LCH SA
CDS Clearing Procedures

Section 2 – Margin, NPV Payment and Price Alignment

[~~26 October 2020~~•]

CONTENTS

SECTION 2 – MARGIN, NPV PAYMENT AND PRICE ALIGNMENT INTEREST

Capitalised terms used in this Margin, NPV Payment and Price Alignment Procedure and not otherwise defined herein shall have the meaning given pursuant to the remainder of the CDS Clearing Documentation, as such term is defined in the document entitled "CDS Clearing Rule Book" published by LCH SA, as amended from time to time.

2.1 OVERVIEW

All Clearing Members are required to pay Margin to LCH SA.

Further information about the Margin components and the calculation methodology in respect of each such component set out in this Section 2 is available to Clearing Members on the secure section of the Website and through any reporting mechanism specified in a Clearing Notice and/or upon request from LCH SA's Risk Management Department on +33 1 70 37 10 43 or CDS.Risk.SA@lch.com. Such information will be updated and/or re-issued following consultation with the Risk Committee.

Section 3 of the Procedures provides further detail of how Collateral should be transferred, and Cash Payments and Variation Margin Collateral Transfers made, by Clearing Members to LCH SA.

2.2 MARGIN

(a) Margin Requirement

For each Margin Account of each Clearing Member, the Margin Requirement consists of the following components:

(i) Spread Margin;

(ii) Short Charge Margin;

(iii) Recovery Risk Margin;

(iv) Interest Rate Risk Margin;

(v) Wrong Way Risk Margin;

(vi) Vega Margin;

(vii) Self-Referencing Protection Margin;

(viii) Liquidity and Concentration Risk Margin;

(ix) Accrued Fixed Amount Liquidation Risk Margin;

(x) Credit Event Margin;

(x) Legal Entity Identifier Margin;

(xi) Additional Margin;

(xii) Stress Test Loss Over Additional Margin / Net Capital Ratio Margin;

(xiii) Contingency Variation Margin;

(xiv) in respect of the House Margin Requirement only: Credit Quality Margin; and

(xv) Extraordinary Margin.

Details of each of these components are set out below.

(b) Timing for calculation of the Margin Requirement

LCH SA will calculate the Margin Requirement for each Margin Account of each Clearing Member on each Business Day:

(i) by no later than 04:00 CET, which will be the Margin Requirement for the Morning Call;

(ii) by no later than the Start of Real Time; and

(iii) whenever a position corresponding to the relevant trade leg of an Eligible Intraday Transaction is pre-registered in the relevant Clearing Member's Account Structure, in accordance with Section 3.1.7 of the CDS Clearing Rule Book, and the Intraday Novation Margin Requirement is calculated. The most recently calculated Margin Requirement for each Margin Account will be the Margin Requirement used for each of the First Intraday Call and the Second Intraday Call.

LCH SA will notify each Clearing Member of the Margin Requirement for each of its Margin Accounts through the relevant Margin Requirements Results File(s), in each case in accordance with, subject to and at the times set out in Section 5 of the Procedures.

(c) Variation Margin Requirement and NPV Payment Requirement

Each Clearing Member is required, as applicable, to:

(i) transfer Variation Margin to LCH SA (or is entitled to receive Variation Margin from LCH SA, as applicable) by way of Variation Margin Collateral Transfer to cover its Client Variation Margin Requirement(s) and/or its House Variation Margin Requirement, as detailed in Paragraph 2.15 below and in Section 3 of the Procedures; and/or

(ii) pay to LCH SA (or is entitled to receive from LCH SA, as applicable) NPV Amounts by way of NPV Payments to cover its Client NPV Payment Requirement(s) and/or its House NPV Payment Requirement, as detailed in Paragraph 2.14 below and in Section 3 of the Procedures.

(d) Aggregate Margin for Cleared Transactions which reference a single Reference Entity

Notwithstanding anything to the contrary in the CDS Clearing Documentation, the sum of the aggregate Variation Margin and/or NPV Amount, Initial Margin and the Credit Event Margin that can be called from a Clearing Member that is a CDS Seller in respect of a Cleared Transaction referencing a single Reference Entity may not exceed the Floating Rate Payer Calculation Amount in respect of such Cleared Transaction.

(e) Additional Collateral in respect of Client Cleared Transactions of a "non-hedging nature" of an FCM/BD Clearing Member

Each FCM/BD Clearing Member shall ensure that with respect to a Client Cleared Transaction registered in its FCM/BD Client Trade Account(s) that is of a "non-hedging nature" (as such term is used in Part 39 of the CFTC Regulations), it shall collect additional Collateral from the relevant FCM/BD Client in respect of such Client Cleared Transaction at a level of 10% above the FCM/BD Client Margin Requirement that LCH SA would normally require for such Client Cleared Transaction.

In connection with article 6.2.6.1 of the CDS Clearing Rule Book and this Paragraph 2.2 (e), FCM/BD Clearing Members are not required to lodge such additional Collateral with LCH SA which is in excess of the relevant FCM/BD Client Margin Requirement.

(f) Determination of the Legally Segregated Value ascribed to each FCM/BD Client Financial Account

In accordance with Section 3.2 of the Procedures, LCH SA will calculate the FCM/BD Margin Balance with respect to each FCM/BD Client Margin Account of an FCM/BD Clearing Member by determining the Legally Segregated Value recorded in the relevant FCM/BD Client Financial Account.

LCH SA will determine the Legally Segregated Value of each FCM/BD Clearing Member at the following times:

(i) after the FCM/BD Clearing Member's satisfaction of the Morning Call to reflect any increase or decrease in the relevant FCM/BD Client Margin Requirement calculated for the purpose of the Morning Call in accordance with Article 6.2.5~~. 1 (ii)~~ of the CDS Clearing Rule Book;

(ii) after the FCM/BD Clearing Member's satisfaction of any Collateral Call (other than the Morning Call) to reflect only any increase in the relevant FCM/BD Client Margin Requirement calculated for the purpose of such Collateral Call; and

(iii) after each determination of the value of Collateral recorded in the FCM/BD Client Collateral Account provided that (x) there is a decrease in the value resulting from this determination; and (y) such decrease will reduce the Legally Segregated Value in accordance with Article 6.2.4.4~~3~~ (ii) of the CDS Clearing Rule Book.

LCH SA will record the amended Legally Segregated Value resulting from such determination in the relevant FCM/BD Client Financial Account.

(g) Calculation of Margin and NPV Amount(s) following a Payment Failure or the issuance of a Default Notice in respect of a Clearing Member

Pursuant to Article 1.2.9.2 and Article 4.3.2.3 of the CDS Clearing Rule Book, LCH SA may withhold payments it would otherwise be obliged to make to a Clearing Member under the CDS Clearing Documentation.

