represents an elaboration of clause 27(j).

(b)   The Participant must calculate the number of times that the trading losses were larger than the value-at-risk measures (termed "exceptions") using the most recent 12 months of data. This must be done no less frequently than monthly.

(c)   The value-at-risk measure to be used for back testing purposes must be based on a 99 per cent level of confidence and a one day holding period.

(d)   The Participant must agree with ASX Clear the profit and loss approach to be used for regulatory back testing purposes.

(e)   Participants must document all of the exceptions generated from their ongoing back testing program, including an explanation for the exception.

(f)   The first formal accounting of exceptions under the back testing program will occur one year after model recognition is granted.

(g)   Using the most recent 12 months of data yields approximately 250 daily observations. ASX Clear will use the number of exceptions (out of 250) generated by the Participant's model as the basis for determining the plus factor to be applied. The supervisory response is based on a three-zone approach described below and the applicable plus factors are set out in Table 1.8 of Schedule 5.

   (i)   The green zone is where there are 4 or fewer exceptions in a sample of 250 outcomes.

   (ii)   The yellow zone is where there are 5 to 9 exceptions in a sample of 250 outcomes. Where a Participant's back testing results are in the yellow zone, ASX Clear may request additional information (e.g. disaggregated back testing results, explanations for the exceptions) to assist in determining the supervisory response. The plus factors for the yellow zone as set out in Table 1.8 of Schedule 5 are not meant to be purely automatic. However, to keep the incentives aligned properly, back testing results in the yellow zone should generally be presumed to imply an increase in the scaling factor unless the Participant can demonstrate that such an increase is not warranted. ASX Clear will decide whether or not to apply increases in the Participant's capital requirement by imposing the plus factor, or possibly to disallow the use of an internal model.

   (iii)   The red zone is where there are 10 or more exceptions in a sample of 250 outcomes. Where a Participant's back testing results are in the red zone, the plus factor of one will automatically apply. ASX Clear will also investigate the reasons why the Participant's model produced such a large number of exceptions, and will require the Participant to begin work on improving its model immediately. Finally, in the case of severe problems with the basic integrity of the model, ASX Clear may disallow the use of the model for capital purposes altogether.

Note: the reference to "Schedule 5" in clause 32(g)(ii) should be read as "Annexure 5". The rule will be amended accordingly.

(ii)   Guidance

(A)   General

Participants using the internal models approach must undertake regular back testing. Back testing is the process of comparing daily trading results (profit and loss outcomes) with the VaR numbers generated by the internal model. Back testing is an ongoing means of checking the quality and accuracy of a risk measurement model. If the comparison yields close results, the back test raises no issues regarding the quality of the model. In some cases, however, the comparison may uncover sufficient differences to indicate that problems almost certainly exist, either with the model or with the assumptions of the back test. In between these two cases is a grey area where the test results are, on their own, inconclusive.

The form of back testing to be conducted for the purposes of the Risk Based Capital Requirements is specified in clause 32 and guidance on this is provided below. This does not, however, preclude Participants from also performing other forms of testing to assess the quality of their models for their own internal purposes. Back testing results may also be considered as part of the internal model approval process.

(B)   Method

As stated previously, back testing involves a periodic comparison of a Participant's daily profit or loss outcome with the daily VaR measure. The VaR measures are intended to be larger than all but a certain fraction of the trading losses, where that fraction is determined by the confidence level of the VaR measure. Comparing the VaR measures with the trading outcomes simply means that the Participant counts the number of times that the trading losses were larger than the VaR measures. The fraction of greater than expected losses to total outcomes can then be compared with the intended level of coverage suggested by the confidence level in order to gauge the performance of the risk model.

In performing back testing for regulatory purposes, Participants must use VaR measures that are based on a 99 per cent confidence level and a one day holding period, and must use the most recent 12 months (250 days) of VaR and profit and loss data for the total ***trading book***. The regulatory back testing must be performed, and results reported to ASX Clear, on a monthly basis. The back testing is to be performed by counting the number of times (out of 250 observations) that the trading losses were larger than the VaR measures (termed "exceptions"). The resulting number of exceptions will form the basis for a supervisory response.

The confidence level used means that the back tests compare whether the observed percentage of trading losses covered by the VaR measure is consistent with a 99 per cent level of confidence. That is, they attempt to determine if a Participant's 99th percentile VaR measures truly cover 99 per cent of the Participant's trading losses.

VaR measures based on a one day holding period must be used for back testing purposes. This is in order to reduce the contamination arising from changes in portfolio composition during the holding period. These changes are reflected in actual profit and loss outcomes, but not in VaR numbers which are calculated on a static end-of-day portfolio. Note that this differs from the requirement to use a ten day holding period for the calculation of a position risk amount.

(C)   Profit and Loss Approach

Concerns about "contamination" of trading outcomes remain relevant even when one day trading outcomes are used. In other words, the overall one day profit or loss may not be a suitable point of comparison because it reflects the effects of intra-day trading, fee income and other income not attributable to outright position taking, whereas VaR measures the potential loss on a static portfolio due solely to price and rate movements. A more sophisticated approach would involve a detailed attribution of income by source, including fees, spreads, market movements and intra-day trading results. In such a case the VaR results should be compared with the income arising from market movements alone.

However, the back test that is most closely aligned to the VaR calculation is one based on the hypothetical changes in portfolio value that would occur if end-of-day positions were to remain unchanged. This hypothetical profit or loss is calculated by applying the day's price movements to the previous day's end-of-day portfolio. This hypothetical profit or loss result can then be compared against the VaR based on the same static end-of-day portfolio.

Each Participant using the internal models approach must agree with ASX Clear the profit and loss approach to be used for regulatory back testing purposes, i.e. the approach that is to be used as the basis for determining the plus factor. Participants may use:

1.   actual trading outcomes (the least desirable approach given the contamination issues discussed above),

2.   actual trading outcomes with items such as fees and intra-day trading stripped out, or

3.   hypothetical trading outcomes.

ASX Clear's preference is for Participants to develop the capability to perform back tests using hypothetical trading outcomes. Participants will be encouraged to perform back tests using both hypothetical and actual trading outcomes. In combination, the two approaches are likely to provide a strong understanding of the relation between calculated risk measures and trading outcomes.

Participants that have the capacity to back test using both actual and hypothetical trading outcomes will be required to report the results of both tests to ASX Clear on a monthly basis. The plus factor to be applied will be based on the back testing results using hypothetical trading outcomes unless agreed otherwise with ASX Clear.

(D)   Supervisory Response – The Plus Factor

The supervisory response to a Participant's back testing results is based on a three-zone approach. In many cases, no supervisory response will be required. In other cases, ASX Clear may initiate a dialogue with the Participant to determine if there is a problem with the Participant's model. In more serious cases, ASX Clear may impose an increase in the Participant's capital requirement or disallow use of the internal model for regulatory capital purposes.

The first formal accounting of a Participant's exceptions under the back testing program will occur one year after model recognition is granted. This means that no plus factor will be applicable for the first year that a Participant uses its internal model to calculate a position risk amount. A Participant will, however, still have to report back testing results in its monthly return during this first year.

