



SFE Clearing Bulletin No: 11/05

From: SFE Clearing Corporation Pty Ltd ABN 91 050 615 864

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ENHANCEMENTS TO STRESS TEST INDUCED ADDITIONAL INITIAL MARGINS PROCESS

Background

SFE Clearing employs a number of risk management measures designed to ensure that the interests of SFE Clearing, its Participants and clients are protected and that the integrity of the market place is maintained. One of the primary measures utilised in ensuring that SFE Clearing holds sufficient collateral to settle its obligations as a central counterparty in the event of a Clearing Participant default is the levying of a range of margins.

The two primary types of margins levied are contract Initial Margins and Additional Initial Margins (AIMs) referable to stress testing. Whereas contract Initial Margins are based upon assessment of exposure related to the volatility of individual contracts and are levied upon Clearing Participants in respect of every open position, AIMs referable to stress testing are levied upon Clearing Participants in respect of the calculated exposure of their overall position portfolio (as stress tested against extreme but plausible scenarios) relative to their financial capacity and standing. Based on a 'user pays' principle, each Clearing Participant's AIMs are determined by calculating the difference between the stress test exposure generated by the Clearing Participant's portfolio and its Board-approved Stress Test Exposure Limit (STEL).¹

Introduced in late 2003, SFE Clearing's AIMs have been successful in supplementing existing risk management measures to meet SFE Clearing's needs. SFE Clearing's Risk Operations unit recently conducted a review of the AIMs process and has decided to introduce the following enhancements to the calculation methodology and operational procedures to increase the efficiency and effectiveness of this risk management activity for both SFE Clearing and its Participants by more fully recognising the financial viability of each Clearing Participant and by streamlining notification and payment procedures.

Enhancements to Methodology

The current methodology employed by SFE Clearing to determine AIMs calls due to stress testing exposures considers the combined maximum potential loss for both House and Client accounts. The revised methodology builds on this process and also takes into consideration the maximum individual potential loss generated by each of the House and Client accounts.

¹ This is a limit derived from each Clearing Participant's respective credit rating and reported NTA, to a Board-approved maximum.

Additionally, the allocation of the STEL between the House and Client accounts has been modified to better reflect the House's contribution in determining the Board-approved limit, whereby in the revised model, the entire STEL is initially allocated to the House account and any remaining capacity is allocated to the Client account.

The House account will benefit from the STEL as it is the Clearing Participant that provides the capital and credit ratings basis which are ultimately responsible for determining the STEL. Recognising that there is a cost associated with maintaining a rating and capital structure and as this is borne by the House account and not the Client account, SFE Clearing considers it reasonable that any benefits that are derived from this maintenance should initially be allocated to the House account.

From a review of past market activity, it is not envisaged that there will be any significant financial impact upon most Clearing Participants as a result of the introduction of these enhanced measures. Any such impact will be further reduced by those Clearing Participants who continue to leave excess margin moneys on deposit with SFE Clearing.

Operational Enhancements

As part of the enhanced AIMs process, AIMs obligations will be advised to Clearing Participants by approximately 7am on each trading day via the OM Net application, which is already used to provide Clearing Participants with their daily Financial Status Advice (FSA). Clearing Participants will be required to incorporate any AIMs obligation as part of the daily settlement process.

The new regime will become operationally effective on Tuesday 3 May 2005 for AIMs obligations arising from open positions as at the close of Monday 2 May.

To further assist Clearing Participants, a worked example providing details of how AIMs will be calculated under the revised methodology and incorporated into the daily settlement process is provided in the Attachment to this Bulletin. SFE Clearing is also conducting a programme of meetings with all Clearing Participants who have been impacted by AIMs calls to date to facilitate full understanding and management of any back office procedural impacts and thereby ensure smooth implementation of the enhancements across the market.

For further information on the AIMs enhancements, please contact Mark Tooher – Senior Manager, Risk Operations on (02)9256 0553 or Eddie Farah – Risk Analyst on (02) 9256 0405.

A handwritten signature in black ink, appearing to read 'Anne Brown', is positioned to the left of a vertical red line. The signature is fluid and cursive.

Anne T. Brown
General Manager, Risk and Compliance

WORKED EXAMPLE OF ADDITIONAL INITIAL MARGIN (AIMs) CALCULATION PROCESS

KEY STEPS

- Step 1: Identify the three² stress test scenarios which contain the maximum potential loss exposures generated by the House account, the Client account and the combined House and Client accounts.
- Step 2: Determine the House account’s AIMs obligation for each of these scenarios by calculating the shortfall between the potential loss exposure and the Board-approved stress test exposure limit (STEL).
- Step 3: Determine the Client account’s AIMs obligation for each of the scenarios by calculating the shortfall between the potential loss exposure and the remaining STEL which has not been previously allocated to the House account position.
- Step 4: Having established a set of provisional AIMs obligations, determine the final AIMs obligation for each account. For the House account, the final AIMs obligation is simply the maximum of the provisional AIMs obligations. For the Client account the final AIMs obligation requires an additional consideration - it is determined by comparing the maximum of the provisional House and Client account total potential loss exposures to the STEL after taking into account the final AIMs obligation of the House account.
- Step 5: Incorporate the AIMs requirement into the daily settlement process. Using the Initial Margin requirement and Excess/Shortage amounts on the FSA, each Participant is required to net their total daily Payment/Receipt obligations into one Austraclear transaction.

