

# Service Description

## Central Counterparty (CCP) for the London Stock Exchange

October 2009

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## Service Description

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#### 1.0 Introduction

The major European equity markets have introduced central counterparties (CCPs) or are in the process of doing so. The London Stock Exchange (LSE) allows for a choice of CCPs between SIX x-clear Ltd and LCH.Clearnet.

The primary functions of CCPs are:

- To ensure post-trade anonymity in order to prevent market distortions;
- To eliminate bilateral counterparty risks from trade date to settlement of trade – a requirement whose importance is growing as a result of the globalisation of electronic trading platforms;
- To permit settlement netting and, in consequence, reduce settlement volumes and costs.

The degree of importance attached to these three functions differs between market participants and depends on the developments in the financial markets. Along with the netting functionality, risk minimisation plays a major role: due to the fully-automated matching of orders on electronic trading platforms, a trading party is not free to choose its counterparty. In view of the continued opening up of markets, stock exchange participants find it increasingly difficult to assess the counterparty risk since they no longer form part of a local, manageable group.

The clearing service is offered to the members of SIX x-clear to clear the eligible equity trades executed on the LSE with settlement at Euroclear UK & Ireland Limited. x-clear is a wholly-owned subsidiary of SIX Group.

#### 2.0 Concept of the CCP

##### 2.1 Clearing

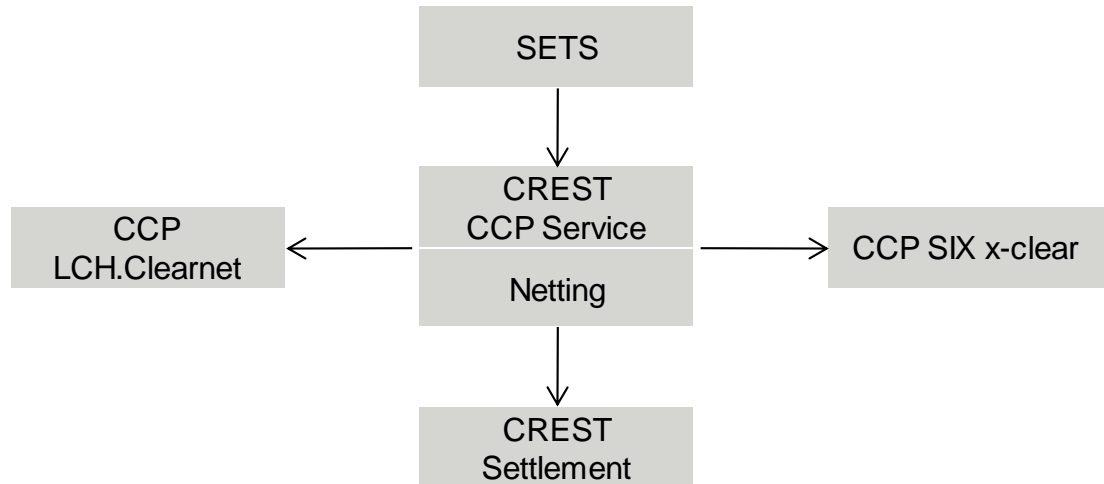
As a post-trade process, clearing is the efficient handling of risks inherent in concluded but still unfulfilled (trading) contracts. The CCP steps into the contracts as intermediary and represents the buyer to each seller and the seller to each buyer to eliminate the counterparty risk.

##### 2.2 Clearing Model

The LSE offers a choice of CCPs between SIX x-clear and LCH.Clearnet. The diagram below depicts the business model applicable to the members of x-clear. For reasons of simplicity the model does not show the member interface with the LSE and Euroclear UK & Ireland Limited.

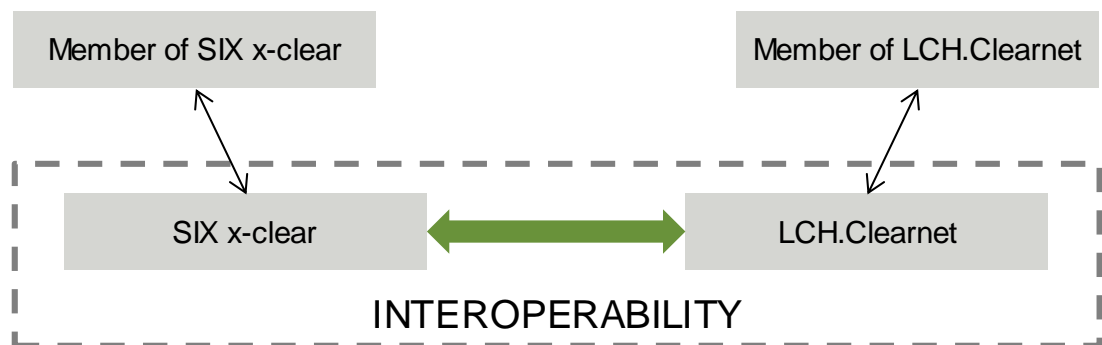
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### 2.3 Interoperability

Interoperability between the CCPs allows for a choice of CCP service provider for the trades executed on the LSE. As the trading system maintains full anonymity, trading participants are not able to determine which CCP their trading counterparty is using, and it makes no difference to their post-trade processing which is only with their own CCP. The cross-CCP positions that arise are dealt with between the two CCPs without member involvement. The diagram below depicts the post-trade flow, clearing and settlement of cross-CCP trades.