It is with the statistical limitations of back testing in mind that the supervisory interpretation of back testing results encompasses a range of possible responses, depending on the strength of the signal generated from

the back test. These responses are classified into three zones, distinguished by colours. The 'green' zone corresponds to back testing results that do not themselves suggest a problem with the quality or accuracy of a Participant's model. The 'yellow' zone encompasses results that do raise questions in this regard, but where such a conclusion is not definitive. The back testing results could be consistent with either accurate or inaccurate models and ASX Clear will require a Participant to present additional information about its model before taking action. The 'red' zone indicates a back testing result that almost certainly indicates a problem with a Participant's risk model and ASX Clear will require some action to be initiated.

Table 1.8 of Annexure 5 sets out the boundaries for these zones and the presumptive supervisory response for each back testing outcome, based on a sample of 250 observations. Where back testing indicates weaknesses in a Participant's model a plus factor may apply and is to be added to the Participant's multiplication factor to form the scaling factor. The plus factors have been determined on the basis of the probabilities of obtaining a particular number of exceptions from a sample of 250 observations for a model with true coverage of 99 per cent.

(1) The Green Zone

The range from zero to 4 exceptions constitutes the green zone. Since a model that truly provides 99 per cent coverage would be quite likely to produce as many as 4 exceptions in a sample of 250 outcomes, there is little reason for concern raised by back testing results that fall in this range. In such a case, the plus factor will be zero and no other action from the Participant will be required.

(2) The Yellow Zone

The range from 5 to 9 exceptions constitutes the yellow zone. Outcomes in this range are plausible for both accurate and inaccurate models, although they are generally more likely for inaccurate models than for accurate models. Moreover, the presumption that the model is inaccurate should grow as the number of exceptions increases in the range from 5 to 9.

Within the yellow zone, the number of exceptions should generally guide the size of potential supervisory increases in a Participant's capital requirement. Table 1.8 of Annexure 5 sets out the plus factors applicable to back testing results in the yellow zone. These particular values reflect the general idea that the increase in the scaling factor should be sufficient to return the model to a 99th percentile standard.

It is important to stress, however, that these increases are not meant to be purely automatic. ASX Clear has no interest in penalising Participants solely for bad luck. Nevertheless, to keep the incentives aligned properly, <u>back testing results in the yellow zone should generally be presumed to imply an increase in the scaling factor unless the Participant can demonstrate that such an increase is not warranted</u>.

Participants with back testing results in the yellow zone will be required to provide additional information to ASX Clear to assist in determining the supervisory response. There are many different types of additional information that might be relevant to an assessment of the Participant's model. For example, it would be particularly valuable to see the results of back tests covering disaggregated subsets of the Participant's overall trading activities. Disaggregating back testing results around risk factors or product categories could allow the tracking of a problem that surfaced at the aggregate level back to its source at the level of a specific trading unit or risk model.

The extent to which a trading outcome exceeds the risk measure is another relevant piece of information. Exceptions generated by trading outcomes far in excess of the risk measure are a matter of greater concern than are outcomes only slightly larger than the risk measure.

Participants are required to document all of the exceptions generated from their ongoing back testing program, including an explanation for the exception. This documentation will also be important in determining an appropriate supervisory response to back testing results in the yellow zone. Participants may also implement back testing for confidence intervals other than the 99th percentile or may perform other statistical tests not considered here.

In practice, there are several possible explanations for a back testing exception, some of which go to the basic integrity of the model, some of which suggest an under-specified or low quality model, and some of which suggest either bad luck or poor intra-day trading results. Each of these problems are considered below. Classifying the exceptions generated by a Participant's model into these categories can be a useful exercise:

(a)   Basic integrity of the model

1.   The Participant's systems simply are not capturing the risk of positions themselves (e.g. the positions of an overseas office are being reported incorrectly).

2.   Model volatilities and/or correlations are calculated incorrectly.

This category of problems relating to the basic integrity of the risk measurement model are potentially the most serious. If there are exceptions attributed to this category for a particular trading unit, the plus factor set out in Table 1.8 of Annexure 5 will apply. In addition, the model may be in need of review and/or adjustment, and ASX Clear will require the Participant to make the appropriate correction.

(b)   Model's accuracy could be improved

1.   The risk measurement model is not assessing the risk of some instruments with sufficient precision (e.g. too few maturity buckets or an omitted spread).

The second category of problem (lack of model precision) is one that can be expected to occur at least part of the time with most risk measurement models. All models involve some amount of approximation. If, however, a particular Participant's model appears more prone to this type of problem than others, ASX Clear will impose the plus factor and require the Participant to improve its risk measurement techniques.

(c)   Bad luck or markets moved in fashion unanticipated by the model

1.   Random chance (a very low probability event).

2.   Markets moved by more than the model predicted (i.e. volatility was significantly higher than expected).

3.   Markets did not move together as expected (i.e. correlations were significantly different than what was assumed by the model).

The third category of problem (markets moved in a fashion unanticipated by the model) should also be expected to occur at least some of the time with VaR models. The behaviour of the markets may shift so that previous estimates of volatility and correlation are less appropriate. No VaR model will be immune from this type of problem; it is inherent in the reliance on past market behaviour as a means of gauging the risk of future market movements. Exceptions for such reasons do not suggest a problem. However, if the

shifts in volatilities and/or correlations are deemed to be permanent, ASX Clear may require the Participant to recalculate its VaR using volatilities and correlations based on a shorter historical observation period.

(d) Intra-day trading

1. There was a large (and money-losing) change in the Participant's positions or some other income event between the end of the first day (when the risk estimate was calculated) and the end of the second day (when trading results were tabulated).

Depending on the definition of trading outcomes employed for the purposes of back testing, exceptions could also be generated by intra-day trading results or an unusual event in trading income other than from positioning. Although exceptions for these reasons would not necessarily suggest a problem with the Participant's VaR model, they could still be a cause for concern and the imposition of the plus factor will be considered.

In summary, where back testing results fall in the yellow zone, ASX Clear will decide whether or not to impose the plus factor or possibly to disallow the use of an internal model after evaluating the above factors as well as others, including an appraisal of the Participant's compliance with applicable qualitative standards of risk management.

(3) The Red Zone

The red zone is where there are 10 or more exceptions. In contrast to the yellow zone where ASX Clear may exercise judgement in interpreting the back testing results, outcomes in the red zone will generally lead to an automatic presumption that a problem exists with a Participant's model. This is because it is extremely unlikely that an accurate model would independently generate 10 or more exceptions from a sample of 250 trading outcomes. In fact, the probability of this occurring is only 0.03%.

In general, therefore, if a Participant's model falls into the red zone, ASX Clear will automatically impose a plus factor of 1. ASX Clear will also investigate the reasons why the Participant's model produced such a large number of exceptions and will require the Participant to begin work on improving its model immediately. Finally, in the case of severe problems with the basic integrity of the model, ASX Clear may disallow the use of the model for regulatory capital purposes.

Although 10 exceptions is a very high number for 250 observations, there may, on very rare occasions, be a valid reason why an accurate model will produce so many exceptions. In particular, when financial markets are subjected to a major regime shift, many volatilities and correlations can be expected to shift as well, perhaps substantially. Such a regime shift could generate a number of exceptions in a short period of time. One possible response in this instance may be to simply require the Participant's model to take account of the regime shift as quickly as it can while maintaining the integrity of its procedures for updating the model. This exception will be allowed only under the most extraordinary circumstances.

SECTION 3F –RULE S1 ANNEXURE 4 UNDERWRITING RISK REQUIREMENT

(i)   Rule

Annexure 4 and clause 7 of Annexure 1 will be inserted and effective on a date to be advised.