WORKED EXAMPLE

For example, Clearing Participant ABC has a STEL of \$60M. Its current House IM requirement is \$27M and its Excess/Shortage position is \$20M CR; its current Client IM requirement is \$32M and its Excess/Shortage is \$6M DR. Assuming the stress test potential loss exposures for ABC are as outlined in Table 1 below, then ABC’s AIMs obligation and its daily settlement payment/receipts obligations can be calculated as follows:

Table 1

Scenario	Account	Initial Margin	Variation Margin	Potential Loss Exposure	Net Exposure
Scenario 3	House	27,000,000	-95,000,000	-68,000,000	-68,000,000
Scenario 3	Client	32,000,000	40,000,000	0	
Scenario 4	House	27,000,000	58,000,000	0	0
Scenario 4	Client	32,000,000	10,000,000	0	
Scenario 5	House	27,000,000	-100,000,000	-73,000,000	-73,000,000
Scenario 5	Client	32,000,000	50,000,000	0	
Scenario 6	House	27,000,000	-55,000,000	-28,000,000	-83,000,000
Scenario 6	Client	32,000,000	-87,000,000	-55,000,000	
Scenario 7	House	27,000,000	-1,000,000	0	0
Scenario 7	Client	32,000,000	50,000,000	0	
Scenario 8	House	27,000,000	-20,000,000	0	0
Scenario 8	Client	32,000,000	10,000,000	0	
Scenario 9	House	27,000,000	-10,000,000	0	0
Scenario 9	Client	32,000,000	-30,000,000	0	
Scenario 10	House	27,000,000	-57,000,000	-30000000	-30000000
Scenario 10	Client	32,000,000	72,000,000	0	
Scenario 11	House	27,000,000	40,000,000	0	0
Scenario 11	Client	32,000,000	-90,000,000	-58000000	
Scenario 12	House	27,000,000	35,000,000	0	0
Scenario 12	Client	32,000,000	30,000,000	0	

² Note; the number of scenarios may be less than 3 when the maximum loss generated by an account happens to be the same scenario that generates the combined maximum loss and/or the other account’s maximum loss.

AIMs calculation process

Step 1: Identify relevant scenarios and determine total AIMs call.

Step 2: Identify scenarios that contain the largest House account, Client account and combined House and Client accounts potential loss exposure losses.

- Scenario with largest House account potential loss exposure is Scenario 5; \$73,000,0000
- Scenario with largest Client account potential loss exposure is Scenario 11; \$58,000,0000
- Scenario with largest combined House and Client account potential loss exposure is Scenario 6; \$83,000,0000

Step 3: Based on these scenarios the provisional AIMs obligations, given the STEL of \$60M, are as follows:

- Under scenario 5 the provisional House account AIMs obligation is \$13M. The corresponding Client provisional AIMs obligation in this instance is \$0.
- Under scenario 11 the provisional House account AIMs obligation is \$0M. The corresponding Client provisional AIMs obligation in this instance is also \$0 (due to SFE Clearing's right under the Operating Rules to offset House margins against Client losses.)
- Under scenario 6 the provisional House account AIMs obligation is \$0M. The corresponding Client provisional AIMs obligation in this instance is \$23M.

Step 4: Final AIMs Obligations

- The maximum provisional House AIMs obligation is \$13M. The final House AIMs obligation is therefore \$13M.
- The maximum combined House and Client account potential loss exposure is \$83M which is \$23M more than its STEL. The total AIMs call is therefore \$23M.
- The final Client account AIMs obligation is therefore \$10M (i.e. the maximum combined call \$23M less the House account's AIMs contribution \$13M).

Table 2

Account	Final AIMs Obligation
House	\$13,000,000
Client	\$10,000,000

Payment/Receipt Process

Step 5: Participants are required to net their total daily settlement Payment/Receipt obligations into one Austraclear transaction.

House Account

- In this instance the House AIMs obligation is \$13M, and assuming the Initial Margin requirement is \$27M and Excess/Shortage is \$20M CR, the House daily settlement obligation would be \$7M which will be paid to the Participant via Austraclear

FSA Initial Margin Requirement: \$27,000,000

FSA Excess/Shortage: \$20,000,000 CR

AIMs Requirement: \$13,000,000

Expected Cash settlement amount: \$13,000,000 - \$20,000,000 = **\$7,000,000 CR**

Client Account

- In this instance the Client AIMs obligation is \$10M, and assuming the Initial Margin requirement is \$32M and Excess/Shortage is \$6M DR. The Client daily settlement obligation is \$16M which must be paid by the Participant via Austraclear within the daily settlement prescribed time.

FSA Initial Margin Requirement: \$32,000,000

FSA Excess/Shortage: \$6,000,000 DR

AIMs Requirement: \$10,000,000

Expected Cash Settlement amount: \$10,000,000 + \$6,000,000 = **\$16,000,000 DR**