

VIA CFTC PORTAL

15 January 2018

Mr Christopher Kirkpatrick
Commodity Futures Trading Commission
115 21st Street NW
Three Lafayette Centre
Washington DC 20581

LCH Limited Self Certification: Rule Changes on LCH's Discretion to Determine Alternative Reference Rates

Dear Mr Kirkpatrick

Pursuant to CFTC regulation §40.6(a), LCH Limited ("LCH"), a derivatives clearing organization registered with the Commodity Futures Trading Commission (the "CFTC"), is submitting for self-certification changes to its rules clarifying the right of LCH to determine alternative reference rates, in the event those used in respect to SwapClear and ForexClear contracts are no longer available, or suitable.

Part I: Explanation and Analysis

LCH proposes to make changes to its rules to note that LCH may determine, at its sole discretion, alternative rates for valuation purposes concerning SwapClear and ForexClear contracts. LCH may do so in the event that the rates published by the relevant administrators and used by LCH in accordance with its Rulebook i) are unavailable or cease to be published; (ii) are not sufficiently robust, (iii) are not fit for purpose or (iv) have materially changed.

The rule changes will go live on, or after, January 31, 2018.

Part II: Description of Rule Changes

The FCM Procedures and the Procedures Section 2C ("SwapClear Clearing Service") have been amended to note that LCH may determine alternative rates if any of the following rates are no longer available or suitable:

- a) The Floating Rate Option, to be applied to the appropriate floating legs and the coupon payments calculated in respect to the SwapClear contracts. Equivalent changes are in the FCM Procedures, section 2.1.8 (I), and in the Procedures Sections 2C, section 1.8.12 ("Floating Rate");
- b) The relevant interest rate, to be used to calculate the Price Alignment Interest or the Price Alignment Amount, as applicable, in respect to the SwapClear Contracts. Equivalent changes are in the FCM

Procedures, section 3.5.2, and in the Procedures Section 2C, section 1.12 ("Price Alignment Interest (PAI) Rate").

Further the FCM Procedures and the Procedures Section 2I ("ForexClear Clearing Service") have been amended to note that LCH may determine alternative rates if any of the following rates are no longer available or suitable:

- a) The Settlement Rate Option, used to calculate the Settlement Currency Amount for the ForexClear contracts, and any relevant settlement rate or market rate used to value such contracts. The changes are in the FCM Procedures, sections 2.2.8 (m) ("Valuation Date Event Management: Process flow description") and 2.2.10 (a) ("Net Present Value ("NPV)"). Equivalent changes have been made in the Procedures Section 2I, sections 1.3.7 (c) (iii) ("Process Flow Description") and 1.5.1 (a) ("Product Valuation").

The texts of the changes are attached hereto as:

- **Appendix I**, FCM Procedures
- **Appendix II**, Procedures Section 2C
- **Appendix III**, Procedures Section 2I

Part III: Core Principle Compliance

LCH has reviewed the changes against the requirements of the Core Principles and finds that they will continue to comply with all the requirements and standards therein.

Part IV: Public Information

LCH has posted a notice of pending certification with the CFTC and a copy of the submission on LCH's website at:

<http://www.lch.com/rules-regulations/proposed-rules-changes>.

Part V: Opposing Views

There were no opposing views expressed to LCH by governing board or committee members, members of LCH or market participants that were not incorporated into the rule.

Certification

LCH hereby certifies to the Commodity Futures Trading Commission, pursuant to the procedures set forth in the Commission regulation § 40.6, that the attached rule submission complies with the Commodity Exchange Act, as amended, and the regulations promulgated thereunder.

Should you have any questions, please contact me at julian.oliver@lch.com.

Yours sincerely,



Julian Oliver
Chief Compliance Officer
LCH Limited

Appendix I
FCM Procedures



FCM PROCEDURES OF THE CLEARING HOUSE

LCH LIMITED

of that Calculation Period shall be determined by the Clearing House with reference to the rate(s) specified in the matched format message.

(j) *Day Count Fractions: ISDA 2000*

Day count fractions will be applied to deal legs independently as they are communicated via the matched format message.