(ii)   Guidance

A Rule for an *underwriting risk requirement* has been deferred.

(A)   Definition of Underwriting Risk

Underwriting risk is the risk of financial loss arising from having to unexpectedly fund the obligation to take securities under an *underwriting* commitment out of the financial resources of the organisation.

(B)   Underwriting Risk Requirement Deferred

It is important to note that the *underwriting risk requirement* has not been implemented by ASX Clear at this time.

There is an intention to develop a proposal for an *underwriting risk requirement* in the Risk Based Capital Requirements. Accordingly, the drafting of the Rule and the Handbook contemplates the introduction of an *underwriting risk requirement* to simplify the incorporation of the requirement when it is introduced. It is not yet possible to advise the date for the introduction of the *underwriting risk requirement*. It is, however, anticipated that a transition period of appropriate length will precede the requirement for Participants to comply with the *underwriting risk requirement*.

(C)   Underwriting Register to be Maintained

Notwithstanding that there is currently no *underwriting risk requirement*, there is a requirement for each Participant to maintain a register of *underwritings*. This requirement and the details of what the register should record appear in Rule S1.2.10(3).

(iii)   Monthly Reporting Requirement

In addition to the requirement to maintain the underwriting register at all times, there is also a requirement that a Participant report any outstanding *underwriting* or sub *underwriting* commitments it has open at each month end.

This information should be reported in the Capital Liquidity Return lodged with ASX Clear.

SECTION 3G –RULE S1 ANNEXURE 5 TABLES

(a)   Position Risk

(i)   Table 1.1 - Equity Position Risk Factors

Table 1.1

Equity Position Risk Factors							
Position In:	Underlying						Option
	Recognised Market Index (see Table 1.6)			Non Recognised Market Index			Implied Volatility
	Standard Method	Building Block Method		Standard Method	Building Block Method		
	Method	General Risk	Specific Risk	Method	General Risk	Specific Risk	
Single Equity	12%	8%	4%[1]	16%	8%	8%	25%
Index	8% [2]	8%	0% [2]	16% [2]	8%	8%	25%

Notes:[1]   *The specific risk Position Risk Factor for a single Equity may be reduced to 2% if:*

$\Pi = gross\ value\ of\ each\ country\ portfolio$

$\alpha_i = Net\ Position\ in\ equity\ i$

$\alpha_{5\%-10\%} = Positions\ in\ individual\ equities\ that\ represent\ more\ than\ 5\%\ and\ up\ to\ 10\%\ of\ the\ gross\ value of\ the\ portfolio$

Both of the "tests" noted above must be satisfied in order for the Position Risk Factors to be reduced to 2 % for any equity position held. Hence if any one net position is greater than 10% of the gross value of each country portfolio then NO net position can have a position risk factor of 2%.

[2] For positions not broken down into constituent Equities, otherwise the single Equity percentages apply.

Guidance

Refer to the example for clause 3 of Annexure 3.

Note: only positions in a *recognised market index* contract, such as the SPI 200 *future*s contract over the S&P/ASX 200 index, may have a 0% specific risk factor.

(ii)   Table 1.2 - Debt Position Risk Factors

Table 1.2

Debt Position Risk Factors (see also Table 1.3 below)							
Time Band **Coupons**		Position Risk Factors - %					
		Standard Method			**Building Block Method (General Risk)**		
≥ 3%	**< 3% (or Duration Method)**	**Gov't**	**Qualifying**	**Other**	**Zone**	**Maturity Method**	**Duration Method (assumed yield change)**
0 - 1 mth	**0 - 1 mth**	0.00	0.25	8.00	1	0.00	1.00
> 1 - 3 mths	**> 1 - 3 mths**	0.20	0.45	8.20		0.20	1.00
> 3 - 6 mths	**> 3 - 6 mths**	0.40	0.65	8.40		0.40	1.00
>6 - 12 mths	**> 6 - 12 mths**	0.70	1.70	8.70		0.70	1.00
> 1 - 2 yrs	**> 1 - 1.9 yrs**	1.25	2.25	9.25	2	1.25	0.90
> 2 - 3 yrs	**> 1.9 - 2.8 yrs**	1.75	3.35	9.75		1.75	0.80
> 3 - 4 yrs	**> 2.8 - 3.6 yrs**	2.25	3.85	10.25		2.25	0.75
> 4 - 5 yrs	**> 3.6 - 4.3 yrs**	2.75	4.35	10.75	3	2.75	0.75
>5- 7 yrs	**> 4.3 - 5.7 yrs**	3.25	4.85	11.25		3.25	0.70
> 7 - 10 yrs	**> 5.7 - 7.3 yrs**	3.75	5.35	11.75		3.75	0.65
> 10 - 15 years	**> 7.3 - 9.3 yrs**	4.50	6.10	12.50		4.50	0.60
> 15 - 20 years	**> 9.3 - 10.6 yrs**	5.25	6.85	13.25		5.25	0.60
20+ years	**> 10.6 - 12 yrs**	6.00	7.60	14.00		6.00	0.60
	> 12 - 20 yrs	8.00	9.60	16.00		8.00	0.60
	20+ yrs	12.50	14.10	20.50		12.50	0.60
Option Implied Volatility - All Debt Positions		25%					

In using Table 1.2 for any Debt Derivative, a Participant must use the Position Risk Factors specified in the **'**government' column unless the value of the Debt Derivative is derived from:

(a) a Qualifying Debt Instrument, in which case the Participant must use the Position Risk Factors specified in the 'qualifying' column; or

(b) a non -Government Debt Instrument, in which case the Participant must use the Position Risk Factors specified in 'other' column.

Guidance

For calculation purposes, where a time band refers to the period "1.9 years" for example, this may be interpreted as being equal to 1.9 x 365 days.

The option implied volatility factor of 25% applies only to the debt contingent loss matrix method.

(iii)   Table 1.3 - Debt Building Block Method Specific Risk Factors

Table 1.3

Debt Building Block Method - Specific Risk Position Risk Factors					
Government	**Government**	**Qualifying**			**Other**
0-12 mths	**over 12 mths**	**0-6 mths**	**6-24 mths**	**over 24 mths**	
0.00%	0.00%	0.25%	1.00%	1.60%	8.00%

(iv)   Table 1.4 - Debt Building Block Method General Risk Time Band Matching Factors

Table 1.4

Debt Building Block Method - General Risk Time Band Matching Factors (TBMF)		
	Matching Factor	
	Maturity Method	**Duration Method**
Same time band (TBMF)	10%	5%
Zone 1 (ZMF)	40%	40%
Zone 2 (ZMF)	30%	30%
Zone 3 (ZMF)	30%	30%
Positions in adjacent zones AZMF)	40%	40%
Positions spanning Zone 1 and Zone 3 (NAZMF)	100%	100%

(v) Table 1.5 - Debt Rated Investment Grades

Table 1.5

Rated Investment Grades		
	Minimum Ratings	
	Securities	Money Market Obligations
For all issuers		
Moody's Investor Services	Baa3	P3
Standard & Poors Corporation	BBB-	A3
Fitch IBCA Ltd	BBB-	F-3
For all banks, building societies and subsidiaries of banks (not otherwise eligible as Qualifying Debt Instruments)		
Thomson Financial Bank Watch	BBB-	TBW-3
For Canadian Issuers		
Canadian Bond Rating Service	B++low	A-3
Dominion Bond Rating Service	BBB low	R-2
For Japanese Issuers		
Japan Credit Rating Agency Ltd	BBB-	J-2
Nippon Investor Services Inc	BBB-	a-3
The Japan Bond Research Institute	BBB-	A-2
Mikuni & Co	BBB	M-3
Fitch Investors Services Inc	BBB-	F-3
For United States Issuers		
Duff & Phelps Inc	BBB-	3
Fitch Investors Services Inc	BBB-	F-3

This table may be updated periodically.