Where LCH SA withholds the payment (or repayment or reimbursement) of Margin and/or NPV Amount(s) due in respect of a Client Margin Account of the Clearing Member, LCH SA shall nevertheless continue to calculate the Margin and/or NPV Amount(s) that is or are due, in accordance with the CDS Clearing Rules, and update the records which are attributable to the relevant Client Collateral Account. As appropriate, any Margin and/or NPV Amount(s) which is or are calculated to be due in respect of the relevant Client Margin Account shall be an "accrual", forming part of the Client Assets which will either be:

(i) ported in accordance with Clause 4.3.1(ii) of the CDS Default Management Process;

(ii) taken into account when calculating the Client Clearing Entitlement pursuant to Clause 4.4.3 of the CDS Default Management Process; or

(iii) transferred to a Receiving Clearing Member pursuant to TITLE V, Chapter 3 for CCMs and TITLE VI, Chapter 3 for FCM/BD Clearing Members.

2.3 EXCESS COLLATERAL AND THE CLIENT COLLATERAL BUFFER

(a) House Excess Collateral

A Clearing Member is entitled (but not obliged) to maintain Collateral over and above that which is needed to satisfy its House Margin Requirement. Such House Excess Collateral will be maintained in its House Collateral Account, in which case it will be used for the novation of House Trade Legs and taken into account by LCH SA when it calculates the amount of Collateral which is needed for the House Margin Account, as part of the Notional and Collateral Check (as set out in Paragraph 2.5(b)(i) below).

(b) Client Excess Collateral

A CCM is entitled to maintain Collateral over and above that which is needed to satisfy the CCM Client Margin Requirement in respect of any of its CCM Client Margin Accounts. Such CCM Client Excess Collateral will be maintained in a CCM Client Collateral Account of a CCM Client Account Structure, in which case it will be used for the novation of Client Trade Legs and taken into account by LCH SA when it calculates the amount of Collateral which is needed for that CCM Client Account Structure, as part of the Notional and Collateral Check (as set out in Paragraph 2.5(b)(i) below).

An FCM/BD Clearing Member is not authorised to post additional Collateral over and above that which it needed to satisfy the FCM/BD Client Margin Requirement in respect of any of its FCM/BD Client Margin Accounts. Any FCM/BD Client Excess Collateral recorded in any of its FCM/BD Client Financial Accounts and resulting from any decrease of the Spread Margin in relation to the attached FCM/BD Client Margin Account during a Clearing Day will be used for the novation of Client Trade Legs and taken into account by LCH SA when it calculates the amount of Collateral which is needed for the relevant FCM/BD Client Margin Account, as part of the Notional and Collateral Check, until the next Morning Call.

(c) Client Collateral Buffer

A Clearing Member is entitled (but not obliged) to maintain:

(i) in the case of a CCM, Collateral in CCM House Collateral Account; and

(ii) in the case of an FCM/BD Clearing Member, an amount of Collateral recorded in its FCM/BD Buffer Financial Account, specifically for the purpose of assisting Clients to satisfy the Notional and Collateral Check performed by LCH SA prior to novation of a Client Trade Leg of an Eligible Intraday Transaction.

A Clearing Member which is a CCM may not hold Collateral as CCM Client Collateral Buffer in an amount in excess of the CCM Client Collateral Buffer Threshold. Any Collateral delivered and held as CCM Client Collateral Buffer that is in excess of the CCM Client Collateral Buffer Threshold shall be treated as CCM House Excess Collateral.

Where a Clearing Member holds:

(i) in the case of a CCM, Collateral recorded as CCM Client Collateral Buffer in its CCM House Collateral Account; and

(ii) in the case of an FCM/BD Clearing Member, an amount of Collateral recorded in its FCM/BD Buffer Financial Account,

the Available Client Collateral Buffer (or portion thereof) will be allocated to:

(A) in the case of a CCM, its Client Account Structure(s); and

(B) in the case of an FCM/BD Clearing Member, its FCM/BD Client Margin Account(s),

on an automatic 'first in time' basis, meaning that whenever a Client Trade Leg of an Eligible Intraday Transaction is received by LCH SA and the Eligibility Controls and Client Transaction Checks have been successfully completed pursuant to Article 3.1.4.3, LCH SA will allocate the Available Client Collateral Buffer (or portion thereof) to the relevant CCM Client Account Structure in the case of a CCM, and to the relevant FCM/BD Client Margin Account in the case of an FCM/BD Clearing Member, where the relevant Client Excess Collateral is otherwise insufficient to satisfy the Notional and Collateral Check. For the avoidance of doubt, a Clearing Member has no discretion or ability to instruct LCH SA as to which CCM Client Account Structure(s) in the case of a CCM, and FCM/BD Client Margin Account(s) in the case of an FCM/BD Clearing Member, the Available Client Collateral Buffer should be allocated to.

LCH SA shall reflect how the Client Collateral Buffer has been allocated between the CCM Client Account Structure(s) of a CCM or as the case may be, FCM/BD Client Margin Account(s) of an FCM/BD Clearing Member in its books and records but the Collateral comprising the Client Collateral Buffer shall, at all times (save where the relevant Clearing Member is a Defaulting Clearing Member or, in respect of a CCM, following an LCH Default), remain, in the case of a CCM, in the CCM House Collateral Account, and in the case of an FCM/BD Clearing Member, the amount of such Collateral recorded in the FCM/BD Buffer Financial Account.

Where:

(i) Client Collateral Buffer has been allocated to a CCM Client Account Structure of a CCM or as the case may be to an FCM/BD Client Margin Account of an FCM/BD Clearing Member; and

(ii) there is a decrease in the Client Margin Requirement(s) calculated in respect of such CCM Client Account Structure or as the case may be, of such FCM/BD Client Margin Account following the novation of the Client Trade Leg of an Eligible Intraday Transaction, the amount of such allocated Client Collateral Buffer will be reduced by an amount equal to the decrease in such Client Margin Requirement(s) and such amount will then become Available Client Collateral Buffer.

Following the occurrence of an Event of Default or, in respect of a CCM, an LCH Default, an amount of Collateral equal to the Allocated Client Collateral Buffer for the relevant CCM Client Account Structure of a CCM or as the case may be, for the relevant FCM/BD Client Margin Account of an FCM/BD Clearing Member will be transferred:

(i) in the case of a CCM, from the CCM House Collateral Account of the Defaulting Clearing Member to the relevant CCM Client Collateral Account of the relevant CCM Client Account Structure; or

(ii) in the case of an FCM/BD Clearing Member, from the FCM/BD Buffer Financial Account of the Defaulting Clearing Member to the relevant FCM/BD Client Financial Account,

in accordance with Article 1.3.1.3(iv) of the CDS Clearing Rule Book or clause 4.2 of the CDS Default Management Process, as applicable.

(d) The House Excess Collateral Threshold and Client Collateral Buffer Threshold

Where a Clearing Member wishes to transfer additional Collateral to LCH SA with a view to maintaining House Excess Collateral and/or Client Buffer Collateral as described in Paragraphs 2.3(a) and (c) above, it must notify LCH SA of its:

(i) House Excess Collateral Threshold; and/or

(ii) Client Collateral Buffer Threshold.

