

VIA CFTC PORTAL

Mr. Christopher Kirkpatrick
Secretary of the Commission
Office of the Secretariat
Commodity Futures Trading Commission
1155 21st Street NW
Three Lafayette Centre
Washington, DC 20581

1 December 2020

LCH Limited Self-Certification: SwapClear Pre-cessation

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 to include an automatic trigger into fallback arrangements where a relevant regulatory authority determines an existing benchmark to be non-representative (pre-cessation trigger). This is to answer the question of what happens in the case that interbank offered rates (IBORs) continue to be published but are no longer representative of their underlying market.

Part I: Explanation and Analysis

Industry-wide efforts to transition to new interest rate benchmarks are now well underway, driven by the need to use rates that are truly representative of their underlying market. As activity in the unsecured interbank funding market continues to slow, legacy IBORs such as LIBOR may not reflect market costs. As a result, if IBORs cease to be published beyond 2021, or they are no longer representative, participants will need to shift to recommended alternatives – e.g. the Secured Overnight Financing Rate (SOFR) in the case of the US dollar (USD) market, and the Euro Short Term Rate (€STR) for the Euro (EUR) market.

In January 2020, LCH launched a consultation on draft provisions to implement pre-cessation triggers and their consequences in certain SwapClear Contracts and SwapClear FCM Contracts in its Rulebooks. The draft rulebook changes proposed the same approach that is planned to be used in respect of permanent cessation triggers. That is, to use the adjusted Risk-Free Rate (RFR) as formulated in the relevant ISDA supplemented IBOR definition together with a credit spread adjustment. In response to that consultation LCH made certain changes to the consultation draft provisions to further align with the uncleared derivatives market (including the IBOR Fallbacks Supplement and IBOR Protocol¹).

¹ The IBOR Protocol provides a uniform, market-wide mechanism for parties to voluntarily amend existing derivatives contracts to address discontinuation of IBORs.

The following summarizes the rates that are covered by the Pre-Cessation Provisions:

Relevant Benchmark	Relevant Regulator	Relevant Floating Rate Option	Replacement Floating Rate Option
U.S. Dollar LIBOR	The U.K. Financial Conduct Authority	USD-LIBOR-BBA	Fallback Rate (SOFR)
Euro LIBOR	The U.K. Financial Conduct Authority	EUR-LIBOR-BBA	Fallback Rate (EuroSTR)
Sterling LIBOR	The U.K. Financial Conduct Authority	GBP-LIBOR-BBA	Fallback Rate (SONIA)
Yen LIBOR	The U.K. Financial Conduct Authority	JPY-LIBOR-BBA	Fallback Rate (TONA)
Swiss Franc LIBOR	The U.K. Financial Conduct Authority	CHF-LIBOR-BBA	Fallback Rate (SARON)

LCH does not intend to make any other changes to the Rulebooks in connection with pre-cessation at this time. Note that when the IBOR Fallbacks Supplement and IBOR Protocol are effective (anticipated to be early 2021) LCH intends to amend its Rulebooks and incorporate by reference to the IBOR Fallbacks Supplement's and IBOR Protocol's terms into all existing and new SwapClear Contracts and SwapClear FCM Contracts, and such terms will address temporary unavailability, permanent cessation and, where relevant, pre-cessation.

The rule changes will go live on, or after, 16 December 2020.

Part II: Description of Rule Changes

A new section 1.18.15 (pre-cessation) has been added to Procedures Section 2C which outlines and provides definitions of what will happen if the above five IBORs are deemed to be non-representative.

Equivalent changes have been made to section 2.1.8(q) of the FCM Procedures.

The text of the changes is attached hereto as:

- i. **Appendix I**, Procedures Section 2C (SwapClear)
- ii. **Appendix II**, FCM Procedures

Part III: Core Principle Compliance

LCH has reviewed the changes against the requirements of the Core Principles and finds it 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: <https://www.lch.com/resources/rules-and-regulations/proposed-rule-changes-0>.