(vi) Table 1.6 - Equity Recognised Market Indexes

Table 1.6

Recognised Market Indexes			
Country	**Index**	**Country**	**Index**
Australia	S&P/ASX 200	Netherlands	EOE 25
Austria	ATX	Spain	IBEX 35
Belgium	BEL 20	Sweden	OMX
Canada	TSE 35	Switzerland	SMI
France	CAC 40	UK	FTSE 100
Germany	DAX	UK	FTSE mid-250
Hong Kong	Hang Seng	USA	S&P 500
Italy	MIB 30		
Japan	Nikkei 225		

This table may be updated periodically.

(vii) Table 1.7 - Foreign Exchange Position Risk Factors

Table 1.7

Foreign Exchange Position Risk Factors	
	Standard Method
Foreign Exchange Spot and Forward - All Currencies	8%
Options Implied Volatility - all Currencies	25%

Guidance

The option implied volatility factor of 25% applies only to the foreign exchange contingent loss matrix method.

(viii)   Table 1.8 - Back Testing Plus Factors

Table 1.8

Internal Models Approach – Back Testing Plus Factors		
	Number of Exceptions	**Plus Factor**
Green Zone	4 or fewer	0.00
Yellow Zone	5	0.40
	6	0.50
	7	0.65
	8	0.75
	9	0.85
Red Zone	10 or more	1.00

(b) Counterparty Risk

(i) Table 2.1 – Counterparty Risk Weightings

Table 2.1

Risk Weightings	
	Counterparty
Central Bank	0%
Central and State Government	10%

Banks
Local Governments
Approved Deposit Taking Institutions (other than Banks)
Risk Based Capital Requirements
    - ASX Clear Participants
    - ASX Market Participants
	20%

Approved Institutions
NTA Requirements
    - ASX Clear Participants
    - ASX Market Participants
	50%

Other	100%

In Table 2.1, references to Central Banks and Governments are references to OECD Central Banks and Governments. Non-OECD Central Banks and Governments are within the 'other' category of risk weighting.

Guidance

Refer to the guidance for clause 8 of Annexure 1.

(ii) Table 2.2 - Potential Credit Exposure Factors

Table 2.2

Potential Credit Exposure Factors			
Remaining Time to Maturity	Equity	Debt	Foreign Exchange
One year or less	6.0%	0.0%	1.0%
Over one year to 5 years	8.0%	0.5%	5.0%
Over 5 years	10.0%	1.5%	7.5%

(c)   Other

(i)   Table 3.1 - Recognised Non European Regulators

Table 3.1

Recognised Non European Regulator	
Country	**Regulator**
Australia	Australian Securities Exchange Limited
Canada	Alberta Stock Exchange Montreal Exchange Toronto Stock Exchange Vancouver Stock Exchange Investment Dealers Association of Canada
Hong Kong	Hong Kong Monetary Authority Hong Kong Securities and Futures Commission
Japan	Financial Services Agency
Singapore	Monetary Authority of Singapore Stock Exchange of Singapore
South Africa	Bond Exchange of South Africa Johannesburg Stock Exchange South African Futures Exchange
United States	Securities and Exchange Commission Commodity and Futures Trading Commission

(ii)   Table 3.2 - Recognised European Regulators

Table 3.2

Recognised European Regulator	
Country	**Regulator**
Austria	Bundesministerium für Finanzen (Federal Ministry of Finance, Banking, Stock Exchange and Capital Market Supervision) Bundes-Wertpapieraufsicht (Austrian Securities Authority)
Belgium	Commission Bancaire et Financière
Finland	Financial Supervision Authority
France	Comité des établissements de crédit et des enterprises d'investissements
Germany	Bundesanstalt für Finanzdienstleistungsaufsicht (Federal Financial Supervisory Authority)
Greece	The Bank of Greece The Capital Market Commission
Iceland	Central Bank of Iceland
Ireland	Central Bank of Ireland
Italy	Banca d'Italia
Liechtenstein	Dienstelle für Bankennaufsicht
Luxembourg	Institute Monetaire Luxemborgeois
Netherlands	Securities Board of the Netherlands
Norway	Kredittilsynet (the Banking, Insurance and Securities Commission of Norway
Portugal	Banco de Portugal (Central Bank)
Spain	Banco de Espana (for Banks and Credit Institutions) Comision Nacional del Mercado de Valores
United Kingdom	Financial Services Authority

SECTION 4 – REPORTING REQUIREMENTS GUIDANCE

(a)   Overview

(i)   Returns

The Risk Based Capital Requirements have **five** prescribed returns that may require lodgement at various times or under different circumstances and these are noted below:

1. **Adhoc Return -** to be lodged by all Participants on an ad hoc, daily or weekly basis if requested by ASX Clear or if the ratio of *liquid capital* to *total risk requirement* falls below the specified minimum;

2. **Summary Capital Liquidity Return** – to be lodged by all Participants on an ad hoc, daily or weekly basis if requested by ASX Clear;

3. **Capital Liquidity Return** – to be lodged by all Participants on a monthly basis;

4. **Annual Audited Return** – to be lodged by all Participants on an annual basis; and

5. **Business Activities Return** – to be lodged by Participants on a quarterly basis.

Each return (other than the Business Activities Return) has been developed around a single base return structure. This means that there is basically a single return format from which various returns can be derived for different purposes. For example, the **Annual Audited Return** represents the whole return structure. The **Capital Liquidity Return** is a reduced form of the **Annual Audited Return,** the **Summary Capital Liquidity Return** is a reduced form of the **Capital Liquidity Return** and the **Adhoc Return** is a reduced form of the **Summary Capital Liquidity Return**.

(ii)   Lodgement Format

All Participants are required to prepare and submit their returns (other than the Business Activities Return) electronically using the Return Lodgement and Monitoring (RLM) system. This format is mandatory as it enables Counterparty Risk Assessment to complete an analysis of the data received. Please note that this system is designed to enable a Participant to report its capital liquidity figures, it **does not** calculate the detail that makes up these figures.

In order to access the RLM system, users must first obtain an ASX Reporting Applications user account. A RLM user account then needs to be obtained (and activated by Counterparty Risk Assessment). The RLM system is then able to be accessed through ASX Online from any PC that has internet access. The username and password for RLM will be the same as for the ASX Reporting Applications user account.

The **Business Activities Return** is a paper based return. A scanned copy of the signed return must be submitted via email.

(b) Summary of Returns

(i) Introduction

A brief commentary on each return is provided below. A table setting out the sections that need to be completed for each type of return (other than the Business Activities Return) is provided later in this section of the Handbook.

(ii) Adhoc Return

(A) General

The **Adhoc Return** is a single page return which summarises the components of *liquid capital* and *total risk requirement* as well as the *liquid margin* and the capital ratio. This return may be required to be completed on an ad hoc, daily or weekly basis.