### 2.4 SIX x-clear as CCP

SIX x-clear has been recognised by the Financial Services Authority in the UK (FSA) under the Financial Services and Market Act 2000 (FSMA) as a Recognised Overseas Clearing House (ROCH) since 2004. The company also has a banking licence under Swiss law and is thus regulated and supervised by the Swiss Financial Market Supervisory Authority (FINMA) and under the oversight of the Swiss National Bank. SIX x-clear started business operations in May 2003.

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Besides clearing services on the LSE, SIX x-clear offers clearing services for different exchanges, such as SIX Swiss Exchange. Integrated clearing services across different European markets enable SIX x-clear to provide cost efficient services for its clearing members without the need for members to have additional interfaces. New members can choose one of the interface options to avail themselves of SIX x-clear's services.

SIX x-clear performs the following functions:

- **Assumption of counterparty risk:** SIX x-clear automatically acts as the counterparty for all its members trading clearing-eligible securities on the LSE. When a trade is effected on the trading platform (matching), a contract resulting from this trade is no longer concluded between the two LSE participants; instead, the CCP steps into the trade by representing the buyer to each seller and the seller to each buyer.
- **Post-trade anonymity:** As a clearing house, the CCP occupies an intermediary position between the trading parties. This ensures full post-trade anonymity.
- **Settlement netting:** Settlement netting allows for the offsetting of delivery and payment obligations and the reduction of the overall settlement volume and the number of delivery instructions. The netting service is optional.
- **Risk management:** Central risk management serves to determine the members' individual risk positions and margin requirements by considering trades originating from different exchanges. Compared to calculation on a gross basis, net exposure – i.e. the offsetting of risk positions – reduces the total collateral to be pledged.

### 3.0 Membership of SIX x-clear

#### 3.1 General requirements

The general membership requirements are published on the SIX x-clear website [www.ccp.sisclear.com](http://www.ccp.sisclear.com)

To have trades effected on the LSE and cleared by SIX x-clear, SIX x-clear members are also required to be members of the LSE and participants of SIX SIS as well as members of Euroclear UK & Ireland Limited.

Each member must comply with the infrastructure requirements of the LSE, SIX x-clear, SIX SIS and Euroclear UK & Ireland Limited, as applicable.

Note that General Clearing Members (refer to chapter 3.4) that do not trade as themselves, but only clear other parties' trades, still need to be members of the LSE. A special GCM-only membership is a membership profile as part of the LSE Rules.

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#### 3.2 Member structure

Two categories of clearing membership are available at SIX x-clear:

- Individual Clearing Member (ICM)
- General Clearing Member (GCM)

Unlike ICMS, GCMs may provide clearing services for other LSE participants without clearing membership (Non-Clearing Members, NCMs).

#### 3.3 Individual Clearing Members (ICM)

ICMs provide clearing for both their own LSE transactions and transactions effected by their clients by having a contractual relationship with the CCP on a principal basis.

If the trading member of the LSE and the ICM belong to the same legal entity, the ICM cannot clear agency trades, which must be cleared through a separate GCM.

##### 3.3.1 Minimum rating

An external, long-term counterparty rating of A-/A3 or better is required. The second highest rating available from the rating agencies is used. If no external rating is available, SIX x-clear carries out an internal rating by means of benchmarking.

The rating has an impact on the pricing and the determination of the amount of collateral to be provided (margining).

##### 3.3.2 Default Fund

Please refer to chapter 5.6.

##### 3.3.3 Margining

The initial margin is calculated real-time on the basis of the net positions of all open contracts per security and currency combination held by the member. The open positions are computed by considering the net position resulting from trades on different exchanges in case of multiple listed stocks. Margin requirement is calculated based on the market specific risk factors and the member specific risk factor. Market specific risk is measured according to a Value-at-Risk (VaR) based risk model, using a historical approach. The member's risk rating is used to calculate the member specific risk factor. For the calculation of the initial margin, the same risk bucket structure is applied to the securities traded on different exchanges, which are allocated to different risk buckets, depending on a security's VaR. Opposing positions within and across a risk bucket are netted using Intra and Inter risk bucket coefficients respectively. The process of computing the initial margin is explained in detail later. Depending on the member's rating, the margins are increased by the applicable risk rating coefficient.

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Additionally, the variation margin is calculated hourly during market hours on the basis of the mark-to-market valuation of the net positions of all open contracts per security held by a member in a clearing account.

#### **3.4 General Clearing Members (GCM)**

GCMs provide clearing for their own LSE transactions as well as transactions effected by their clients and third parties, i.e. LSE participants without direct access to a clearing house. The GCM is responsible for its NCMs' compliance with all rules and regulations of SIX x-clear. GCMs clear trades by having contractual relationships with the CCP on a principal basis.