To set its House Excess Collateral Threshold and/or Client Collateral Buffer Threshold for a Business Day (D), a Clearing Member must notify LCH SA by submitting the form (which is available on the Website) by email at the email address specified in Paragraph 2.1. The form must be received by LCH SA by no later than 12.00 CET on D-1. It is the Clearing Member's responsibility to ensure the due receipt by LCH SA of the relevant form. Accordingly, the Clearing Member should confirm its request no later than 12:00 CET by a phone call to LCH SA's Risk Management Department on +33 1 70 37 10 43, although a failure to do so shall not invalidate any request actually received by LCH SA.

Once a Clearing Member has notified LCH SA of its House Excess Collateral Threshold and/or Client Collateral Buffer Threshold, LCH SA will apply this in the context of each successive Collateral Call, until such time as the relevant Clearing Member notifies LCH SA of an amended House Excess Collateral Threshold and/or Client Collateral Buffer Threshold.

2.4 COLLATERAL, CASH PAYMENTS AND VARIATION MARGIN COLLATERAL TRANSFERS

(a) Types of Collateral and currencies for Cash Payments and Variation Margin Collateral Transfers

Section 3 of the Procedures sets out the Collateral types which a Clearing Member can transfer, and currencies in which Cash Payments and Variation Margin Collateral Transfers can be made, to LCH SA to satisfy its obligations in respect of NPV Payment(s) and Variation Margin and each of the Margin components listed in Paragraph 2.2 above and for the purposes of maintaining Excess Collateral and/or Client Collateral Buffer.

(b) Transferring Collateral and making Cash Payments and Variation Margin Collateral Transfers

Further details on the process for:

(i) transferring Collateral to satisfy the Required Collateral Amount;

(ii) transferring additional Collateral to LCH SA with a view to maintaining Excess Collateral in one or more Collateral Account(s), if applicable or substituting for another type of Collateral;

(iii) making NPV Payments, to satisfy the NPV Payment Requirements of each Clearing Member; and

(iv) Making Variation Margin Collateral Transfers, to satisfy the Variation Margin Requirements of each Clearing Member;

are set out in Section 3 of the Procedures.

(c) Repayment of Collateral

References, in this Section 2 of the Procedures, to the “repayment” or “reimbursement” of Margin shall mean that:

(i) the amount called from a Clearing Member in respect of the relevant Margin component shall, from such point, be reduced to zero in respect of the relevant Open Positions; and

(ii) the value of any Collateral that has been transferred to LCH SA in respect of such Margin component shall be taken into account by LCH SA in calculating the relevant Clearing Member’s Margin Balance in accordance with Section 3 of the Procedures.

2.5 PAYMENT OF THE MARGIN REQUIREMENT, VARIATION MARGIN REQUIREMENT, NPV PAYMENT REQUIREMENT AND PROVISION OF EXCESS COLLATERAL AND CLIENT COLLATERAL BUFFER

(a) Morning Call

(i) Scheduled Margin and NPV Payment Requirement Calculation Time

The Margin Requirement, Variation Margin Requirement and NPV Payment Requirement for each Margin Account of a Clearing Member are calculated on each Business Day by 07.45 CET.

The relevant Margin Requirement Results File, provided as part of the Backloading Transaction Reports, will notify each Clearing Member of its:

(A) Margin Requirement for the Morning Call (and each component thereof);

(B) Margin Balance;

(C) Excess Collateral or Margin Shortfall (as the case may be);

(D) Variation Margin Requirement and/or NPV Payment Requirement, as applicable; and

(E) House Excess Collateral Threshold and Client Collateral Buffer Threshold,

for the relevant Margin Accounts in accordance with and subject to Section 5 of the Procedures.

Each Clearing Member is required to:

(A) transfer Collateral to satisfy the Required Collateral Amount;

(B) make Variation Margin Collateral Transfers to satisfy its House Variation Margin Requirement and its Client Variation Margin Requirement(s), if applicable; and

(C) make NPV Payments in respect of its House NPV Payment Requirement and its Client NPV Payment Requirement(s), if applicable,

by such times as set out in Section 3 of the Procedures.

Following such transfer of Collateral and/or Cash Payments by an FCM/BD Clearing Member, any FCM/BD Client Excess Collateral recorded in any of its FCM/BD Client Financial Accounts will be moved into the FCM/BD Swaps Unallocated Client Collateral Financial Account or FCM/BD SBS Client Excess Collateral Financial Account, as applicable and recorded as FCM/BD Swaps Unallocated Client Excess Collateral or FCM/BD SBS Client Excess Collateral, as applicable and LCH SA will issue Intraday Call Reports, in accordance with and subject to Section 5 of the Procedures, to all Clearing Members, setting out the:

(A) Margin Requirement (and each component thereof);

(B) Margin Balance;

(C) Excess Collateral or Margin Shortfall (as the case may be);

(D) NPV Payment Requirement; and

(E) House Excess Collateral Threshold and Client Collateral Buffer Threshold,

for the relevant Margin Accounts of each Clearing Member.

On the basis of these calculations, LCH SA will be able to credit Euro denominated Cash Collateral and/or make the Cash Payment(s) and/or make the Variation Margin Collateral Transfer(s) to the relevant Clearing Members in accordance with Section 3 of the Procedures.

(b) Margin calculations during the Real Time Session

(i) Intraday Novation Margin Requirement

As part of the Notional and Collateral Checks performed by LCH SA in order to clear Intraday Transactions on a 'trade by trade' basis, LCH SA will calculate the Intraday Novation Margin Requirement.

LCH SA will calculate the Intraday Novation Margin Requirement in respect of the relevant Clearing Member's Margin Account when LCH SA pre-registers a position corresponding to the relevant trade leg of an Eligible Intraday Transaction in accordance with Section 3.1.7 of the CDS Clearing Rule Book. The calculation identifies the additional, or reduced, risk exposure (as applicable) which would be attributable to the relevant Margin Account following the novation of such pre-registered positions, and accordingly the Intraday Novation Margin Requirement may either be a positive or negative figure.

Following the calculation of such Intraday Novation Margin Requirement, LCH SA will recalculate the Available Client Collateral Buffer and, in respect of the relevant Margin Account, the Margin Requirement and the Excess Collateral for such Margin Account or in the case of a CCM Gross Omnibus Segregated Account Structure or a CCM Indirect Client Gross Segregated Account Structure, the Excess Collateral for all the CCM Client Margin Accounts attached to that CCM Gross Omnibus Segregated Account Structure or CCM Indirect Client Gross Segregated Account Structure. These calculations will be undertaken on the assumption that the relevant Eligible Intraday Transactions, accounted for in the calculation of the Intraday Novation Margin Requirement, will be novated as contemplated. If the relevant Eligible Intraday Transactions are not novated for any reason, LCH SA will refresh its calculations to determine the Available Client Collateral Buffer plus the Margin Requirement and Excess Collateral for the relevant Margin Account or in the case of a CCM Gross Omnibus Segregated Account Structure or a CCM Indirect Client Gross Segregated Account Structure, Excess Collateral for all the CCM Client Margin Accounts attached to that CCM Gross Omnibus Segregated Account Structure or CCM Indirect Client Gross Segregated Account Structure.