(B) Lodgement and Authorisation Requirements

The **Adhoc Return** must be prepared and submitted via the RLM system. Only one director's authorisation is required to submit the return.

(iii) Summary Capital Liquidity Return

(A) General

The **Summary Capital Liquidity Return** may be required to be completed on an ad hoc, daily or weekly basis as advised by ASX Clear.

(B) Lodgement and Authorisation Requirements

The **Summary Capital Liquidity Return** must be prepared and submitted via the RLM system. Only one director's authorisation is required to submit the return.

(iv) Capital Liquidity Return

(A) General

The **Capital Liquidity Return** includes the same sections as the **Summary Capital Liquidity Return** and is required to be completed on a monthly basis**.**

As the business activities undertaken by each Participant will vary and, in some instances, Participants have a choice of methodology in the calculation of the capital requirement, the number of sections in the **Capital Liquidity Return** that one Participant is required to lodge will vary to that of another Participant.

In addition, if the business activities of the same Participant varies from month to month the number of sections that are required to be lodged may also vary.

Participants are also required to report the following items in the "Additional Comments" (ADD) section of the **Capital Liquidity Return**:

1. the minimum, maximum and average ratio of *liquid capital* to *total risk requirement* for the reporting month ~~in the "Additional Comments" (ADD) section of the~~ **~~Capital Liquidity Return~~**~~.~~ ; and

2. utilisation as at month end (and any caveats on the unutilised portion) for all facilities reported in the "Credit Facilities & Overdraft" section of the return, except for any *approved subordinated debt* facilities and any intraday facilities.

(B)   Lodgement and Authorisation Requirements

The **Capital Liquidity Return** must be prepared and submitted via the RLM system. Only one director's authorisation is required to submit the return.

(v)   Annual Audited Return

(A)   General

The Annual **Audited Return** includes those sections that are required to be lodged as a **Capital Liquidity Return**, as well as a statement by the Participant's auditors on the accounts of the Participant.

(B)   Lodgement and Authorisation Requirements

The following **Annual Audited Return** "package" should be lodged with Counterparty Risk Assessment by the due date:

1. Electronic copy of the Annual Audited Return submitted via the RLM system. The return must be authorised by two directors or by one director in accordance with a resolution of the board of directors (in which case the date of the resolution must be specified in the return);

2. Scanned copy of the independent "Audit Report on Financial Information", dated and signed by the audit firm;

3. Scanned copy of statutory accounts, including directors declaration and audit report as required under the laws of the Participant's home jurisdiction;

4. If the Participant is authorised to use the internal models approach of Rule S1, Annexure 3, Part 4, scanned copy of the report from the independent review of the Participant's risk management system (as required under Rule S1, Annexure 3, Part 4, clause 25 (b) (viii)); and

5. If the Participant has been given approval to use foreign accounting standards under Rule S1.2.7(2) and ASX Clear Rule 4.4.3(a), the Participant will need to provide the scanned copy of the "Assurance Report Relating to Accounting Standards Applicable to the Participant" signed by one director in accordance with a resolution of the board of directors (in which case the date of the resolution must be specified) or by two directors.

(vi)   Business Activities Return

(A)   General

The purpose of the **Business Activities Return** is for ASX Clear to obtain data on the own account business and non-ASX client activity conducted by Participants to be used as part of the determination of each Participant's *core capital* requirement.

The **Business Activities Return** is required to be completed on a quarterly basis.

A Participant that has been determined by ASX Clear to be inactive under Rule S1.2.1(2)(a) and therefore is only subject to the *base core capital requirement* is not required to submit the Business Activities Return.

A Participant that has submitted a Business Activities Return in which it has requested that both its own account business and non-ASX client activity be automatically deemed material will have the additional $5,000,000 *core capital* requirement apply for each of these activities. Such a Participant is not required to submit further Business Activities Returns on a quarterly basis until such time as it believes that there has been a reduction in the materiality of either of those activities and it wishes to have its *core capital* requirement assessed by ASX Clear.

A copy of the pro forma **Business Activities Return** is available on ASX Online (https://www.asxonline.com/content/dam/asxonline/public/documents/participant-application-kit-equities-market/asx-clear/business-activities-return.docx). Instructions on completing the return are included within the form itself.

(B)   Lodgement and Authorisation Requirements

The **Business Activities Return** must be signed by one director. ~~A scanned copy of the signed return must be emailed~~ and submitted by email to CRAteam@asx.com.au.

The Business Activities Return may be signed using one of the following methods:

1.   wet signature;

2.   using an electronic signature platform (such as DocuSign, AdobeSign or HelloSign) provided the relevant audit trail/document history is also provided; or

3.   copying a scanned or snipped image of a physical signature. If signing using this method, the director must also provide an email confirming either:
- they affixed their electronic signature to the return; or
- they authorised another specified person to affix the electronic signature to the return (the specified person must be named).

(c)   Returns Lodgement

(i)   Electronic Format

Counterparty Risk Assessment has prepared a User Guide for the RLM system. As this guide changes from time to time to reflect amendments to the system, the User Guide is not included in this Handbook.

A copy of the User Guide is available via the "Help" function in the RLM system or can be downloaded from the ASX Online website at https://www.asxonline.com/content/dam/asxonline/public/documents/manuals/rlm-system-user-guide/rlm-system-user-guide.pdf.

The due dates for all returns are detailed below.

(ii) Returns Lodgement Timetable and Late Fees

The following lodgement dates must be complied with by all Participants. As noted below, fees apply to returns that are not lodged by the due date.

Return	Due [1]	Late Lodgement Fee [2]
Adhoc Return Prescribed under Rule S1.3.1	As requested by ASX Clear under Rule S1.3.2	$275 (inclusive of GST) per Business Day the return is late
Adhoc Return Prescribed under Rule S1.2.2(2)(a)	Within one Business Day of notifying ASX Clear under the provisions of Rule S1.2.2(1)	$275 (inclusive of GST) per Business Day the return is late
Daily Returns – **Adhoc** or **Summary Capital Liquidity** Return Prescribed under Rule S1.2.2(2)(b)	10am on each Business Day whilst the provisions of Rule S1.2.2(2)(b)(ii) apply	$275 (inclusive of GST) per Business Day the return is late
Weekly Returns – **Adhoc** or **Summary Capital Liquidity Return** Prescribed under Rule S1.2.2(2)(b)	10am on the Monday, return prepared as at the close of business each Friday, whilst the provisions of Rule S1.2.2(2)(b)(i) apply	$275 (inclusive of GST) per Business Day the return is late
Capital Liquidity Return Prescribed under Rule S1.3.1	5.00pm on the 10th Business Day of the month following the reporting month	$275 (inclusive of GST) per Business Day the return is late
Business Activities Return Prescribed under Rule S1.3.1	5.00pm on the 15th Business Day of the month following the end of the reporting quarter	n/a[66]
Annual Audited Return [3] Prescribed under ASX Clear Rule 4.4.3 and Rule S1.3.1	5.00pm on the last Business Day of the third month following the end of the reporting period	$275 (inclusive of GST) per Business Day the return is late

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[66] As at the date of this Handbook, a late lodgement fee has not been prescribed for the Business Activities Return.

[1] **Due Dates**
Due dates are prescribed under Rule S1.3.1(2) and, in the case of the annual audited return, ASX Clear Rule 4.4.3.