##### **3.4.1 Minimum rating**

The minimum rating required is A+/A1 (also refer to chapter 3.3.1).

##### **3.4.2 Default Fund**

Please refer to chapter 5.6.

##### **3.4.3 Margining**

Please refer to chapter 3.3.3.

The GCM is obliged to demand margins that equal or exceed its own margins from its NCMs.

##### **3.4.4 Operational capabilities**

Since GCMs are also responsible for clearing transactions of third parties (i.e. for its NCMs), they must ensure smooth operation of their trading, operating and settlement systems as well as availability of sufficient human resources.

##### **3.4.5 Duty of disclosure**

The GCM is obliged to disclose the identity of the NCMs to SIX x-clear.

#### **4.0 Cash/Safe custody account structure**

##### **4.1 Clearing**

##### **4.1.1 Clearing accounts**

The member's open positions are recorded in clearing accounts. The members have the option to clear their own trades in a 'Home' clearing account and client trades in a 'Client' clearing account.

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#### 4.1.2 Margining

Members must maintain cash and safe custody accounts for collateral management to clear trades via SIX x-clear. This allows for the management of collateral for margin and Default Fund requirements. The members can use the same collateral accounts for clearing of all equity trades executed on the different exchanges supported by SIX x-clear. A separate collateral account is kept per Default Fund. The cash and safe custody accounts listed below are to be kept with SIX SIS on behalf and for account of SIX x-clear for collateral management purposes.

The sections below solely describe the collateral management facility at SIX SIS.

##### 4.1.2.1 Collateral accounts for margins

SIX x-clear opens collateral accounts with SIX SIS in the name of SIX x-clear for members using the collateral management facility at SIX SIS to meet the margin requirements. These accounts are used to transfer the margins provided. The collateral is transferred to SIX x-clear as an irregular pledge with the right of SIX x-clear to re-use.

The member can use the following collateral accounts:

##### **Custody collateral account** for margin eligible securities

- Securities collateral can be provided by transferring from the member's custody account at SIX SIS or through the member's account at Euroclear UK & Ireland Limited.

##### **Cash collateral account** for margin eligible currencies

- Cash can be provided from a GBP or EUR account opened/held by a clearing member at a UK Protected Payment System bank (PPS bank).
- Cash can be provided from accounts held at SIX SIS or at SIC.

#### 4.1.3 Default Fund collateral account

To enable members to meet the Default Fund requirements, SIX x-clear opens a collateral account (custody and/or money) with SIX SIS for each Default Fund. These accounts are held in the name of the member and are used to transfer the collateral provided. A separate collateral account is kept per Default Fund. Remittance of the pledged assets is effected only via one of the collateral accounts. Subsequently, SIX x-clear allocates the pledged assets to the respective collateral accounts per Default Fund. The accounts will be in the name of the SIX x-clear member. SIX SIS is pledgeholder. The contents of these collateral accounts will be pledged to SIX x-clear by means of a regular pledge.

#### 4.2 Settlement

Trades on the LSE and cleared by SIX x-clear are settled at Euroclear UK & Ireland Limited.

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Members can continue to use their existing cash and safe custody accounts (stock accounts) at Euroclear UK & Ireland Limited for this purpose.

#### **5.0 Risk management**

As CCP for the LSE SIX x-clear assumes the risk on the buy/sell side and is liable towards the respective members for the fulfilment of obligations (both on the cash and the securities side) arising from LSE trades. SIX x-clear guarantees the fulfilment of these obligations even in the event of default of a member; however, it does not guarantee timely execution of the transactions on the settlement date.

The clearing information such as open positions, margin details and the collateral placed for margins as well as the collateral utilisations can be viewed via online queries sent from the user's SIX x-clear interface.

#### **5.1 Objectives/Overview**

The primary objective is to minimise potential risks through effective and accurate risk management. In the event of the default of a member, the risk should be primarily borne by the defaulting member itself. Correspondingly, the following measures are employed to minimise risk:

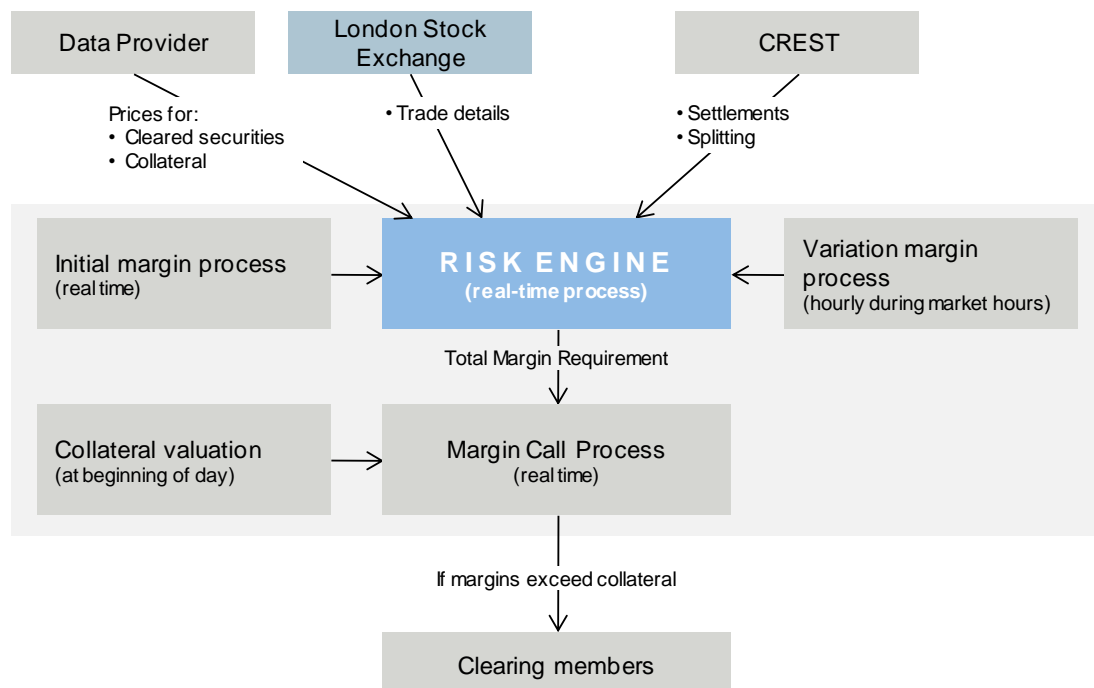
- Safeguarding against the market risk to be expected subsequent to any default of a member by means of the margins and collateral deposited by the member
- Pledging of collateral in the Default Fund to cover unpredictable losses

#### **5.2 Risk management process**

The following diagram provides a high-level overview of the risk management process:

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### 5.3 Open positions

Initial and variation margin is applied on a clearing account's open positions. All unsettled trades on a member's clearing account are summarised per security and currency (of trade) into one position called the "open position". The unsettled trades may be the result of trading on different exchanges. Hence, a clearing account normally has one open position per traded security and currency combination. Open positions are computed in real time by SIX x-clear and also include unsettled corporate action claims.

The following transactions impact a clearing account's open positions:

- A new clearing-eligible trade received from an exchange
- Settlement of such trades
- Corporate action claim when the transaction becomes eligible for claims/compensation due to an appropriate corporate action
- Settlement/Booking of such claims/compensation
- Cancellation of settlement order (possible due to netting and during corporate action transformation).

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The process of computing open positions nets all unsettled trades, provided they are on the same security, clearing account and currency. Hence, the open positions for a clearing account are the same whether a member opts for settlement netting or not. A clearing member can obtain details of its open positions at end of day via a data format report or an online query.

#### 5.4 Margins

The total margin required is the result of the initial margin multiplied by the risk rating coefficient, plus the variation margin.

Risk management consists of the following processes:

- Calculation of margin requirements
- Valuation of collateral
- Checking of margin coverage
- Margin call

The daily valuation of the collateral is normally based on the previous day's closing price.

The initial margin is the estimate of the market risk inherent in a clearing member's open positions. It is designed to cover the CCP for the market risk it becomes exposed to for the period between the last margin cycle prior to a member's default and the close-out of the defaulting member's unsettled positions by the CCP.

The variation margin covers the mark-to-market fluctuations for a clearing member's open positions. The variation margin helps a CCP to protect itself against losses to a clearing member's open positions. In case of gains to a clearing member's open positions due to favourable price movements, the variation margin offsets the initial margin requirement.

The margin requirement of the member is computed in CHF. SIX x-clear takes into account the currency risk and applies the latest foreign exchange rates to compute the total margin requirement of members. The foreign exchange rates are received using near real-time feed with a periodicity of once in an hour. The total margins are recomputed with a periodicity of once in an hour using the latest foreign exchange rates. SIX x-clear communicates the prices used for margin computation at the request of Clearing Members.

#### 5.5 Calculation of margins

Open positions are computed in real time by SIX x-clear and also include unsettled corporate action claims. Such open positions form the basis on which the initial margin and the variation margin are computed.

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#### 5.5.1 Initial margin (IM)

Calculation of the initial margin is based on the VaR of the underlying securities. According to this model, margins are grouped according to the volatility of the shares and debited in real time. SIX x-clear adopts cross-margining – by considering equity trades executed on different exchanges – while computing the margin requirements.

Value at Risk is defined as the maximum possible loss for a given financial portfolio with a given confidence level. For example, if the 2-day VaR of Vodafone is 5.6% with 99% confidence level, Vodafone's 2-day price changes are expected to exceed 5.6% in only 1 out of 100 instances.