Part V: Opposing Views

There were no opposing views expressed by LCH's governing board or executive committee, members of LCH or market participants that were not incorporated into the change.

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 there under.

Should you have any questions please contact me.

Yours sincerely



Julian Oliver
Chief Compliance Officer
LCH Limited

Appendix I
Procedures Section 2C (SwapClear)



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~~ [Subject to Section 1.8.15 and Section 1.8.16 below, 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 (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 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;

(ii) non-revised Index of Consumer Prices excluding Tobacco in France;

- (iii) non-revised Index of Consumer Prices excluding Tobacco in the United Kingdom; and
- (iv) non-revised Index of Consumer Prices for All Urban Consumer (CPI-U) before seasonal adjustment in the United States.

In the event an Index is not available to calculate the Index Final, the Clearing House will, in its sole discretion, determine a value for the Index Final.

1.8.14 *Non-deliverable Interest Rate Swaps*

The Clearing House will calculate all coupon payments for SwapClear Contracts that are non-deliverable interest rate swaps, including the Fixed Amount or Floating Amount payable under any such SwapClear Contract, in USD, and all amounts due or payable under such SwapClear Contracts must be paid in USD.

1.8.15 Pre-Cessation

(a) Subject to paragraph (f) below, upon the occurrence of a Pre-Cessation Effective Date in relation to:

- (i) Sterling LIBOR, for each Reset Date occurring on or after the Pre-Cessation Effective Date, GBP-LIBOR-BBA will, in respect of all SwapClear Contracts referencing GBP-LIBOR-BBA, be deemed to be Fallback Rate (SONIA) for the 'Original IBOR Rate Record Day' that corresponds to the Original GBP Fixing Date, as most recently provided or published as at 11:30 a.m., London time on the related Fallback Observation Day, and the rate for such SwapClear Contracts shall be determined by the Clearing House accordingly;
- (ii) Swiss Franc LIBOR, for each Reset Date occurring two or more London Banking Days after the Pre-Cessation Effective Date, CHF-LIBOR-BBA will, in respect of all SwapClear Contracts referencing CHF-LIBOR-BBA, be deemed to be Fallback Rate (SARON) for the 'Original IBOR Rate Record Day' that corresponds to the Original CHF Fixing Date, as most recently provided or published as at 8:30 p.m., Zurich time on the related Fallback Observation Day, and the rate for such SwapClear Contracts shall be determined by the Clearing House accordingly;
- (iii) U.S. Dollar LIBOR, for each Reset Date occurring two or more London Banking Days after the Pre-Cessation Effective Date, USD-LIBOR-BBA will, in respect of all SwapClear Contracts referencing USD-LIBOR-BBA be deemed to be Fallback Rate (SOFR) for the 'Original IBOR Rate Record Day' that corresponds to the Original USD Fixing Date, as most recently provided or published as at 10:30 a.m., New York City time on the related Fallback Observation Day, and the rate for such

SwapClear Contracts shall be determined by the Clearing House accordingly;

(iv)Euro LIBOR, for each Reset Date occurring two or more TARGET Settlement Days after the Pre-Cessation Effective Date, EUR-LIBOR-BBA will, in respect of all SwapClear Contracts referencing EUR-LIBOR-BBA, be deemed to be Fallback Rate (EuroSTR) for the ‘Original IBOR Rate Record Day’ that corresponds to the Original EUR Fixing Date, as most recently provided or published as at 11:30 a.m., Frankfurt time on the related Fallback Observation Day, and the rate for such SwapClear Contracts shall be determined accordingly; and

(v)Yen LIBOR, for each Reset Date occurring two or more London Banking Days after the Pre-Cessation Effective Date, JPY-LIBOR-BBA will, in respect of all SwapClear Contracts referencing JPY-LIBOR-BBA, be deemed to be Fallback Rate (TONA) for the ‘Original IBOR Rate Record Day’ that corresponds to the Original JPY LIBOR Fixing Date, as most recently provided or published as at 12:30 p.m., Tokyo time on the related Fallback Observation Day, and the rate for such SwapClear Contracts shall be determined by the Clearing House accordingly.