[2] **Late Lodgement Fees**
Late lodgement fees are prescribed under ASX Clear Rule 1.18.
Late lodgement fees set out in this table are current at the date of this Handbook, but may change. (Any changes to the late lodgement fee structure will be notified by ASX Clear via Notice).
Should any return remain outstanding beyond the due date, disciplinary action may be taken.

[3] **Annual Audited Return**
All Participants should lodge the documents as specified in the section on the Annual Audited Return above.

(iii)   Other Acceptable Signatories for Corporations

Returns are required to be authorised by a director/s of the Participant as outlined in section (b) above. It would be acceptable for an alternate director to authorise a return once the Participant has advised ASX Compliance of the appointment details of the alternate director and provided a statement that the Participant's constitution permits the appointment of the alternate director. An alternate director is a specific term under section 201K of the Corporations Act 2001 and means a person who has been appointed to exercise some or all of a director's powers (usually when a director is unable to do so themselves). Section 201K(3) provides that where an alternate director exercises those powers, it is as if the director has exercised it themselves.

Please note that in order for an alternate director to authorise the return their RLM user account must be set up with the role of 'Participant Director'. As with all RLM user accounts, this needs to be activated by ASX Counterparty Risk Assessment. Please refer to the RLM User Guide for further details.

However, it is not acceptable for returns to be authorised by a person (non-director) that has been delegated authority under a power of attorney. This is because a director cannot delegate a personal responsibility such as signing capital returns.

(iv)   Procedures for Granting Extensions to Returns Lodgement

To ensure that requests for extensions are processed and monitored efficiently, and late returns are accurately determined, ASX Clear requires that Participants observe the following procedures when seeking an extension for the lodgement of returns.

Prior to the due date, a Participant seeking an extension must email a request through to CRAteam@asx.com.au. Participants must include in the email:

1.   reason for the late lodgement of the return,

2.   the revised date for lodgement. It is unlikely that an extension for a monthly return will be granted for more than two Business Days. If the return is received after the revised due date then a late lodgement fee will apply from this revised date.

ASX Clear will respond to the Participant via return email to confirm the receipt of the email and to approve or refuse the extension. Until such time as the Participant receives this confirmation, **an extension has not been granted**.

Extensions will not be granted by telephone. It is the responsibility of the Participant to ensure it does not assume an extension has been granted until confirmation has been received via email. This procedure will assist both ASX Clear and Participants by creating an audit trail of extensions requested and granted.

ASX Clear will be monitoring closely the frequency for which Participants request extensions for lodgement of returns. ASX Clear will take into account valid reasons for granting extensions and this will only be in respect of isolated and extraordinary circumstances. Further, ASX Clear expects that the Participant has sufficient resources to ensure that returns can be completed at any time and that the process is not reliant on one employee within the organisation.

(d) Indicative Timetable of Pages Requiring Completion

Note that the Business Activities Return is excluded from this table.

Page Description	RLM Ref.	Adhoc Return			Summary Capital Liquidity Return			Capital Liquidity Return	Annual Audited Return
		Ad Hoc	Daily	Weekly	Ad Hoc	Daily	Weekly	Monthly	Annually
Adhoc Return	N/A	✔	✔	✔					
Profile	PRO				✔	✔	✔	✔	✔
Counterparty Risk Requirement	CRR				✔ [1]	✔ [1]	✔ [1]	✔ [1]	✔ [1]
Position Risk Requirement	PRR				✔ [1]	✔ [1]	✔ [1]	✔ [1]	✔ [1]
Large Exposure Risk Requirement	LRR				✔ [1]	✔ [1]	✔ [1]	✔ [1]	✔ [1]
Underwriting Risk Requirement	URR				N/A	N/A	N/A	N/A	N/A
Non-Standard Risk Requirement	NRR				✔ [1]	✔ [1]	✔ [1]	✔ [1]	✔ [1]
Operational Risk Requirement Calculation	ORR				✔	✔	✔	✔	✔
Income Statement	ICS				✔	✔	✔	✔	✔
Balance Sheet	BAL				✔	✔	✔	✔	✔
Balance Sheet Details [3]	BSD				✔	✔	✔	✔	✔
Core Capital, Liquid Capital, Liquid Margin and Ratio					✔	✔	✔	✔	✔

Page Description	RLM Ref.	Adhoc Return			Summary Capital Liquidity Return			Capital Liquidity Return	Annual Audited Return
		Ad Hoc	Daily	Weekly	Ad Hoc	Daily	Weekly	Monthly	Annually
Additional Comments	ADD				✓	✓	✓	✓	✓
Credit Facilities & Overdraft	CFO							✓	
Directors Statement	DRD				✓	✓	✓	✓	✓
Audit report on financial information	N/A								✓
Statutory accounts	N/A								✓ 2

1 If exposure exists.

2 If required to be prepared under the Corporations Act 2001 (or equivalent laws for foreign Participants).

3 Cash & Cash Equivalents, Related/Associated Persons, Underwriting/Guarantees, ~~Other~~ Contingent Liabilities ~~and Lease Commitments~~, Leases, Other Assets, and Legal/Insurance/Encumbrances.

SECTION 5 – APPROVED SUBORDINATED DEBT DOCUMENTATION

(a)   Introduction

(i)   General

These instructions are designed to outline the requirements and procedures for establishing and maintaining an ***approved subordinated debt*** facility under the Risk Based Capital Requirements.

This section of the Handbook refers to a number of standard pro forma documents relating to the establishment and operation of an ***approved subordinated debt*** facility. The standard pro forma ***approved subordinated debt*** documents are:

1.   **Subordinated Loan Deed** (refer to (b) below) – note that this replaces the previous Loan Agreement and Subordination Deed that were used to establish ASX Clear a***pproved subordinated debt*** facilities prior to March 2012;

2.   **Notification of Advance** (refer to (c) below);

3.   **Deed of Discharge** (refer to (e) below);

4.   **Deed of Novation** – for change of lender (refer to (f) below); and

5.   **Supplemental Deed** (or Supplemental Agreement for ASX Clear facilities established prior to March 2012) (refer to (g) below).

Copies of any of these pro forma documents can be obtained by contacting Counterparty Risk Assessment.

In addition, all information and documentation required to be sent to ASX Clear in accordance with these instructions should be forwarded to Counterparty Risk Assessment.

It should be noted that if the proposed lender is a trust then the standard pro forma documentation should not be used. This is because the trustees will have to seek to have their liability limited to the extent to which they are indemnified from the assets of the trust. Additional clauses will need to be incorporated in the Subordinated Loan Deed before it can be provided to the Participant for review.

(ii)   Dual Subordination – ASX Clear (Futures)

If the Participant is both an ASX Clear Participant and an ASX Clear (Futures) Participant and wants to have subordinated debt treated as ***approved subordinated debt*** for the purposes of both the ASX Clear and ASX Clear (Futures) Operating Rules, both ASX Clear and ASX Clear (Futures) will be parties to the documents.

As the instructions in this section of the Handbook are specific to ASX Clear ***approved subordinated debt*** facilities, Participants that have (or want to establish) a joint ASX Clear and ASX Clear facility should instead refer to the instructions set out in section 8 of the "Capital Requirements Guidance" (available on ASX Online).

(iii) Dual Subordination – Others

This section is relevant to Participants that are subject to the capital requirements of another supervisory body (e.g. offshore exchange/clearing house or regulator) in addition to the ASX Clear capital requirements.