Where the FCM SwapClear Transaction is submitted under the ISDA 2000 Definitions, the Clearing House will calculate Day Count Fractions in accordance with the principles specified in the FCM SwapClear Transaction submitted to the Clearing House and as set forth in the ISDA 2000 Definitions.

(k) *Day Count Fractions: ISDA 2006*

Day count fractions will be applied to deal legs independently as they are communicated via the matched format message.

Where the FCM SwapClear Transaction is submitted under the ISDA 2006 Definitions, the Clearing House will calculate Day Count Fractions in accordance with the principles specified in the FCM SwapClear Transaction submitted to the Clearing House and as set forth in the ISDA 2006 Definitions.

(l) *Floating Rate*

The Floating Rate Options shall have the meanings given to them in the ISDA 2000 Definitions or the ISDA 2006 Definitions, as applicable, provided that where the rate for a Reset Date ~~is not available following the application of such definitions~~ (i) is unavailable (including where such rate ceases, or will cease, to be provided by its administrators), (ii) is not sufficiently robust, (iii) is not fit for purpose or (iv) has materially changed, in each case as determined by the Clearing House in its sole discretion, the Clearing House will determine an ~~applicable~~ alternative rate at its sole discretion. Each such rate will be provided in regular reports by the Clearing House to members.

(m) *Applying Floating Rate Options*

The Clearing House will determine the rate applicable on a Reset Date in respect of a SwapClear Contract as set out in paragraph (l) above. Such Rate will be applied to the appropriate floating legs and the coupon payments calculated.

The coupon payments will be adjusted to fall on actual Business Days according to the Calendar(s) and Business Day Convention specified.

(n) *Negative Interest Rate Method*

the constituent FCM ForexClear Transactions of the FX Package Transaction shall be rejected.

Where a constituent FCM ForexClear Transaction of a Package Transaction is an FCM Eligible Trading Venue Transaction, it is a condition of registration that all of the constituent FCM ForexClear Transactions of such Package Transaction be FCM Eligible Trading Venue Transactions. Where such condition is not met, all constituent FCM ForexClear Transactions of the Package Transaction will be rejected. In respect of a Package Transaction comprising FCM ForexClear Transactions that are not executed on an FCM Trading Venue, the Clearing House will send an FCM Notification to the relevant FCM Clearing Member(s) for the acceptance of each such constituent FCM ForexClear Transaction.

In respect of an FX Package Transaction presented in an FX FCM's name, such FX FCM's Margin requirement will be assessed based on the net Margin call for all of the constituent FCM ForexClear Transactions of such FX Package Transaction.

The Clearing House may limit the number of FCM ForexClear Transactions that may be included in an FX Package Transaction by way of member circular.

(m) *Valuation Date Event Management: Process flow description*

After the Registration Time for an FCM ForexClear Contract, the FCM ForexClear Service links a Settlement Rate Option to it in accordance with the Relevant EMTA Template or given LCH G10 NDF Contract Template, as applicable.

On the Valuation Date, the Clearing House uses the Settlement Rate for the Currency Pair for the FCM ForexClear Contract when it is published by Reuters, and calculates the Settlement Currency Amount for each FCM ForexClear Contract in the Settlement Currency by applying the relevant Settlement Rate Option as referenced in the Relevant EMTA Template or given LCH G10 NDF Contract Template, as applicable.

If the Settlement Rate Option set out in the Relevant EMTA Template or given LCH G10 NDF Contract Template, as applicable, is unavailable at the relevant time, Disruption Fallback alternatives for the determination of the Settlement Rate will apply as set out in the Relevant EMTA Template or given LCH G10 NDF Contract Template, as applicable. Notwithstanding the foregoing, in the event the Clearing House determines (in its sole discretion) that a Settlement Rate Option is unavailable, the Clearing House will determine an alternative Settlement Rate Option.

The Clearing House takes country credit spreads (in relation to Brazil, Russia, India, China, Chile, South Korea, Colombia, Indonesia, Malaysia, Philippines and Taiwan) from Bloomberg for use in risk multiplier calculations.