LCH SA shall only calculate the Intraday Novation Margin Requirement for a Margin Account during the Real Time Session. Where the relevant Business Day is a Clearing Day and the Real Time Session does not take place, no calculation of the Intraday Novation Margin Requirement will be performed by LCH SA on such Business Day.

In the event LCH SA determines that there is a positive Intraday Novation Margin Requirement for a Margin Account and there is insufficient:

(A) House Excess Collateral; or

(B) Client Excess Collateral and/or Available Client Collateral Buffer which can be allocated to the relevant Client Margin Account or in the case of a CCM Gross Omnibus Segregated Account Structure or a CCM Indirect Client Gross Segregated Account Structure, to that CCM Gross Omnibus Segregated Account Structure or CCM Indirect Client Gross Segregated Account Structure,

as applicable, to satisfy such Intraday Novation Margin Requirement, the relevant Eligible Intraday Transaction will become a Rejected Transaction.

For the avoidance of doubt, in the event LCH SA determines that there is a neutral or negative Intraday Novation Margin Requirement (due to the pre-registered position corresponding to the relevant trade leg of an Eligible Intraday Transaction being set off against Open Positions registered in the relevant Margin Account), none of the House Excess Collateral, Client Excess Collateral and/or Available Client Collateral, as applicable, will be used or applied for the purpose of satisfying the Notional and Collateral Check.

LCH SA will perform a reporting update in respect of each Clearing Member's Margin Account ten times per Business Day (by 10.00 CET, 10.55 CET, 12.30 CET, 13.30 CET, 14.15 CET, 14:55 CET, 16.15 CET, 17.00 CET, 18.00 CET and 19.00 CET) in order to inform such Clearing Member of the updated Margin Requirement for each Margin Account, level of Excess Collateral and/or Client Collateral Buffer recorded in, or allocated to, the relevant Collateral Accounts.

(ii) Intraday Call

LCH SA will perform an Intraday Call twice per Business Day (by 11.25 CET (the "**First Intraday Call**") and 15.25 CET (the "**Second Intraday Call**") in order, if necessary, to transfer Collateral to satisfy the Required Collateral Amount.

Where the relevant Business Day is a Clearing Day, the First Intraday Call and the Second Intraday Call will not be performed to the extent there is no Real Time Session, on that Clearing Day.

The Margin Requirement in respect of each Margin Account of a Clearing Member for an Intraday Call will be the latest Margin Requirement calculated on that Clearing Day.

First Intraday Call:

During the First Intraday Call, LCH SA will issue to each Clearing Member the relevant risk management and collateral management reports (as set out in Section 5 of the Procedures), which will notify each such Clearing Member of its House Excess Collateral Threshold and Client Collateral Buffer Threshold and the:

(A) Margin Requirement for the First Intraday Call (and each component thereof);

(B) Excess Collateral or Margin Shortfall (as the case may be); and

(C) Margin Balance,

for the relevant Margin Accounts, in accordance with and subject to Section 5 of the Procedures.

Second Intraday Call:

During the Second Intraday Call, LCH SA will issue to each Clearing Member the relevant risk management and collateral management reports (as set out in Section 5 of the Procedures), which will notify each such Clearing Member of its House Excess Collateral Threshold and Client Collateral Buffer Threshold and the:

(A) Margin Requirement for the Second Intraday Call (and each component thereof);

(B) Excess Collateral or Margin Shortfall (as the case may be); and

(C) Margin Balance;

for the relevant Margin Accounts, in accordance with and subject to Section 5 of the Procedures.

Each Clearing Member is required to transfer Collateral to satisfy its Required Collateral Amount, make Variation Margin Collateral Transfers in respect of its Variation Margin Requirement and to make NPV Payments in respect of its NPV Payment Requirement, as applicable, for the relevant Margin Accounts, as set out in Section 3 of the Procedures.

2.6 REPORTS

All files and reports, mentioned in this Section 2 of the Procedures, will be available to Clearing Members through the reporting mechanism. If the reporting mechanisms are, for any reason unavailable, LCH SA will otherwise make such reports available to Clearing Members at the requisite time.

Please see Section 5 of the Procedures for further details about the relevant files and reports.

2.7 INITIAL MARGIN

Initial Margin covers the potential costs caused by a Defaulting Clearing Member and/or a double Event of Default, i.e. a combined Credit Event of a Reference Entity and a Clearing Member Event of Default (in which the Clearing Member is a CDS Seller in respect of an Index Cleared Transaction or a Single Name Cleared Transaction, or a protection seller in respect of the Underlying Index Transaction of an Index Swaption Cleared Transaction).

(a) Spread Margin

Spread Margin is calculated using the Value-at-Risk (VaR) model which is based on the following principles: at the Margin Account level, a distribution of potential losses is built from simulated scenarios based on the joint credit spread and at-the-money volatility variations observed in the past. LCH SA then determines the Spread Margin based on a quantile of the worst losses that the Margin Account could bear in the case of unfavourable credit spread and at-the-money volatility fluctuations.

The Spread Margin calculated in respect of the House Margin Account covers the potential costs of liquidating House Cleared Transactions of the Defaulting Clearing Member whilst the Spread Margin calculated in respect of each Client Margin Account covers the potential costs of liquidating any Client Cleared Transactions attributable to such Client Margin Account. It covers the potential future credit spread and at-the-money volatility fluctuations in case of unfavourable market movements under normal circumstances.

(b) Spread Margin Floor

LCH SA may, by Clearing Notice, specify a Spread Margin Floor approved by the board of directors of LCH SA following consultation with the Risk Committee.

Where the calculation of Spread Margin would result in the Spread Margin for any Margin Account of a Clearing Member being less than the Spread Margin Floor, the Spread Margin requirement for such Margin Account shall be equal to the Spread Margin Floor.

(c) Short Charge Margin

Where a Clearing Member is acting as a CDS Seller in respect of an Index Cleared Transaction or a Single Name Cleared Transaction, or as a protection seller in respect of the Underlying Index Transaction of an Index Swaption Cleared Transaction, Short Charge Margin will be required to cover the risk that the Clearing Member is subject to an Event of Default at the same time as a Credit Event occurs with respect to a Reference Entity.

The Short Charge Margin is calculated using an algorithm, approved by the board of directors of LCH SA following consultation with the Risk Committee, based on the Open Positions registered in the relevant Margin Account of the Clearing Member.

(d) Recovery Risk Margin

Recovery Risk Margin covers the risk of future price fluctuations in case of unfavourable recovery rate movements under normal circumstances and when liquidating a Defaulting Clearing Member's portfolio of House Cleared Transactions or Non-Ported Cleared Transactions.