If a Participant has subordinated debt which has been approved by another supervisory body, ASX Clear **may** also approve this same subordinated debt as *approved subordinated debt* for the purposes of the Risk Based Capital Requirements (subject to all other requirements being met). ASX Clear will not, however, necessarily "approve" this subordinated debt just because it has been approved by another supervisory body.

Accordingly, in order for ASX Clear to make this decision a Participant must provide a copy of the subordinated debt documents it has entered into, or is going to enter into, with the other supervisory body and these will be reviewed by ASX Clear.

A Participant will need to sign separate documentation with ASX Clear for that subordinated debt facility to be included as *approved subordinated debt* for the purposes of the Risk Based Capital Requirements. The ASX Clear documentation will operate alongside the other supervisory body's documentation and the Participant's subordinated debt documents with the other supervisory body will have no practical impact on the manner in which ASX Clear supervises the Participant's *approved subordinated debt* and capital requirements.

The capital requirements imposed on the Participant by the other supervisory body are distinct from the ASX Clear capital requirements and do not change the Participant's obligations in respect of the ASX Clear capital requirements.

Approval must be obtained from ASX Clear for all advances and payments of a Participant's *approved subordinated debt*, regardless of whether or not the other supervisory body has given its approval.

(iv) Foreign Lenders

This section is relevant to Participants that intend to have a foreign entity as the lender of the subordinated debt facility.

Where the lender is a foreign entity, the lender's execution block as shown in the pro forma documents will need to be altered as appropriate for the lender's country of incorporation.

For all deeds and agreements, the lender will also need to provide a legal opinion from its in-house legal counsel addressed to ASX Clear opining that the lender:

(a)   has duly executed the particular document in accordance with its constituent documents and the laws of the applicable jurisdiction; and

(b)   has the power to enter into, and to perform its obligations under the particular document and has taken all necessary action and obtained all consents needed to authorise its entry into and execution, delivery and performance of the document.

However, if the lender is a foreign ADI[67] and is executing the deed or agreement under a power of attorney, then a legal opinion is not required. A certified copy of the power of attorney covering the document being executed will need to be provided instead.

(b)   Establishment of A New ASD Facility

(i)   General

If a Participant wishes to establish a new ***approved subordinated debt*** facility for use in conjunction with the Risk Based Capital Requirements, it must complete a Subordinated Loan Deed. As noted above, pro forma documentation is available to assist in this process and is provided by ASX Clear as a guide only. All Participants are advised to seek their own independent legal advice as some clauses in the pro forma documentation may not necessarily be applicable or appropriate in certain circumstances.

A pro forma of the Notification of Advance is included as Schedule 1 of the pro forma Subordinated Loan Deed. **When executing the Subordinated Loan Deed, the pro forma Notification of Advance should not be completed and must be left blank.** Refer to (c) below for guidance on the use of the Notification of Advance as a stand-alone document.

If a Participant requires changes to be made to the pro forma documentation, a draft of the amended pro forma Subordinated Loan Deed, showing the required changes in revision marks, must be provided for ASX Clear's review prior to execution by the Participant or the lender. Accordingly, the Participant will need to allow time for this review to be completed. The more complex the departures from the pro forma documentation, the greater the review time which should be allowed for (for example, assignments of ASD when there is a buy-out etc.).

Only after the Participant has been advised that the proposed amendments are acceptable should the Subordinated Loan Deed be signed. Three originals of the Subordinated Loan Deed should be executed by the lender and the Participant and then sent to ASX Clear for its execution. **The lender and the Participant must leave the documents undated.** The documents will be dated by ASX Clear.

Once ASX Clear has executed the documents, the three originals will be returned to the Participant in order for the appropriate stamp duty to be affixed. Once stamped, one original **must be** returned to ASX Clear for its records.

(ii)   New Participants

An entity applying for admission as a Participant may want, or need, to establish an ***approved subordinated debt*** facility to assist it to comply with the Risk Based Capital Requirements that it will be subject to upon admission. In this situation, the lender and the applicant can execute the Subordinated Loan Deed prior to the applicant having been admitted as a Participant.

Although the documents describe the borrower (applicant) as being a Participant, there is no problem with the lender and the applicant executing the documents prior to admission because the documents do not take effect until they have been executed by **all** parties. ASX Clear will only execute the documents upon (or after) the applicant being admitted as a Participant. Relevant parties should note that while ASX Clear permits entities to execute prior to admission, this should not be taken as a representation by ASX Clear that an applicant will in fact be admitted, rather execution is permitted purely for the administrative ease of the applicant. Admission of an applicant will still be subject to the application process.

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[67] As defined in the Banking Act 1959.

Three originals of the Subordinated Loan Deed should be executed by the lender and the applicant and then sent to ASX Clear for its execution. **The lender and the applicant must leave the documents undated.** The documents will be dated by ASX Clear.

ASX Clear will not execute the documents until such time as the entity has been admitted as a Participant. Once ASX Clear has executed the documents, the three originals will be returned to the Participant in order for the appropriate stamp duty to be affixed. Once stamped, one original **must be** returned to ASX Clear for its records.

(iii)   Subordinated Debt and Approved Subordinated Debt Explained

It is important that Participants understand the distinction between subordinated debt under a Subordinated Loan Deed/Subordination Deed and *approved subordinated debt* for the purposes of the ASX Clear capital requirements.

(A)   Subordinated Debt

Subordinated Debt is defined in the pro forma Subordinated Loan Deed as follows:

> "Subordinated Debt" means, at any time, the aggregate of:
>
> (a)   the Principal at that time; and
>
> (b)   all other amounts that at that time are owing or contingently owing by the Participant to the Lender under this deed (including interest).

Thus, subordinated debt includes both a **principal sum and all other amounts owing** pursuant to the Subordinated Loan Deed (including **interest** amounts).

The purpose of this definition is to ensure that **all** amounts owing by the Participant to the lender are subordinated to all other amounts that the Participant may owe to anyone else.

(B)   Approved Subordinated Debt

While ASX Clear is a party to subordinated debt arrangements, not all amounts subordinated under these arrangements will necessarily be treated by ASX Clear as *approved subordinated debt* and therefore be able to be included in *liquid capital* under the Risk Based Capital Requirements. Under Rule S1.2.4(1), subordinated debt is not recognised as *approved subordinated debt* for the purposes of the ASX Clear capital requirements until *"the amount is notified to and approved by ASX Clear prior to being drawn down….."* (emphasis added). The use of the terminology "drawn down" implicitly refers only to principal sums.

However, if a Participant wishes to include an interest amount on a principal sum as part of *approved subordinated debt*, the Participant must be intending to include that accrued interest as part of the principal amount owing, and hence it must, unless ASX Clear advises otherwise, seek ASX Clear approval.

Accordingly, a Participant must lodge a completed Notification of Advance form in the same manner as it does when it requires a principal sum to be recognised as *approved subordinated debt*.

As a practical matter, we would **not** expect that a Participant would need to have ASX Clear approve an "interest amount" as *approved subordinated debt* more than once a month.

(c)   Notification of Advance

If a Participant intends making an advance under the Subordinated Loan Deed immediately upon execution of the Subordinated Loan Deed, a Notification of Advance form should accompany the Subordinated Loan Deed when sent to ASX Clear for execution. The amount first drawn down under the *approved subordinated debt* facility does not have to be the full amount of the facility limit, but can be if the Participant so chooses.