2.2.10 *FCM ForexClear Contract Valuation*

(a) *Net Present Value (“NPV”)*

From (and including) the Registration Time to the EOD Margin Run on the business day preceding the Valuation Date, each FCM ForexClear Contract is valued in USD using the current market rates and discounted from the future Settlement Date to its present value.

On the Valuation Date, the Settlement Rate is used to value the FCM ForexClear Contract.

If Valuation Postponement applies, the FCM ForexClear Contract is valued using the current forward price to (and including) the date on which the Settlement Rate is determined in accordance with the ForexClear Contract Terms.

In the event a Settlement Rate or market rate is unavailable, as determined by the Clearing House in its sole discretion, the Clearing House will determine an alternative Settlement Rate or market rate.

(b) *Variation Margin (“VM”)*

VM for each FCM ForexClear Contract is calculated at EOD as the change from the preceding business day in its NPV. With respect to each FX FCM, the net sum of the VM for all open FCM ForexClear Contracts is credited to or debited from such FX FCM once a day, following the EOD Margin Run.

Cover for VM (adjusted by PAI, as set out below) will be paid each business day by or to each FX FCM in respect of all of its open FCM ForexClear Contracts. The VM will be calculated in, and must be paid in, USD.

With respect to each FCM ForexClear Contract, VM is calculated every business day from (and including) the Registration Time to (and including) the EOD on the business day immediately preceding the Settlement Date.

Separate Variation Margin calculations are performed in respect of an FCM Clearing Member's house “H” account and in respect of an FCM Clearing Member's client “C” account. No offset between the “C” and the “H” accounts is permitted. The Clearing House shall make or receive a separate Variation Margin payment with respect to each house “H” account and each client “C” account (subject to the Default Rules).

LCH website at the following link:
http://www.lch.com/fees/ltd/custody_services.asp; and

- (c) Default Fund Rate.

Rates are available from the Member Reporting Website.

The Clearing House reserves the right to alter the basis of calculating each above listed interest rates. Any alteration will be effective on the date notified.

Where the Clearing House provides FCM Clearing Members with at least three days written notice (which may be way of member circular), the Clearing House may increase or decrease the LDR by up to 10bps. The foregoing shall not apply in the event of extreme market conditions, during which the Clearing House may freely and without notice increase or decrease the LDR for up to five consecutive Business Days.

Where the Clearing House provides FCM Clearing Members with two weeks' written notice (which may be way of member circular), the Clearing House may increase or decrease the CDR. In the event of extreme market conditions, the Clearing House may freely and without notice increase or decrease the CDR for up to five consecutive Business Days.

3.5.2 **Price Alignment Interest (PAI) Rate**

To minimize the impact of daily cash Variation Margin payments on the pricing of interest rate swaps and inflation swaps, the Clearing House will charge interest on cumulative Variation Margin received by the FCM Clearing Member and pay interest on cumulative Variation Margin paid in by the FCM Clearing Member in respect of these instruments. In a negative interest rate environment where PAI rates are negative the Clearing House will pay interest on cumulative amounts received by an FCM Clearing Member in respect of variation margin obligations and charge interest on cumulative amounts paid to an FCM Clearing Member. This interest element is known as price alignment interest.

The calculation of PAI shall use the interest rates specified as below. The amount of PAI for each currency shall be calculated as:

The amount of NPV in such currency from the previous Business Day's close of business multiplied by:

- (a) The relevant interest rate in effect for that day; divided by
- (b) 360; or in the case of AUD, CAD, GBP, HKD, JPY, NZD, PLN, SGD and ZAR, 365.

In the case of the currencies marked below with an asterisk, the Clearing House, as provided in FCM Regulation 36(b) (*Alteration of FCM Regulations and the FCM Procedures*), specifies that it will not change the PAI rate

without the consent of all SwapClear Clearing Members and applicable FCM Clearing Members holding open contracts in such currencies.