The Recovery Risk Margin is calculated using an algorithm, approved by the board of directors of LCH SA following consultation with the Risk Committee, based on the Open Positions registered in the relevant Margin Account of the Clearing Member.

(e) Interest Rate Risk Margin

Interest Rate Risk Margin covers the risk of future price fluctuations in case of unfavourable interest rate movements under normal circumstances and when liquidating a Defaulting Clearing Member's portfolio of House Cleared Transactions or Non-Ported Cleared Transactions.

The Interest Rate Risk Margin is calculated using an algorithm, approved by the board of directors of LCH SA following consultation with the Risk Committee, based on the Open Positions registered in the relevant Margin Account of the Clearing Member.

(f) Wrong Way Risk Margin

Wrong Way Risk Margin is required to cover the anticipated financial contagion effect that would arise in case of a Clearing Member being declared in default in accordance with Title IV Chapter 3 of the CDS Clearing Rule Book, such contagion effect triggering additional spread or correlation risk not currently captured by the Spread Margin.

The Wrong Way Risk Margin is calculated using an algorithm, approved by the board of directors of LCH SA following consultation with the Risk Committee, based on the Open Positions registered in the relevant Margin Account of the Clearing Member.

(g) Vega Margin

Vega Margin covers the risk of future price fluctuations of an Index Swaption Cleared Transaction in case of unfavourable deformations of the volatility surface, when liquidating a Default Clearing Member's portfolio of House Cleared Transactions or Non-Ported Cleared Transactions.

The Vega Margin is calculated using an algorithm, approved by the board of directors of LCH SA following consultation with the Risk Committee, based on the Open Positions registered in the relevant Margin Account of the Clearing Member.

2.8 SELF-REFERENCING PROTECTION MARGIN

Where a Clearing Member is acting as a CDS Seller in respect of an Index Cleared Transaction or a Single Name Cleared Transaction, or as a protection seller in respect of the Underlying Index Transaction of an Index Swaption Cleared Transaction, for which such Clearing Member is, or becomes, the Reference Entity, Self-Referencing Protection Margin will be required to cover the protection that would have to be paid by LCH SA with respect to this Clearing Member should the Clearing Member be subject to an Event of Default.

The Self-Referencing Protection Margin is calculated using an algorithm, approved by the board of directors of LCH SA following consultation with the Risk Committee, based on the Open Positions registered in the relevant Margin Account of the Clearing Member.

2.9 LIQUIDITY AND CONCENTRATION RISK MARGIN

Liquidity and Concentration Risk Margin is required to cover the bid-ask spread incurred when liquidating the House Cleared Transactions or the Non-Ported Cleared Transactions of a Defaulting Clearing Member. The size of this bid-ask spread will increase if the positions exceed predetermined thresholds in respect of the relevant credit default swap index or Reference Entity. Further details of the thresholds are available on a Clearing Notice published on the Website and/or upon request from LCH SA's Risk Management Department on +33 1 70 37 10 43 or CDS.Risk.SA@lch.com.

Liquidity and Concentration Risk Margin is calculated:

(a) in respect of the House Margin Account of a Clearing Member to cover the potential costs of hedging or liquidating the House Cleared Transactions in case an Event of Default occurs in respect of such Clearing Member; and

(b) in respect of a Client Margin Account of a Clearing Member to cover the potential costs of hedging or liquidating the Non-Ported Cleared Transactions attributable to such Client Margin Account in case an Event of Default occurs in respect of such Clearing Member.

The Liquidity and Concentration Risk Margin is calculated using an algorithm (including thresholds) approved by the board of directors of LCH SA following consultation with the Risk Committee.

2.10 ACCRUED FIXED AMOUNT LIQUIDATION RISK MARGIN

Each Clearing Member acting as a CDS Buyer in respect of an Index Cleared Transaction or a Single Name Cleared Transaction, or as a protection buyer in respect of the Underlying Index Transaction of an Index Swaption Cleared Transaction where the exercise of that Index Swaption Cleared Transaction falls in the margin calculation time horizon, is required to pay Accrued Fixed Amount Liquidation Risk Margin in respect of the relevant Cleared Transactions to cover the risk that it is subject to an Event of Default and accrued Fixed Amounts are due during the period that the relevant House Cleared Transactions or Non-Ported Cleared Transactions, as applicable, are liquidated pursuant to the CDS Default Management Process.

The Accrued Fixed Amount Liquidation Risk Margin is calculated daily for each Margin Account of each Clearing Member and corresponds to the aggregate amount of daily Fixed Amounts for such Clearing Member pursuant to its Cleared Transactions during a rolling forward-looking period of 5 Business Days.

2.11 CREDIT EVENT MARGIN

Where a Credit Event occurs with respect to the Reference Entity which is the subject of the Cleared Transaction, each Clearing Member is required to pay Credit Event Margin in respect of the relevant Cleared Transactions to cover the risk of non-payment of Variation Margin by the CDS Seller or CDS Buyer in respect of an Index Cleared Transaction or a Single Name Cleared Transaction, or the Index Swaption Seller or Index Swaption Buyer in respect of an Index Swaption Cleared Transaction, arising from a potential adverse change in the estimated recovery rate.

Credit Event Margin will be calculated by LCH SA for each Margin Account of each Clearing Member, on each Business Day from the date of the relevant DC Credit Event Announcement until the settlement process in respect of such Cleared Transaction has been completed (including Physical Settlement as set out in the CDS Clearing Supplement, or Auction Settlement, as applicable) or any disputes in relation thereto have been finally resolved. The calculation of the Credit Event Margin is based on an estimated recovery rate of the Affected Cleared Transaction or the Restructuring Cleared Transaction, as the case may be, and the exposure of LCH SA by reference to the notional amount of the Clearing Member's Cleared Transaction(s) affected by the Credit Event.

Credit Event Margin will be reimbursed on the Business Day following completion or resolution of the settlement process (including Physical Settlement, or Auction Settlement and/or index re-versioning, as applicable) or the day on which settlement can no longer occur in respect of such Credit Event (including without limitation because no relevant Credit Event Notice or Notice of Physical Settlement is delivered within the required timeframes).

In the event that a DC Credit Event Announcement made in relation to a Credit Event is reversed then LCH SA shall reimburse each Clearing Member with the amount of any Credit Event Margin on the next following Business Day in accordance with Section 3 of the Procedures.

2.12 LEGAL ENTITY IDENTIFIER MARGIN

Legal Entity Identifier Margin covers the risk of concentration arising when liquidating simultaneously some or all Cleared Transactions registered in the Account Structures of one or more Clearing Members identified by the same Legal Entity Identifier (LEI), which would not have been covered by any other Margins.

The Legal Entity Identifier Margin is calculated using an algorithm, approved by the board of directors of LCH SA following consultation with the Risk Committee, based on the Open Positions registered in the Margin Accounts of one or more Clearing Members identified by the same LEI.