A pro forma Notification of Advance form is included as Schedule 1 in the Subordinated Loan Deed (or Subordination Deed for ASX Clear facilities established prior to March 2012). The Notification of Advance needs to be completed as a stand-alone document whenever the Participant seeks to draw down under the *approved subordinated debt* facility.

As noted above, all amounts (whether this be a principal sum or an "interest amount") must be notified to ASX Clear on the Notification of Advance form and approved in writing by ASX Clear before the amount may be included in the Participant's calculation of *liquid capital* as *approved subordinated debt*. Three originals of the Notification of Advance form should be completed and signed by the lender (note, it is not required to be signed by the Participant), and then forwarded to ASX Clear for execution. Once executed by ASX Clear two originals will be returned to the Participant.

(d)   Approval for Payment of Subordinated Debt and Approved Subordinated Debt

Where a lender requests a subordinated debt amount (whether a principal sum or an "interest amount") to be repaid, ASX Clear will only approve the repayment by the Participant if it is of the opinion that the ratio of *liquid capital* to *total risk requirement* is capable of continuing to be greater than 1.2 on payment

A Participant must provide a completed Subordinated Debt Repayment Approval Request form which is available on ASX Online. The amount entered in the approval request form needs to reflect the Participant's position <u>after</u> repayment of subordinated debt and should be reflective of the Participant's most recent capital and risk figures. The Participant may provide additional comments related to the repayment request for ASX Clear's consideration. The repayment request form must be signed by one director. The signed form must be scanned and emailed to CRAteam@asx.com.au.

The form should be provided within 24 hours of the expected payment date but with sufficient time to allow ASX Clear to review the request. ASX Clear will advise the Participant in writing once the payment has been approved. The Participant must not make the payment until ASX Clear's approval has been received.

In accordance with Rule S1.2.4(7), ASX Clear will not withhold its approval for the payment of an amount owing under an approved subordination arrangement if in the opinion of ASX Clear the Participant's *liquid capital* divided by *total risk requirement* is capable of continuing to be greater than 1.2 on payment.

In determining whether a Participant is capable of continuing to meet this requirement, ASX Clear may consider matters such as the following:

1.   the state of the overall market and the trend of the individual Participant's share of that market;

2.   the ability of the Participant to continue as a going concern for a period that may exceed 30 days;

3.   any waivers that exist at the time of the request; and

4.   the existence of any outstanding litigation.

ASX Clear will, at all times, place emphasis on the words "capable of continuing" when considering a payment request. For example, in some circumstances, even though a payment would not immediately reduce the ratio of **liquid capital** to **total risk requirement** below 1.2, ASX Clear may not approve the payment if it is of the opinion that at some point in the foreseeable future, the ratio may be breached.

(e)   Deed of Discharge

The Deed of Discharge should be used when a Participant intends cancelling the **approved subordinated debt** facility after paying all amounts outstanding under the Subordinated Loan Deed or Loan Agreement.

As noted above, the payment of subordinated debt will not be approved unless ASX Clear is satisfied that following the proposed payment, the Participant shall be capable of continuing to comply with the relevant Operating Rules. Before the discharge of the subordinated debt will be approved, a Participant is required to provide a completed Subordinated Debt Repayment Approval Request form which is available on ASX Online. The amount entered in the approval request form needs to reflect the Participant's position <u>after</u> repayment of subordinated debt and should be reflective of the Participant's most recent capital and risk figures. The Participant may provide additional comments related to the repayment request for ASX Clear's consideration. The repayment request form must be signed by one director. The signed form must be scanned and emailed to CRAteam@asx.com.au.

If a Participant requires changes to be made to the standard pro forma Deed of Discharge, a draft of the amended Deed of Discharge, showing the required changes in revision marks, must be provided for ASX Clear's review prior to execution by the Participant or the lender. Accordingly, the Participant will need to allow time for this review to be completed. The more complex the departures from the pro forma documentation, the greater the review time which should be allowed for.

Only after the Participant has been advised that the proposed amendments are acceptable should the Deed of Discharge be signed. Three originals of the Deed of Discharge should be executed by the lender and the Participant and then sent to ASX Clear for its execution. **The lender and the Participant must leave the documents undated.** The documents will be dated by ASX Clear.

Once ASX Clear has executed the documents, the three originals will be returned to the Participant in order for the appropriate stamp duty to be affixed. Once stamped, one original **must be** returned to ASX Clear for its records.

(f)   Deed of Novation

The Deed of Novation may be used when a Participant wants to keep the **approved subordinated debt** facility but wants to replace the current lender with a new lender. (An alternative to this would be to discharge the original **approved subordinated debt** facility and establish a new **approved subordinated debt** facility with the new lender.)

If a Participant requires changes to be made to the pro forma documentation, a draft of the amended Deed of Novation, showing the required changes in revision marks, must be provided for ASX Clear's review prior to execution by the Participant, the current lender or the new lender. Accordingly, the Participant will need

to allow time for this review to be completed. The more complex the departures from the pro forma documentation, the greater the review time which should be allowed for.

Only after the Participant has been advised that the proposed amendments are acceptable should the Deed of Novation be signed. Four originals of the Deed of Novation should be executed by the current lender, the new lender and the Participant and then sent to ASX Clear for its execution. **The current lender, new lender and the Participant must leave the documents undated.** The documents will be dated by ASX Clear.

Once ASX Clear has executed the documents, the four originals will be returned to the Participant in order for the appropriate stamp duty to be affixed. Once stamped, one original **must be** returned to ASX Clear for its records.

(g)   Supplemental Deed/Supplemental Agreement

The Supplemental Deed may be used when a Participant requires an amendment to the Subordinated Loan Deed, for example an amendment to the facility limit (that is, the amount of *approved subordinated debt* that can be advanced as documented in the Subordinated Loan Deed). Note for ASX Clear facilities established prior to March 2012 a Supplemental Agreement applies instead in order to amend the Loan Agreement.

If a Participant requires changes to be made to the pro forma documentation, a draft of the amended Supplemental Deed/Agreement, showing the required changes in revision marks, must be provided for ASX Clear's review prior to execution by the Participant or the lender. Accordingly, the Participant will need to allow time for this review to be completed. The more complex the departures from the pro forma documentation, the greater the review time which should be allowed for.

Only after the Participant has been advised that the proposed amendments are acceptable should the Supplemental Deed/Agreement be signed. Three originals of the Supplemental Deed/Agreement should be executed by the lender and the Participant and then sent to ASX Clear for its execution. **The lender and the Participant must leave the documents undated.** The documents will be dated by ASX Clear.

Once ASX Clear has executed the documents, the three originals will be returned to the Participant in order for the appropriate stamp duty to be affixed. Once stamped, one original **must be** returned to ASX Clear for its records.

(h)   Subsequent Variations

ASX Clear's approval is required prior to making any subsequent variations to the *approved subordinated debt* documentation. Accordingly, all variations should be reviewed by ASX Clear prior to the lender and the Participant signing the documentation.

Once approval is given to the draft amendments three originals should be signed by the lender and the Participant and sent to ASX Clear for execution. **The lender and the Participant must leave the documents undated.** The documents will be dated by ASX Clear.

Once ASX Clear has executed the documents, the three originals will be returned to the Participant in order for the appropriate stamp duty to be affixed. Once stamped, one original **must be** returned to ASX Clear for its records.