Currency	PAI Rate
USD*	The rate used shall be the Effective Federal Funds rate, the rate published by the Board of Governors of the Federal Reserve System as such rate appears on Reuters page “FEDFUNDS1” or Telerate 120 or on any successor page(s) thereto.
EUR*	The rate used shall be the EONIA rate, the rate published by the European Banking Federation and ACI – The Financial Market Association as such rate appears on Reuters page “EONIA” or Telerate 247 or on any successor page(s) thereto.
GBP*	The rate used shall be the SONIA rate, the rate published by the Wholesale Markets Broker Association as such rate appears on Reuters page “SONIA” or on any successor page(s) thereto.
JPY*	The rate used shall be the Mutan call rate, the rate published by the Bank of Japan as such rate appears on Reuters page “TONAR” or on any successor page(s) thereto.
CHF*	The rate used shall be the SARON rate, the rate published by SIX Swiss Exchange Ltd. as such rate appears on Reuters page “SARON.S” or any successor page(s) thereto.
AUD	The rate used shall be the “AONIA” rate, the rate published by the Reserve Bank of Australia – as such rate appears on Reuters page “RBA30” or any successor page(s) thereto.
CAD	The rate used shall be the “CORRA” rate, the rate published by the Bank of Canada website – as such rate appears on Reuters page “CORRA” or any successor page(s) thereto.
DKK	The rate used shall be the “DKKOIS” rate, the rate published by the Danish Central Bank – as such rate appears on Reuters page “DKNA14” or any successor page(s) thereto.
HKD	The rate used shall be the “HONIX” rate, the rate published by the Hong Kong Brokers Association – as such rate appears on Reuters page “HONIX” or any successor page(s) thereto.
NZD	The rate used shall be the “NZIONA” rate, the rate published by the Reserve bank of New Zealand – as such rate appears on Reuters page “RBNZ02” or any successor page(s) thereto.
PLN	The rate used shall be the “POLONIA” rate, the rate published by the National Bank of Poland – as such rate appears on Reuters page “NBPS” or any successor page(s) thereto.

<u>Currency</u>	<u>PAI Rate</u>
SEK	The rate used shall be the “SIOR” rate, the rate published by the OMX Exchange – as such rate appears on Reuters page “SIOR” or any successor page(s) thereto.
ZAR	The rate used shall be the SFX ZAR OND rate, the rate published by SAFEX JIBAR – as such rate appears on Reuters page “SFXROD” or any successor page(s) thereto.
CZK	The rate used shall be the “CZEONIA” rate, the rate published by the Czech National Bank – as such rate appears on Reuters page “CZEONIA” or any successor page(s) thereto.
HUF	The rate used shall be the “HUFONIA” rate, the rate published by the National Bank of Hungary – as such rate appears on Reuters page “HUFONIA” or any successor page(s) thereto.
SGD	The rate used shall be the “SONAR” rate, the rate published by the Association of Banks in Singapore – as such rate appears on Reuters page “ABSIRFIX01” or any successor page(s) thereto.
NOK	The rate used shall be the NOK sight deposit rate, the rate published by Norges Bank – as such rate appears on Reuters page “NOINTR=ECI” or any successor page(s) thereto

For currency NOK, PAI is calculated using an appropriate overnight deposit rate for the currency.

Notwithstanding the foregoing, in the event the interest rate source used for the calculation of PAI (i) is unavailable ([including where such rate ceases, or will cease, to be provided by its administrator](#)), (ii) is not sufficiently robust, (iii) is not fit for purpose or (iv) has materially changed, in each case, as determined in the Clearing House’s sole discretion, the Clearing House may use an alternative interest rate without the consent of such SwapClear Clearing Members and/or FCM Clearing Members.

3.5.3 *Interest Structure*

<u>Application of Collateral</u>	<u>Type of Collateral</u>				
	<u>Credit Variation Margin</u>	<u>Securities</u>	<u>Cash</u>	<u>Foreign Cash</u>	<u>Forward Cash</u>
Initial & Variation margin after offset	No charge or payment	Accommodation Charge Payable	Pay relevant rate	pay relevant rate of Collateral currency	No charge or payment
Excess or	No charge	No charge	Pay relevant	Pay relevant	No charge or payment

Appendix II
Procedures Section 2C



LCH LIMITED

PROCEDURES SECTION 2C

SWAPCLEAR CLEARING SERVICE

1.8.11 *Day Count Fractions: ISDA 2006*

Day count fractions will be applied to deal legs independently as they are communicated via the matched format message.