For each clearing-eligible security, 2-day VaR is periodically computed using the "historical simulation" method, by choosing the higher of either the long term VaR based on a 2-year price (i.e. approx. 500 trading days/observations), or the short term VaR based on the 3-months price history (i.e. approx. 90 trading days/observations), which reflects short term changes in a volatile equity market. The procedure for computing VaR for a security is as follows:

- Compute 2-day historic returns using 2-year/3-month price history
- Arrange such 2-day returns in ascending order (largest negative return on top)
- For 500/90 2-day returns, the instance of the negative return which has not been exceeded more than 1% of the times is considered as the long/short term VaR for that security. The higher of the long term or short term VaR is considered as the VaR of the security. The VaR is recalculated weekly. If there are volatile market conditions, it may also be calculated daily, if required.

##### 5.5.1.1 Risk buckets

Securities are grouped in risk buckets based on their VaR values. The same risk bucket structure is used for grouping the securities of all the stocks which are cleared by SIX x-clear, irrespective of the exchanges on which they are traded. There are six risk buckets with the following parameters. (However, this setup could undergo changes based on the back testing results and the confidence level achieved.):

Risk bucket name	Smaller VaR (%)	Higher VaR (%)	Initial margin (%)
BU01	0.00	5.00	3.50
BU02	5.00	10.00	7.50
BU03	10.00	15.00	12.50
BU04	15.00	20.00	17.50
BU05	20.00	25.00	22.50
BU06	25.00	and above	27.50

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The process of forming the risk buckets always follows the computation of VaR, which is calculated weekly during normal market conditions.

#### 5.5.1.2 Risk netting coefficient I (intra-bucket netting coefficient, or Intra-BNC)

Opposing open positions on different stocks originating from different exchanges within a risk bucket have the effect of reducing the market risk posed by such open positions. Intra-BNC is designed to give effect to the high level of correlation between various securities comprised in a risk bucket, especially during volatile market moves. Opposing open positions within a risk bucket are netted off using the Intra-BNC.

Assume that stock 'A' is traded on SIX Swiss Exchange and stock 'B' is traded on the LSE; the following example uses an Intra-BNC value of 0.80 (the current value):

Risk bucket	Security	Long or short	Open amount (CHF)	Initial margin (%)	Initial margin (CHF)	Bucket initial margin (CHF)
BU02	A	Long	1000	7.50	75.00	75-(52.5 * 0.80) = <b>33.00</b>
	B	Short	-700		-52.50	
BU03	C	Long	400	12.50	50.00	100-(50*0.80) = <b>60.00</b>
	D	Short	-800		-100	

Bucket initial margin = (higher of "bucket IMLong" or "bucket IMShort") less "intra-bucket margin offset", where

- bucket IMLong is the absolute sum of IM for all long positions within a risk bucket;
- bucket IMShort is the absolute sum of IM for all short positions within a risk bucket;
- "intra-bucket margin offset" is the reduction of margin due to opposing positions within a risk bucket. This is equal to (the lower of bucket IMLong or bucket IMShort) X Intra-BNC.

#### 5.5.1.3 Risk netting coefficient II (inter-bucket netting coefficient, or Inter- BNC)

Similar to opposing positions within a risk bucket, opposing net positions across buckets also have the effect of reducing the market risk. Inter-BNC is applied to net positions across risk buckets and has the effect of reducing the initial margin in the case of opposing net positions across different risk buckets. Inter-BNC is applied at the level of margins. The objective of introducing Inter-BNC is to reduce margins to account for the existence of predominantly opposing positions in different risk buckets.

The following example uses an Inter-BNC value of 0.40 (the current value):

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Risk bucket	Security	Long or short	Open amount (CHF)	Initial margin (%)	Initial margin (CHF)	Bucket initial margin (CHF)	Net bucket IM (CHF)	Inter-bucket margin offset (CHF)	Total initial margin (CHF)
BU02	A	Long	1000	7.50	75.00	75-(52.5 * 0.80) =	22.50	22.50*0.40 = <b>9.00</b>	33+60-9 = <b>84.00</b>
	B	Short	-700		-52.50	<b>33.00</b>			
BU03	C	Long	400	12.50	50.00	100-(50*0.80) =	-50.00		
	D	Short	-800		-100.00	<b>60.00</b>			

Each bucket would have one "net bucket IM" which could be either positive or negative. Positive values of "net bucket IM" should be added across all risk buckets to arrive at the "total net long IM". Similarly, negative values of "net bucket IM" should be added across all risk buckets to arrive at the "total net short IM". The smaller of these two figures (in absolute) multiplied by the Inter-BNC is the value by which margins would have to be offset (inter-bucket reduction).

Total IM =  $\sum$  (IM for each bucket) less "inter-bucket margin offset", where

- " $\sum$  (IM for each bucket)" is the sum of margins for all risk buckets. "IM for each bucket" incorporates the effect of Intra-BNC.
- "inter-bucket margin offset" is the amount by which margins would be reduced to account for the opposing nature of net positions across buckets = (lesser of "total net long IM" or "total net short IM") X Inter-BNC;
- "total net long IM" is the absolute sum of the net bucket IM where the net bucket IM is positive;
- "total net short IM" is the absolute sum of the net bucket IM where the net bucket IM is negative;
- "net bucket IM" is the arithmetic sum of the IM of all securities within a risk bucket (with plus/minus sign).