2.13 ADDITIONAL MARGIN

A Clearing Member will be required to pay Additional Margin for some or all of its Margin Accounts where that Clearing Member's Group Member Uncovered Risk is greater than x% of the current value of the CDS Default Fund.

Additional Margin will be equal to the difference between x% of the current value of the CDS Default Fund and the relevant Group Member Uncovered Risk on such Business Day.

The number x will depend on the internal credit score that LCH SA attributes to each Clearing Member and will be the same for each Margin Account of the Clearing Member. Any change to the number x will be communicated to the Clearing Member.

When Additional Margin is required to be paid to LCH SA, or the amount of Additional Margin payable is increased due to a change in the relevant Group Member Uncovered Risk, LCH SA will notify the Clearing Member in the Margin Requirements Results File pursuant to Section 5 of the Procedures.

2.14 STRESS TEST LOSS OVER ADDITIONAL MARGIN / NET CAPITAL RATIO MARGIN

Stress Test Loss Over Additional Margin / Net Capital Ratio Margin covers the risk that a Clearing Member might not have sufficient capital to support the materialisation of stress test losses.

The Stress Test Loss Over Additional Margin / Net Capital Ratio Margin is calculated using an algorithm, approved by the board of directors of LCH SA following consultation with the Risk Committee, based on the Open Positions registered in the relevant Margin Accounts of the Clearing Member.

2.15 VARIATION MARGIN

Variation Margin is an amount exchanged on each Cash Payment Day between the Clearing Member and LCH SA to account for the potential profit or loss on CTM Cleared Transactions and, as the case may be, Irrevocable Backloading CTM Transactions which are not Rejected Transactions due to the variation of the market value of a CDS or, as the case may be, an Index Swaption.

It covers price fluctuations which have occurred since the registration of each CTM Cleared Transaction and Irrevocable Backloading CTM Transactions which are not Rejected Transactions. LCH SA will calculate the Variation Margin transferable in respect of each CTM Cleared Transaction and, as the case may be, Irrevocable Backloading CTM Transactions which are not Rejected Transactions of each Clearing Member as the difference between:

(a) the net present value on the current Cash Payment Day of the relevant CTM Cleared Transaction allocated to (or Irrevocable Backloading CTM Transaction pre-allocated to) a Margin Account at the time of calculation; and

(b) the net present value on the immediately preceding Cash Payment Day of the CTM Cleared Transaction allocated to (or Irrevocable Backloading CTM Transaction pre-allocated to) a Margin Account.

LCH SA will calculate the net present value of each CTM Cleared Transaction or Irrevocable Backloading CTM Transaction using the End of Day Contributed Prices provided to LCH SA in accordance with Article 4.2.7.1 of the CDS Clearing Rule Book and Section 5 of the Procedures (or, where such End of Day Contributed Prices are not available to LCH SA, the prices/spreads as set out in Article 4.2.7.1 of the CDS Clearing Rule Book and Section 5 of the Procedures). Any time this calculation is performed for the first time in respect of any particular CTM Cleared Transaction or Irrevocable Backloading CTM Transaction that CTM Cleared Transaction or Irrevocable Backloading CTM Transaction shall be deemed to have had a net present value of zero at the time of the preceding valuation.

Where the difference between the net present values of each CTM Cleared Transaction or Irrevocable Backloading CTM Transaction with respect to a Clearing Member's Margin Account is:

(i) a negative amount: such Clearing Member owes Variation Margin to LCH SA (and will be considered a Variation Margin debtor in relation to such Margin Account); or

(ii) a positive amount: LCH SA owes Variation Margin to such Clearing Member.

In respect of all CTM Cleared Transaction LCH SA shall, on each Cash Payment Day, and to the extent that the following amounts are payable in the same currency and are related to the same Margin Account:

(A) aggregate the Variation Margin (if any) payable by the Clearing Member to LCH SA on such Cash Payment Day in accordance with this paragraph 2.15; and

(B) aggregate the Variation Margin (if any) payable by LCH SA to the Clearing Member on such Cash Payment Day in accordance with this paragraph 2.15.

and the Variation Margin payable on a Cash Payment Day to one party (the Transferee) by the other party (the Transferor) under paragraphs 2.15 (A) or (B) above (as applicable) shall be reduced by setting-off such Variation Margin against the Variation Margin payable by the Transferee to the Transferor under paragraphs 2.15 (A) or (B) above (as applicable).

On the basis of these calculations LCH SA will determine:

(x) the Client Variation Margin Requirement for each Client Margin Account of the Clearing Member; and/or

(y) the House Variation Margin Requirement for the House Margin Account,

which will trigger Variation Margin Collateral Transfer(s) to be made by the Clearing Member and/or LCH SA in accordance with Article 4.2.3.2 of the CDS Clearing Rule Book and Section 3 of the Procedures.

The amount of Variation Margin transferred or received by LCH SA to or from a Clearing Member may be adjusted in accordance with Clause 7 of the CDS Default Management Process.

2.16 NPV AMOUNT

NPV Amount is an amount paid on each Cash Payment Day between the Clearing Member and LCH SA to account for the variation of the market value of the CDS or, as the case may be, Index Swaption that is an STM Cleared Transaction or Irrevocable Backloading STM Transaction .

LCH SA will calculate the NPV Amount payable on each Cash Payment Day in respect of each STM Cleared Transaction or Irrevocable Backloading STM Transaction of each Clearing Member on the basis of the change in the net present value of each STM Cleared Transaction and Irrevocable Backloading STM Transaction.

LCH SA will calculate the net present value of each STM Cleared Transaction or Irrevocable Backloading STM Transaction using the End of Day Contributed Prices provided to LCH SA in accordance with Article 4.2.7.1 of the CDS Clearing Rule Book and Section 5 of the Procedures (or, where such End of Day Contributed Prices are not available to LCH SA, the prices/spreads as set out in Article 4.2.7.1 of the CDS Clearing Rule Book and Section 5 of the Procedures). Unless otherwise agreed between the Clearing Member and LCH SA, the net present value of an STM Cleared Transaction or Irrevocable Backloading STM Transaction on the Trade Date (as such term is defined in the CDS Clearing Supplement) shall be equal to zero.

Immediately upon LCH SA making each such determination of the net present value of an STM Cleared Transaction or Irrevocable Backloading STM Transaction, a net present value reset (a "**NPV Reset**") of such STM Cleared Transaction or Irrevocable Backloading STM Transaction shall occur with respect to that STM Cleared Transaction or Irrevocable Backloading STM Transaction. For STM Cleared Transaction or Irrevocable Backloading STM Transaction registered in the Account Structure of an FCM/BD Clearing Member, such NPV Reset shall not be deemed to have occured if the resulting NPV Payment Requirement is not satisfied. However, if such NPV Payment Requirement is satisfied, the related NPV Reset will be deemed to have occurred immediately upon LCH SA making such determination of the net present value of the relevant STM Cleared Transaction or Irrevocable Backloading STM Transaction.