Where the SwapClear contract is submitted under the ISDA 2006 Definitions, the Clearing House will calculate Day Count Fractions in accordance with the principles specified in the SwapClear Transaction submitted to the Clearing House and as set forth in the ISDA 2006 Definitions.

1.8.12 *Floating Rate*

The Floating Rate Options shall have the meanings given to them in the ISDA 2000 Definitions or the ISDA 2006 Definitions, as applicable, provided that where the rate for a Reset Date ~~is not available~~ (i) is unavailable (including where such rate ceases, or will cease, to be provided by its administrators), (ii) is not sufficiently robust, (iii) is not fit for purpose or (iv) has materially changed, in each case as determined by the Clearing House in its sole discretion ~~following the application of such definitions~~, the Clearing House will determine an ~~applicable~~ alternative rate at its sole discretion. Each such rate will be provided in regular reports by the Clearing House to members.

(a) *Applying Floating Rate Options*

The Clearing House will determine the rate applicable on a Reset Date in respect of a SwapClear Contract as set out in the paragraph above. Such rate will be applied to the appropriate floating legs and the coupon payments calculated.

The coupon payments will be adjusted to fall on actual business days according to the Calendar(s) and Business Day Convention specified.

(b) *Negative Interest Rate Method*

SCMs should note the provisions of section 3.3 of Part A of the Product Specific Contract Terms and Eligibility Criteria Manual as published on the Clearing House's website regarding the applicability of the Negative Interest Rate Method to a SwapClear Contract. SwapClear Clearing Members may, in the circumstances, wish to ensure that any trade submitted for registration follows that Negative interest Rate Method.

1.8.13 *Calculation of Inflation Indices*

(a) The Index level used for calculating the Floating Rate is determined according to the 2008 ISDA Inflation Definitions in respect of the following indices (or successor indices from time to time):

(i) non-revised Index of Consumer Prices excluding Tobacco in the European Monetary Union;

In response to a request from a SwapClear Clearing Member, the Clearing House may require additional Collateral to cover such SwapClear Clearing Member's stress loss exposure with respect to a Client Account (the "**Stress Loss Margin**"). The Stress Loss Margin may be subject to an additional percentage add-on as the Clearing House may require in its sole discretion. The Stress Loss Margin and any add-ons, as applicable, will be called as part of the end of day margin run and by means of morning PPS calls. The request must indicate the percentage of the stress loss exposure that will be covered by Stress Loss Margin. Any request pursuant to this paragraph is subject to the Clearing House's consent in its sole discretion (and the Clearing House may apply a lower percentage than that requested by the SwapClear Clearing Member.)

A SwapClear Clearing Member may cease paying Stress Loss Margin by giving not less than 30 calendar days' written notice to the Clearing House.

Before making any request to pay or notifying the Clearing House of ceasing to pay Stress Loss Margin, a SwapClear Clearing Member must obtain the consent of the SwapClear Clearing Client(s) to which the Stress Loss Margin applies. In making any request pursuant to this paragraph, the SwapClear Clearing Member is deemed to represent that it has obtained such consent.

Where SwapClear Contracts entered into by a SwapClear Clearing Member in respect of a SwapClear Clearing Client which has requested to pay Stress Loss Margin are transferred to a Backup Clearing Member or a Receiving Clearing Member (including an FCM Clearing Member), such Backup Clearing Member or Receiving Clearing Member may be required to pay additional initial margin to the Clearing House in the event that it does not pay Stress Loss Margin with respect to the transferring SwapClear Clearing Client(s).

1.10 **Tenor Basis Risk Margin Add-on**

An add-on margin requirement will be applied in respect of tenor basis risk.

1.11 **Intra-Day Margin Call: Collateral Management**

The methods for covering intra-day margin calls are set out in Section 1.11 of Procedure 4 (*Margin and Collateral*).