For the purposes of each SwapClear Contract referencing THB-THBFIX-Reuters, if THBFIX for a period of the Designated Maturity in the relevant SwapClear Contract does not appear on the Reuters Screen THBFIX Page and, as of the day that is two Bangkok Banking Days preceding the Reset Date, U.S. Dollar LIBOR for a period of the Designated Maturity is Non-Representative and there is either no U.S. Dollar LIBOR which is not Non-Representative for a period which is longer than the Designated Maturity or no U.S. Dollar LIBOR which is not Non-Representative for a period which is shorter than the Designated Maturity, then the Pre-Cessation Effective Date shall be the first date on which there is no such longer or shorter rate (or, if later, the first date on which U.S. Dollar LIBOR for a period of the Designated Maturity is Non-Representative) and for each Reset Date occurring two or more Bangkok Banking Days after the Pre-Cessation Effective Date THB-THBFIX-Reuters will be determined as if references to THB-THBFIX-Reuters were references to Fallback Rate (THBFIX) for the ‘Original THBFIX Rate Record Day’ that corresponds to the Original THBFIX Fixing Date, as most recently provided or published as at 10:00 a.m., Bangkok time on the related Fallback Observation Day.

For the purposes of each SwapClear Contract referencing SGD-SOR-VWAP, if SOR for a period of the Designated Maturity does not appear on the Reuters Screen ABSFIX01 Page and, as of the day that is two Singapore and London Banking Days preceding the Reset Date, U.S. Dollar LIBOR for a period of the Designated Maturity is Non-

Representative and there is either no U.S. Dollar LIBOR which is not Non-Representative for a period which is longer than the Designated Maturity or no U.S. Dollar LIBOR which is not Non-Representative for a period which is shorter than the Designated Maturity then the related Pre-Cessation Effective Date shall be the first date on which there is no such longer or shorter rate (or, if later, the first date on which U.S. Dollar LIBOR for a period of the Designated Maturity is Non-Representative) and for each Reset Date occurring two or more Singapore and London Banking Days after the Pre-Cessation Effective Date SGD-SOR-VWAP will be determined as if references to SGD-SOR-VWAP were references to Fallback Rate (SOR) for the ‘Original SOR Rate Record Day’ that corresponds to the Original SOR Fixing Date, as most recently provided or published as at 11:30 a.m., New York City time on the related Fallback Observation Day.

For the purposes of the definition of Fallback Observation Day in relation to a Relevant Floating Rate Option, references to “Business Days” will be to those Business Days applicable for the purposes of the payment obligation which is calculated by reference to such Floating Rate Option. References to an “Original IBOR Rate Record Day” are to that term as used on the Fallback Rate Screen relating to the Replacement Floating Rate Option.

(b)From time to time the Clearing House may, by giving written notice to SwapClear Clearing Members, include provisions to address the “pre-cessation” of any other Floating Rate Options specified in SwapClear Contracts, and upon the exercise of such right, the Clearing House shall prescribe the terms on which pre-cessation shall take effect with respect to the relevant SwapClear Contracts.

(c)In connection with each Pre-Cessation Effective Date in relation to a Relevant Benchmark, LCH may make any, changes, alterations, modifications, or amendments to the terms of any SwapClear Contract referencing the Replacement Floating Rate Option in relation to such Relevant Benchmark that it determines, in its sole and absolute discretion, are necessary to give effect to the Replacement Floating Rate Option or reflect the use, adoption or implementation of the Replacement Floating Rate Option (including, but not limited to, amendments to the determination of the Reset Dates) and it shall promptly notify each SwapClear Member in writing of any such changes, alternations, modifications or amendments.