#### 5.5.2 Variation margin (VM)

The variation margin is calculated hourly during the trading day and also during end of day processing. Intraday VM cycles use the latest market prices while the end of day VM cycle is based on closing prices as well as on the net positions of all open contracts per security.

#### 5.5.3 Total margin

The total margin requirement for each clearing account is calculated as follows:

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Total margin = (initial margin X risk rating coefficient) + variation margin

Hence, if a member has a "gain" from the variation margin due to favourable market movements, this has the effect of reducing the total margin, provided that the total margin does not sink below zero.

A risk rating coefficient of 1.0 is usually applied, provided that the rating of the clearing member is at least A-. The risk rating coefficient may be increased for members with a lower rating. It may also be temporarily increased

- for members having substantial open positions;
- for all members during periods with extraordinary market conditions or due to instructions from regulators.

#### 5.5.4 Margin calls

If a member's calculated margin requirements exceed the member's deposited collateral value, a margin call is automatically triggered in real time to settle the difference. A margin call must be met within one hour at the latest, or within two days after collateral for the LSE Default Fund becomes insufficient, which is exclusively done by direct debit (money side) either to the clearing member's account, subject to the clearing member's decision, at its UK Payment Bank advised (see 5.5.4.1), or the SIC account or an account held with SIX SIS by means of direct debit authorisation. A member that fails to meet a margin call may be declared in default by SIX x-clear upon consultation with the LSE.

##### 5.5.4.1 Settlement of margin calls through a UK Payment Bank

As outlined in this document, SIX x-clear may need to issue a margin call in response to insufficient collateral, pledged to SIX x-clear to meet margin and Default Fund requirements by a clearing member, due to matched open offers cleared by SIX x-clear. Subsequently, SIX x-clear is entitled to debit the clearing member's applicable account (GBP or EUR) at its UK Payment Bank with the amount of the margin call. Transfer of the money to meet this additional margin requirement is due within

- a) 60 minutes after a margin call was issued to the clearing member as a consequence of insufficient collateral to meet margin requirements and
- b) 2 days after collateral for the LSE Default Fund becomes insufficient.

Such debit is effected by SIX SIS (on behalf of SIX x-clear) by directly debiting the clearing member's GBP or EUR account at its UK Payment Bank, in favour of the cash collateral account at SIX SIS, in the name of SIX x-clear. Before clearing can be initiated, SIX SIS (on behalf of SIX x-clear) requires a direct debit authority/mandate mutually signed between the clearing member and its UK Payment Bank.

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Upon a clearing member's request for the withdrawal of cash collateral, subject to the availability of sufficient underlying collateral to meet margin and Default Fund requirements, SIX x-clear returns cash owned by the clearing member to the clearing member's account denominated in GBP or EUR at its UK Payment Bank. Such available cash collateral is transferred/paid by SIX SIS (on behalf of SIX x-clear) via its UK Payment Bank (Concentration/Correspondence) bank in London.

SIX x-clear has agreed with several financial institutions to co-operate with regard to the required margin call settlement services, whose names are published on the SIX x-clear website. Each clearing member may choose its UK Payment Bank (for margin call settlement purposes) at its own discretion. Such margin call settlement services are only required if a clearing member decides that neither its SIC account nor an account at SIX SIS is to be used to settle margin calls (money side) and to withdraw cash collateral.

#### 5.6 Default Fund for LSE

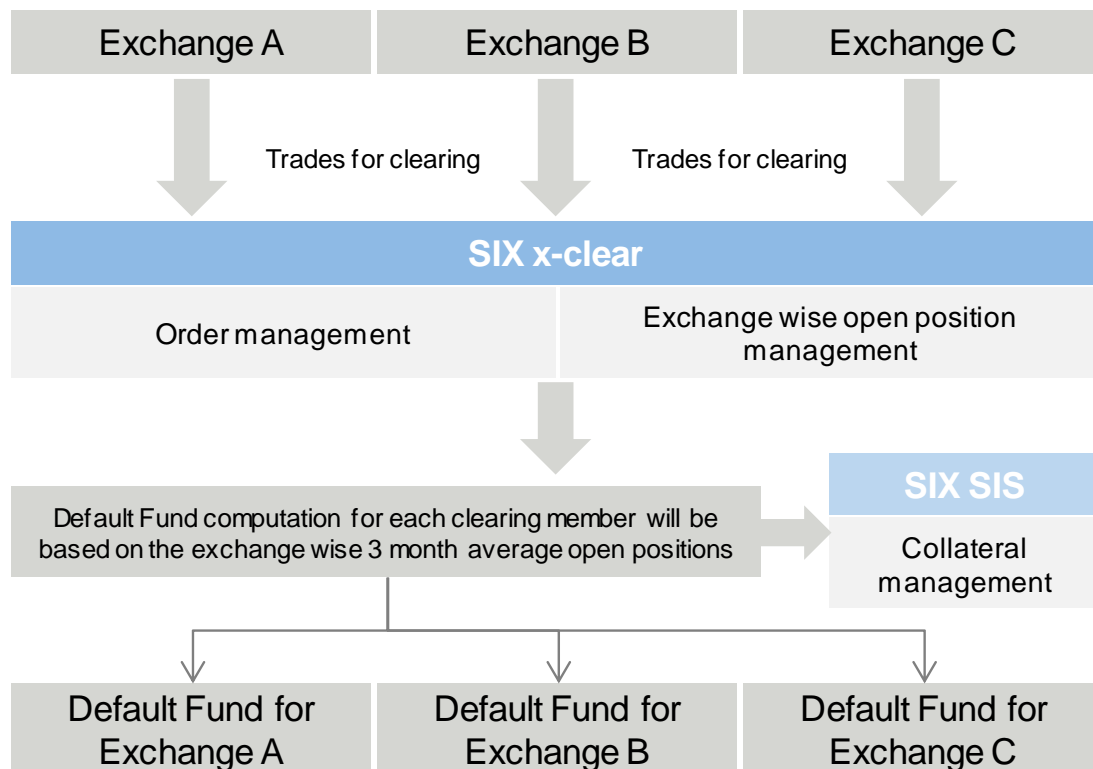
The initial margin and the variation margin combined should cover all expected market risks that may arise due to the default of a member. However, there is no guarantee that an initial margin calculated from historic data will withstand all future price developments under extreme market conditions. Therefore, a Default Fund for LSE is also used to cover unpredictable risks and losses. This Default Fund serves in particular to cover any systemic risk (domino effect).