Upon the occurrence of an NPV Reset in relation to a STM Cleared Transaction or Irrevocable Backloading STM Transaction:

(i) if LCH SA has determined that the net present value of the STM Cleared Transaction or Irrevocable Backloading STM Transaction has increased since the immediately preceding NPV Reset, an amount of cash (the NPV Amount) denominated in the currency of the STM Cleared Transaction or Irrevocable Backloading STM Transaction and equal to the amount of such increase, shall immediately become due and payable by LCH SA to the Clearing Member;

(ii) if LCH SA has determined that the net present value of the STM Cleared Transaction or Irrevocable Backloading STM Transaction has decreased since the immediately preceding NPV Reset, an amount of cash (the NPV Amount) denominated in the currency of the STM Cleared Transaction or Irrevocable Backloading STM Transaction and equal to the amount of such decrease, shall immediately become due and payable by the Clearing Member to LCH SA;

(iii) if LCH SA has determined that the net present value of the STM Cleared Transaction or Irrevocable Backloading STM Transaction has not changed since the immediately preceding NPV Reset, neither LCH SA nor the Clearing Member shall be obliged to make any payment in relation to such STM Cleared Transaction or Irrevocable Backloading STM Transaction; and

(iv) the net present value of the STM Cleared Transaction or Irrevocable Backloading STM Transaction shall for all purposes be equal to zero.

The Clearing Member and LCH SA hereby agree that:

(a) for the avoidance of doubt, an "increase" in the net present value of an STM Cleared Transaction or Irrevocable Backloading STM Transaction shall mean that the net present value of that STM Cleared Transaction or Irrevocable Backloading STM Transaction has moved in favour of the Clearing Member since the immediately preceding NPV Reset; and

(b) for the avoidance of doubt, a "decrease" in the net present value of an STM Cleared Transaction or Irrevocable Backloading STM Transaction shall mean that the net present value of that STM Cleared Transaction or Irrevocable Backloading STM Transaction has moved in favour of LCH SA since the immediately preceding NPV Reset.

Except as otherwise prescribed in the CDS Clearing Rules, the net present value calculated by LCH SA shall in no circumstances be called in question.

In respect of all STM Cleared Transactions LCH SA shall, on each Cash Payment Day, and to the extent that the following amounts are payable in the same currency and are related to the same Margin Account:

(A) aggregate the NPV Amounts (if any) payable by the Clearing Member to LCH SA on such Cash Payment Day in accordance with this paragraph 2.16; and

(B) aggregate the NPV Amounts (if any) payable by LCH SA to the Clearing Member on such Cash Payment Day in accordance with this paragraph 2.16;

and the NPV Amount payable on a Cash Payment Day to one party (the Payee) by the other party (the Payer) under paragraphs 2.16 (A) or (B) above (as applicable) shall be reduced by setting-off such NPV Amount against the NPV Amount payable by the Payee to the Payer under paragraphs 2.16 (A) or (B) above (as applicable).

On the basis of these calculations, LCH SA will determine:

(x) the Client NPV Payment Requirement for each Client Margin Account of the Clearing Member; and/or

(y) the House NPV Payment Requirement for the House Margin Account,

which will trigger an NPV Payment to be made by the Clearing Member and/or LCH SA in accordance with Article 4.2.3.2 of the CDS Clearing Rule Book and Section 3 of the Procedures.

The NPV Amount paid or received by LCH SA to or from a Clearing Member may be adjusted in accordance with Clause 7 of the CDS Default Management Process.

2.17 CONTINGENCY VARIATION MARGIN

Contingency Variation Margin is calculated on any Business Day, in respect of:

(i) new Cleared Transactions arising from the novation of Eligible Intraday Transactions. It is intended to cover the risk that the Clearing Member fails to make NPV Payment(s) to meet the NPV Payment Requirement or Variation Margin Collateral Transfer(s) to meet the Variation Margin Requirement in respect of each of its Margin Accounts at the next Morning Call; and

(ii) Cleared Transactions with a CDS Contractual Currency in USD provided that such Business Day is a day on which commercial banks in New York City are not open for business. It is intended to cover the risk that the Clearing Member fails to satisfy its NPV Payment(s) or Variation Margin Collateral Transfer(s) obligations in USD to meet the NPV Payment Requirement or Variation Margin Requirement, as applicable, in respect of each of its Margin Accounts at the Morning Call on the following Cash Payment Day.

Contingency Variation Margin is called from a Clearing Member in place of the Variation Margin or NPV Amount, as applicable, which LCH SA determines would have been owed by such Clearing Member had such Clearing Member been required to make a NPV Payment or Variation Margin Collateral Transfer to satisfy the NPV Payment Requirement or Variation Margin Requirement, as applicable, in relation to the relevant Margin Account at that point in time (being the time of the Morning Call, the First Intraday Call or the Second Intraday Call, as described below).

Contingency Variation Margin is called (as applicable) in relation to each Margin Account of a Clearing Member:

(a) in respect of Eligible Intraday Transactions: during the First Intraday Call and/or the Second Intraday Call.

Contingency Variation Margin paid by a Clearing Member during the First Intraday Call and/or the Second Intraday Call is repaid to such Clearing Member at the Morning Call on the following Business Day if the required Variation Margin has been transferred or the required NPV Amount has been paid, as applicable, by such Clearing Member at the relevant Morning Call in accordance with Paragraph 2.12 above; and

(b) in respect of Cleared Transactions with a CDS Contractual Currency in USD: during the Morning Call.

Contingency Variation Margin paid by a Clearing Member during the Morning Call is repaid to such Clearing Member on the following Cash Payment Day if the required Variation Margin has been transferred or the required NPV Amount has been paid, as applicable, by such Clearing Member at the relevant Collateral Call in accordance with Paragraph 2.12 above and Section 3 of the Procedures.

2.18 PRICE ALIGNMENT INTEREST

Each Clearing Member that has, on a cumulative net basis, received Variation Margin Collateral Transfers from LCH SA is required to pay Price Alignment Interest. LCH SA shall pay Price Alignment Interest to each Clearing Member that has, on a cumulative net basis, transferred Variation Margin in accordance with Paragraph 2.13 above. In a negative interest rate environment where the applicable Price Alignment Interest rate is negative, LCH SA will either (i) pay Price Alignment Interest if a Clearing Member has, on a cumulative net basis, received Variation Margin from LCH SA, or (ii) charge Price Alignment Interest if a Clearing Member has, on a cumulative net basis, transferred Variation Margin.

A Report published in accordance with and subject to Section 5 of the Procedures and received by each Clearing Member on each Cash Payment Day shall indicate the amount of Price Alignment Interest to be paid or received by a Clearing Member.

These payments are made in order to minimise distortion of pricing for Original Transactions cleared through LCH SA as a result of daily Variation Margin Collateral Transfers and changes in the net present value of CTM Cleared Transactions.