1.12 **Price Alignment Interest (PAI) Rate**

The calculation of PAI and Price Alignment Amount shall use the applicable interest rate specified and published on the Clearing House's website.

The Clearing House shall not change the interest rates used for the calculation of PAI and Price Alignment Amount in respect of USD, EUR, GBP, JPY and CHF without the consent of all SwapClear Clearing Members holding open contracts in such currencies. Notwithstanding the foregoing, in the event the interest rate source used for the calculation of PAI or Price Alignment Amount for USD, EUR, GBP, JPY or CHF (i) is unavailable ([including where such rate ceases, or will cease, to be provided by its administrators](#)), (ii) is not sufficiently robust, (iii) is not fit for purpose or (iv)

has materially changed, in each case; as determined in the Clearing House's sole discretion, the Clearing House may use an alternative interest rate without the consent of such SwapClear Clearing Members.

1.13 **Transfer of SwapClear Contracts between Client Accounts and Proprietary Accounts**

1.13.1 If at any time an early termination date (howsoever described) occurs in respect of one or more of the transactions between a SwapClear Clearing Member and a SwapClear Clearing Client in respect of which such SwapClear Clearing Member (i) is a party to Related SwapClear Contracts and (ii) at the time of such early termination date, is not a Defaulting SCM, that SwapClear Clearing Member may instruct the Clearing House to transfer the relevant Related SwapClear Contracts from its Client Account to its Proprietary Account.

For the purposes of this Section 1.13.1 below a "**Related SwapClear Contract**" means, in respect of a transaction between a SwapClear Clearing Member and a SwapClear Clearing Client which has been terminated on an early termination date, the open position represented by the SwapClear Contract entered into with the Clearing House by such SwapClear Clearing Member on behalf of the relevant SwapClear Clearing Client on equal and opposite terms to such transaction.

A transfer pursuant to this Section 1.13.1 will be subject to receipt by the Clearing House of the following:

- (a) a copy of the notice from the relevant SwapClear Clearing Member to the relevant SwapClear Clearing Client or from the relevant SwapClear Clearing Client to the relevant SwapClear Clearing Member designating the relevant early termination date or, if such early termination date has occurred automatically, evidence of the relevant event of default or termination event;
- (b) a copy of a notice served by the relevant SwapClear Clearing Member on the relevant SwapClear Clearing Client alerting that SwapClear Clearing Client of its intention to request a transfer of the relevant Related SwapClear Contracts pursuant to this Section 1.13; and
- (c) an indemnity from the relevant SwapClear Clearing Member in a form suitable to the Clearing House

The Clearing House will usually arrange a transfer of Related SwapClear Contracts within 24 hours of receipt (to the extent applicable) of the documents listed in paragraphs (a) to (c) above.

1.13.2 In any other circumstance not covered by Section 1.13.1 or Section 1.14 below, a SwapClear Clearing Member may only instruct the Clearing House to transfer a SwapClear Contract from its Client Account to its Proprietary

Appendix III
Procedures Section 21



LCH LIMITED
PROCEDURES SECTION 2I
FOREXCLEAR CLEARING SERVICE

- (i) The Clearing House accepts trade cancellation instructions from the ForexClear Approved Trade Source System for ForexClear Transactions or ForexClear Contracts (as the case may be) that have previously been submitted to the ForexClear Service. Cancellation instructions must include the ForexClear ID.
- (ii) The Clearing House checks that the cancellation instruction contains a valid ForexClear ID which relates to: (a) a ForexClear Transaction or ForexClear Contract (as the case may be) that has not been previously cancelled; and (b) in the case of a ForexClear Contract only, a ForexClear Contract with respect to which the relevant Valuation Date has not yet occurred.
- (iii) Where a trade has already been rejected (e.g. as a result of having failed a Counterparty Technical Validation Check), the ForexClear Service sends a "CANCEL REJECTED" message to the ForexClear Approved Trade Source System for the relevant FXPs.
- (iv) All trade cancellation instructions must pass the Incremental Risk Check. If any FXCCM has not transferred sufficient Collateral in respect of its Liabilities or estimated Liabilities to the Clearing House (taking into account any MER Buffer and MCE provided by the Clearing House, if any) at the time of the relevant Incremental Risk Check, then any ForexClear trade cancellation instruction to which it is a party will be rejected immediately. However, any ForexClear trade cancellation instruction that is risk reducing (i.e. results in a reduction of that FXCCM's Liabilities) will always pass the Incremental Risk Check, even if the FXCCM has not transferred sufficient Collateral in respect of its Liabilities to the Clearing House.