The following Default Fund procedure is applied: The Default Fund for the LSE is supported by contributions from members. The amount to be contributed is on the one hand determined by the membership category (ICM/GCM) and on the other hand by the member's average gross open positions of the last three months, by considering equity trades from the LSE. The Default Fund for LSE is distributed, among the members of SIX x-clear using the services of SIX x-clear for the LSE, in proportion to the previous three months' average gross open positions. The Default Fund contribution is recomputed and re-adjusted with a monthly periodicity.

The diagram below depicts SIX x-clear's approach with regard to Default Fund distribution. If a member uses clearing services only for a single exchange, a Default Fund contribution is required solely for the exchange in question. The default of a member on one exchange does not have any impact on the Default Fund maintained for another exchange.

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Contributions to the SIX x-clear Default Funds are to be made in the form of money or securities. Members must meet the Default Funds requirement within the specified number of days from the date and time of the Default Fund requirement notice. If the member does not maintain the required Default Fund contribution, a direct debit is executed on the member's UK Payment Bank account, SIC account or an account held with SIX SIS.

Contributions to the Default Funds can be made by depositing securities eligible as collateral in a separate safe custody account. The securities are subject to daily mark-to-market valuation and must not fall below the value of the contributions required. The value of the deposited securities is calculated on the basis of their market value less a haircut, and not on the basis of their par value.

Should the mark-to-market valuation reveal that market values have fallen below the minimum value, the member is required to replenish the Default Fund contribution by a given deadline, i.e. 2 days upon notification. Default Fund contributions are secured by means of a regular pledge.

#### 5.6.1 Adjustment duty

Each member is obliged to make additional contributions to the Default Fund for LSE. On the one hand, changes in the average gross open position of the last three months entail

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adjustments to the Default Fund contributions. On the other hand, price fluctuations resulting in a negative value change entail the member's obligation to make additional contributions.

Furthermore, each member is obliged to replenish the Default Fund up to the amount of its current contribution. These additional contributions may be claimed in one payment or, if required, in instalments. SIX x-clear may demand that members make additional contributions if the Default Fund for LSE has been utilised once or more than once. The additional contribution is calculated on a proportional basis (membership contribution as a percentage of the total Default Fund volume).

#### 5.7 Defence lines

Initial margin, variation margin and Default Fund are not the only means for SIX x-clear to absorb losses.

The defence lines of SIX x-clear are applied in the following order:

- Margins, i.e. the collateral provided by the defaulting member itself
- Contributions, i.e. the collateral provided by the defaulting member in favour of the Default Fund for LSE
- Per calendar year, a maximum of 50% of the provisions/reserves made in SIX x-clear's balance sheet
- Default Fund for LSE (i.e. contributions from other clearing members)
- Provision of additional collateral to the Default Fund for LSE
- Remaining provisions/reserves, profit and surplus capital from SIX x-clear

The defence lines and the Default Fund for LSE respectively are intended to help prevent systemic risks (domino effect) for the entire financial market.

#### 6.0 Acceptance collateral types

Eligible collateral to be provided within the framework of the overall risk management for margins and the Default Fund must be deposited with SIX x-clear (refer to 4.0 Cash/Safe custody account structure).

<b>Collateral types</b>
Money (legal tender, freely convertible currencies accepted by SIX x-clear)
CH government bonds, confederation and cantons, denominated in CHF and UK Government Bonds (Guilts) denominated in GBP

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Other first-class CHF denominated bonds (minimum rating of A-); including SNB money market book claims
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Highly rated bonds (minimum rating of A-); including ECB money market book claims
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The deposited collateral is accounted for at market value less a haircut. Due to IRS regulations, US securities cannot be accepted as collateral.