Price Alignment Interest is calculated for each Clearing Member by LCH SA using the interest rate prevailing on that Cash Payment Day, as published by LCH SA on the Website, on the basis of the net present value of the CTM Cleared Transactions allocated to the Margin Accounts of the Clearing Member on the immediately preceding Cash Payment Day.

2.19 PRICE ALIGNMENT AMOUNT

Upon LCH SA's determination of the Price Alignment Amount in relation to an STM Cleared Transaction:

(i) if LCH SA has determined that the Cumulative Net Present Value is greater than zero, then, subject to (3) below, an amount of cash denominated in the currency of the STM Cleared Transaction equal to the Price Alignment Amount shall immediately become due and payable by the Clearing Member to LCH SA;

(ii) if LCH SA has determined that the Cumulative Net Present Value is less than zero, then, subject to (3) below, an amount of cash denominated in the currency of the STM Cleared Transaction equal to the Price Alignment Amount shall immediately become due and payable by LCH SA to the Clearing Member; and

(iii) if the Price Alignment Amount payable by a party on a Cash Payment Day is a negative amount, then the Price Alignment Amount payable by that party will be deemed to be zero, and the other party will pay to that party the absolute value of the negative Price Alignment Amount on such Cash Payment Day.

A Report published in accordance with and subject to Section 5 of the Procedures and received by each Clearing Member on each Cash Payment Day shall indicate the amount of Price Alignment Amount to be paid or received by a Clearing Member.

These payments are made in order to minimise distortion of pricing for Original Transactions cleared through LCH SA as a result of daily NPV Payments and changes in the net present value of STM Cleared Transactions.

For the purpose of determining the Cumulative Net Present Value of an STM Cleared Transaction that has been either (i) transferred to a Backup Clearing Member pursuant to the CDS Default Management Process, or (ii) transferred to a Receiving Clearing Member pursuant to Title V, Chapter 3 and Title VI, Chapter 3 of the CDS Clearing Rule Book the Trade Date of the STM Cleared Transaction that comes into existence immediately following such transfer shall be the Trade Date of the STM Cleared Transaction that was so transferred.

For the purpose of determining the Cumulative Net Present Value of an STM Cleared Transaction that has been converted from a CTM Cleared Transaction, pursuant to Article 3.1.10.8 of the CDS Clearing Rule Book and Section 5 of the Procedures, the Trade Date of the STM Cleared Transaction that comes into existence immediately following such conversion shall be the Trade Date of the CTM Cleared Transaction that was so converted.

For the purposes of this paragraph 2.17:

"**Cumulative Net Present Value**" means, in respect of an STM Cleared Transaction and a Cash Payment Day falling after the Trade Date, a hypothetical value, determined by LCH SA acting in its sole and absolute discretion, equal to:

(a) the aggregate of NPV Amounts (if any) payable by the Clearing Member to LCH SA (expressed as a negative number) under paragraph 2.14 above from, and including, the Trade Date to, and including, that Cash Payment Day; plus

(b) if such STM Cleared Transaction has been converted from a CTM Cleared Transaction, the aggregate of the amounts (if any) of Variation Margin determined to be payable by the Clearing Member to LCH SA (expressed as a negative number) from, and including, the Trade Date, to, and including, the STM Conversion Date (as defined in Section 5 of the Procedures) relating to such STM Cleared Transaction; plus

(c) the aggregate of NPV Amounts (if any) payable by LCH SA to the Clearing Member (expressed as a positive number) under paragraph 2.14 above, and including, the Trade Date, to , and including, that Cash Payment Day; plus

(d) if such STM Cleared Transaction has been converted from a CTM Cleared Transaction, the aggregate of the amounts (if any) of Variation Margin determined to be payable by LCH SA to the Clearing Member (expressed as a positive number) from, and including, the Trade Date, to, and including, the STM Conversion Date relating to the STM Cleared Transaction.

"**Price Alignment Amount**" means, in respect of a Cash Payment Day falling after the Trade Date, the product of:

(1) the absolute value of the Cumulative Net Present Value on such Cash Payment Day;

(2) the applicable Price Alignment Amount Rate on such Cash Payment Day; and

(3) the day count fraction determined by the LCH SA as being applicable to the currency of the STM Cleared Transaction.

"**Price Alignment Amount Rate**" means the applicable interest rate prevailing on that Cash Payment Day, as mentioned in the files and reports available to the Clearing Member.

2.20 CREDIT QUALITY MARGIN

LCH SA may require a Clearing member to provide Credit Quality Margin when LCH SA determines that the credit quality of such Clearing Member has deteriorated, depending on the internal credit score that LCH SA attributes to the relevant Clearing Member: (i) following monitoring carried out in accordance with Article 2.3.2.1 of the CDS Clearing Rule Book; and/or (ii) in the circumstances set out in Article 4.2.1.2 of the CDS Clearing Rule Book.

On each Business Day, Credit Quality Margin will be equal to the higher of the amounts calculated as follows:

(i) (Y-1)*IM where Y stands for the credit multiplier applied to the Clearing Member's Initial Margins and IM stands for the Clearing Member's Initial Margins; or

(ii) X*(Stress Risk – IM) where X stands for the stress risk percentage and (Stress Risk – IM) stands for the Clearing Member's Group Member Uncovered Risk.

Credit multipliers and stress risk percentage are determined in accordance with the methodology established by LCH SA. Credit multipliers which can be applied range from 1 to 1.4, meaning that the additional liability for any Clearing Member is capped at 40% of the relevant Clearing Member's Initial Margin. The stress risk percentage ranges between 0% and 100% of the Group Member Uncovered Risk, meaning that the additional liability for any Clearing Member is capped at 100% of the relevant Clearing Member's Group Member Uncovered Risk.

LCH SA assesses the amount of the Credit Quality Margin across each of the Margin Accounts of a Clearing Member. Credit Quality Margin will only be called in relation to a Clearing Member's House Margin Account.

LCH SA may update a Clearing Member's credit multiplier or the stress risk percentage that should apply: (i) following monitoring carried out in accordance with Article 2.3.2.1 of the CDS Clearing Rule Book; and/or (ii) in the circumstances set out in Article 4.2.1.2 of the CDS Clearing Rule Book. LCH SA will notify a Clearing Member of the Credit Quality Margin that has been called in the Margin Requirements Results File in accordance with Section 5 of the Procedures.

2.21 EXTRAORDINARY MARGIN

LCH SA may require a Clearing Member to provide Extraordinary Margin to cover the risk of price/spread fluctuations occurring on an intraday basis or during a day that is a holiday in the TARGET2 calendar.

Extraordinary Margin is called (as applicable) in relation to each Margin Account of a Clearing Member at the time of the most appropriate time slot for the purpose of making a Collateral Call. LCH SA will notify the relevant Clearing Member of the amount of Extraordinary Margin in accordance with, subject to and at the times set out in the CDS Clearing Rules.