1.3.7 *Valuation Date Event Management:* The Clearing House is the Calculation Agent and will store and apply the Settlement Rate Option and the Valuation Date for each ForexClear Contract.

On the Valuation Date with respect to each ForexClear Contract, the Settlement Rate will be retrieved as set forth in paragraph (a) below. The Market Data provider for Settlement Rates is Reuters.

ForexClear applies the relevant Settlement Rate to ForexClear Contracts using the following criteria:

- (a) Settlement Rate Option source; and
- (b) Valuation Date.

The Clearing House applies the Settlement Rate to all relevant ForexClear Contracts at a predefined time following its publication.

The Clearing House calculates the Settlement Currency Amount in the Settlement Currency per ForexClear Contract. FXCCMs can retrieve the Settlement Rate and Settlement Currency Amount in the Settlement Currency via ForexClear Reporting (as defined in Section 1.7 (*ForexClear Reporting*)) on the ForexClear Service Portal and on MemWeb, which are internet services onto which information is loaded and can be accessed by FXCCMs.

(c) *Process Flow Description*

- (i) After the Registration Time for a ForexClear Contract, the ForexClear Service links a Settlement Rate Option to it in accordance with the Relevant EMTA Template or given LCH G10 NDF Contract Template, as applicable.
- (ii) On the Valuation Date, the Clearing House uses the Settlement Rate for the Currency Pair for the ForexClear Contract when it is published by Reuters, and calculates the Settlement Currency Amount for each ForexClear Contract in the Settlement Currency by applying the relevant Settlement Rate Option as referenced in the Relevant EMTA Template or given LCH G10 NDF Contract Template, as applicable.
- (iii) If the Settlement Rate Option set out in the Relevant EMTA Template or given LCH G10 NDF Contract Template, as applicable, is unavailable at the relevant time, Disruption Fallback alternatives for the determination of the Settlement Rate will apply as set out in the Relevant EMTA Template or given LCH G10 NDF Contract Template, as applicable. [Notwithstanding the foregoing, in the event the Clearing House determines \(in its sole discretion\) that a Settlement Rate Option is unavailable, the Clearing House will determine an alternative Settlement Rate Option.](#)

1.3.8 *Settlement:* With respect to each ForexClear Contract, the Settlement Currency Amount is calculated by the application of the Settlement Rate to the Notional Amount in accordance with the ForexClear Contract Terms.

From (and including) the Registration Time to (and including) the Business Day immediately preceding the Settlement Date, changes in the daily value of open ForexClear Contracts will have resulted in variation margin credits and debits between the parties (as set out at Section 1.5.2 (*Variation Margin*)). With respect to each ForexClear Contract, on the Business Day immediately preceding the Settlement Date, the Clearing House nets the Settlement Currency Amount against the aggregate net variation margin which has been paid/received through the term of the ForexClear Contract, the result of which is a Net Settlement Amount ("NSA"), which will be reflected in the FXCCMs' cash accounts with the Clearing House on the Settlement Date. As such, with respect to each ForexClear Contract, the transfer to the Clearing House of all the Collateral in respect of the variation margin required during the term of such ForexClear Contract shall satisfy the relevant party's obligation to pay the Settlement Currency Amount on the Settlement Date of such ForexClear

- (i) Source - SwapClear.
- (ii) Frequency - at each SwapClear margin run.
- (g) PAI rates:
 - (i) Source - LCH Treasury.
 - (ii) Frequency - daily.