#### 7.0 Open offer

##### 7.1 Principles of open offer

An open offer implicates that solely contracts between the CCP and its clearing members result from the order matching process in the trading system – there is no bilateral contract between the trading counterparties.

##### 7.2 SIX x-clear open offer

As a CCP, SIX x-clear offers – subject to its rules stipulated in its General Terms and Conditions of Business – to step into a clearing-eligible trade that results from matched LSE orders, provided that the matching parties are either clearing members or NCMs of SIX x-clear.

#### 8.0 Settlement

Each LSE transaction cleared by SIX x-clear has an intended settlement date. For most transactions, this is the third trading day after trade date (T+3) (next-day settlement is applied for some security types such as nil-paid and fully-paid rights). The member must ensure that a sufficient amount of funds or securities as required is available on the intended settlement date.

SIX x-clear offers its members clearing of automatically executed trades in clearing-eligible securities that are concluded within the clearing time frame defined by the LSE. Transactions concluded on stocks excluded from clearing are settled according to the non-CCP settlement model of the LSE, where the trading parties have to settle directly between themselves bilaterally.

##### 8.1 Settlement organisation

SIX x-clear offers its members settlement at Euroclear UK & Ireland Limited (CSD) only for transactions executed on the LSE. As SIX x-clear is a member of Euroclear UK & Ireland Limited, its members are in a position to have their trades settled in-house.

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#### 8.2 Settlement process

SIX x-clear supports the choice between either gross or net settlement. The netting is performed by Euroclear UK & Ireland Limited using Trade Date Netting (TDN). The settlement of the order at Euroclear UK & Ireland Limited is considered to be in real time in the computation of the open positions and hence of the margins. The member's choice of gross or net settlement has no impact on the margining of open positions.

Members can continue to use the settlement features provided by Euroclear UK & Ireland Limited, such as direct input for settlement instruction generation and receipt of gross/net transaction statements for trade reconciliation. All the status updates and settlement confirmations on the gross/net settlement instructions will continue to be sent solely by Euroclear UK & Ireland Limited to the members. The detailed settlement process at Euroclear UK & Ireland Limited is described in the relevant Euroclear UK & Ireland Limited documentation.

#### 9.0 Corporate actions

SIX x-clear mandates Euroclear UK & Ireland Limited to handle corporate action processing on the open trades which are eligible for corporate action benefits.

Corporate action benefits on positions that are deposited with SIX SIS as collateral in favour of SIX x-clear are distributed directly by the main paying agent to the participant, i.e. not via SIX x-clear.

##### Claims

For trades that are traded "cum" and are settled on or after record date, claims are raised by Euroclear UK & Ireland. The transactions required to transfer the corporate action benefits from the buyer to the seller are automatically generated and settled by Euroclear UK & Ireland Limited.

SIX x-clear is the CCP for claims as well; compensations are therefore subject to SIX x-clear's risk management until their settlement.

##### Buyer election

The rules and deadlines for buyer elections on UK/IE securities are defined by the LSE, SIX x-clear and Euroclear UK & Ireland Limited.

Elections and allocations must be performed via Euroclear UK & Ireland Limited. SIX x-clear does not accept elections outside the settlement system.

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#### **10.0 Default**

The default procedure applied by SIX x-clear corresponds to the existing regulations, which is summarised as follows:

A member that fails to fulfil its obligations under conditions defined in the GTCB can be declared a "defaulting member" by SIX x-clear upon consultation with the LSE, or will be declared in Default by the LSE. After having declared a member a "defaulting member", SIX x-clear issues a default notice and transmits it to the member. The consequences of a default notice take immediate effect.

After issuance of the default notice, or the occurrence of an Automatic Close-out Event, SIX x-clear does not register any new contracts of the defaulting member. In order to liquidate existing positions, close-out netting is done in conjunction with the default procedures of the LSE.

To compensate for any losses caused by the default of a member, the collateral of SIX x-clear is used according to chapter 5.7 Defence lines.

#### **11.0 Transaction reporting and stamp duty reserve tax**

The LSE sends trade details to Euroclear UK & Ireland Limited, allowing Euroclear UK & Ireland Limited to calculate stamp duty reserve tax obligations and perform any necessary transaction reporting for the market-side transactions representing the trade.

SIX x-clear does not carry out any activities related to transaction reporting and stamp duty reserve tax. Members are responsible for any client-side instructions that may need to be transmitted to Euroclear UK & Ireland Limited for any purpose.

#### **12.0 Operating calendar**

SIX x-clear accepts trades for clearing purposes on all days on which the LSE is open for trading.

SIX x-clear accepts settlement information from Euroclear UK & Ireland on all operating days of Euroclear UK & Ireland.

Margins are calculated and margin calls sent on all operating days of SIX x-clear.

#### **13.0 Member interface with SIX x-clear**

There is a single interface provided for members using SIX x-clear as their CCP for different exchanges. Members can use this interface with SIX x-clear to perform online queries and receive clearing reports and margin call notices.

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