1.4.3 *[Not Used]*

1.4.4 *Market Data Provision to FXCCMs*: Market Data used in a Margin Run is made available to FXCCMs via ForexClear Reporting (as defined in Section 1.7 (*ForexClear Reporting*)).

1.4.5 *Curve Building in ForexClear*

- (a) *FX Curve (Zero Coupon/Market Rate Curve)*: The Clearing House builds for each Currency Pair an FX curve (zero coupon/market rate curve) using the FX Spot Rates, FX Swap Points and the USD LIBOR Curve based on interpolation techniques agreed through the ForexClear Risk & Trading Working Group (a group comprising the Clearing House and FXCCM's risk and trading representatives) ("**RTWG**"). The USD LIBOR Curve is used for discounting; the FX curve is used for capitalisation of forward cash flows.
- (b) *Interest Rate Curve*: The Clearing House applies the linear interpolation method to build the Interest Rate Curve. Linear interpolation is applied on zero coupon curves.
- (c) *Curve Use*: End of day is defined as 22.00 local London time ("**EOD**"). The following EOD data is used in the calculation of risk analytics for an EOD Margin Run (as defined in paragraph (b) of Section 1.6.1 (*Types of Margin Runs*)):
 - (i) FX Spot Rates; and
 - (ii) FX Swap Points.

1.4.6 *Country Credit Spreads*: The Clearing House takes country credit spreads (in relation to Brazil, Russia, India, China, Chile, South Korea, Colombia, Indonesia, Malaysia, Philippines and Taiwan) from Bloomberg for use in risk multiplier calculations.

1.5 **Valuation and Margin**

1.5.1 *Product Valuation*

- (a) *Net Present Value ("NPV")*: From (and including) the Registration Time to the EOD Margin Run on the business day preceding the

Valuation Date, each ForexClear Contract is valued in USD using the current market rates and discounted from the future Settlement Date to its present value (being valued using the data submitted by FXCCMs, in accordance with Section 1.4.2 (*Market Data Sources and Frequencies*)).

At EOD on the Valuation Date, the Settlement Rate is used to value the ForexClear Contract.

If Valuation Postponement applies, the ForexClear Contract is valued using the current forward price (based on the data submitted by FXCCMs, in accordance with Section 1.4.2 (*Market Data Sources and Frequencies*)) to (and including) the date on which the Settlement Rate is determined in accordance with the ForexClear Contract Terms.

In the event a Settlement Rate or market rate is unavailable, as determined by the Clearing House in its sole discretion, the Clearing House will determine an alternative Settlement Rate or market rate.

- 1.5.2 *Variation Margin*: Separate variation margin calculations are performed for a FXCCM's Proprietary Account, each Client Account (other than an Indirect Gross Account) and each Indirect Gross Sub-Account within an Indirect Gross Account. No offset between the Proprietary Accounts and Client Accounts accounts is allowed (except pursuant to Rule 8(d) of the Default Rules or any Insufficient Resources Determination Rule) and no offset between any Client Accounts is allowed (except pursuant to Rule 15(a)(ii) of the Default Rules, a Cross-ISA Client Excess Deduction or any Insufficient Resources Determination Rule).

The variation margin requirement in respect of each ForexClear Contract is calculated at EOD as the change from the preceding business day in its NPV. The net sum of the variation margin requirements with respect to all of the open ForexClear Contracts is credited or debited (separately for the Proprietary Account and each Client Account of the relevant FXCCM) once a day, following the EOD Margin Run.

Collateral in respect of variation margin (adjusted by PAI, as set out below) will be transferred each business day by or to each FXCCM in respect of all of its open ForexClear Contracts. The variation margin will be calculated in, and must be paid in, USD.

For the avoidance of doubt, any transfers of cash Collateral by an FXCCM to the Clearing House in respect of the FXCCM's variation margin obligations or by the Clearing House to an FXCCM in respect of the Clearing House's variation margin obligations shall be for the purposes of collateralisation and not settlement of obligations under the relevant contracts.

With respect to each ForexClear Contract, the variation margin requirement is calculated every business day from (and including) the Registration Time to (and including) the EOD on the business day immediately preceding the Settlement Date.