(d)If a Relevant Benchmark is subject to a Pre-Cessation Trigger Event and, in relation to such Relevant Benchmark, there is a subsequent announcement of non-representativeness or permanent cessation by the Relevant Regulator in relation to such Relevant Benchmark, the spread adjustment in relation to that Relevant Benchmark and Designated Maturity will continue to be determined as of the Pre-Cessation Trigger Event Date, and such spread adjustment shall apply in the event that the Clearing House exercises its powers under any other relevant provisions of the Rulebook in relation to permanent cessation.

- (e) If, in respect of a SwapClear Contract, the definition, methodology, formula or other means of calculating the Floating Rate Option referenced in that SwapClear Contract (or, if applicable, any index, benchmark or other price source that is referred to in the Floating Rate Option) is modified, the SwapClear Clearing Members acknowledge that, unless otherwise specified or notified, references to that Floating Rate Option (or the index, benchmark or other price source that is referred to in the Floating Rate Option) shall be to the Floating Rate Option (or the index, benchmark or other price source that is referred to in the Floating Rate Option) as modified pursuant to the terms of this Section 1.8.15.
- (f) If a Pre-Cessation Trigger Event occurs in relation to some, but not all, of the tenors of a Relevant Floating Rate Option (each, a **Non-Representative Tenor**) and (i) that Non-Representative Tenor is the Designated Maturity in relation to the Relevant Floating Rate Option under a SwapClear Contract, or (ii) that Non-Representative Tenor is used to determine the Floating Rate in relation to a Calculation Period under a SwapClear Contract to which Linear Interpolation applies, then the Clearing House shall determine the Floating Rate in relation to such Calculation Period under that SwapClear Contract in its sole and absolute discretion, taking into account the nearest available shorter and longer tenors of that Relevant Floating Rate Option which have not been subject to a Pre-Cessation Trigger Event (if any) and, if no such tenors are available, the Clearing House shall determine the Floating Rate pursuant to paragraph (a) above.
- (g) These provisions shall apply to all existing and future SwapClear Contracts that incorporate the 2000 ISDA Definitions or the 2006 ISDA Definitions.
- (h) For the avoidance of doubt the foregoing provisions in relation to the determination of certain rates in connection with SwapClear Contracts shall be without prejudice to any other provision of the Rulebook or a SwapClear Contract from time to time, including without limitation, any provisions in relation to the permanent cessation and/or temporary unavailability of any Floating Rate Option or benchmark, or any supplements published by the International Swaps and Derivatives Association from time to time and incorporated into the SwapClear Contracts in accordance with the Rulebook.

Capitalized terms used in this Section 1.8.15 and not otherwise defined will have the meaning given to them in the 2006 ISDA Definitions or the 2000 ISDA Definitions (as applicable and each as defined in SwapClear Contract Terms).

Euro LIBOR means the Euro wholesale funding rate known as the Euro London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark (or a successor administrator).

Fallback Observation Day means, in respect of a Reset Date and the Calculation Period (or any Compounding Period included in that Calculation

Period) to which that Reset Date relates, the day that is two Business Days preceding the related Payment Date.

Fallback Rate (EuroSTR) means the term adjusted EuroSTR plus, the spread relating to Euro LIBOR for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time), as the provider of term adjusted EuroSTR and the spread, on the Fallback Rate (EuroSTR) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (EuroSTR) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for Euro LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time).

Fallback Rate (SARON) means the term adjusted SARON plus the spread relating to Swiss Franc LIBOR, in each case, for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time), as the provider of term adjusted SARON and the spread, on the Fallback Rate (SARON) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (SARON) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for Swiss Franc LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time).

Fallback Rate (SOFR) means the term adjusted SOFR plus the spread relating to U.S. Dollar LIBOR, in each case, for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time), as the provider of term adjusted SOFR and the spread, on the Fallback Rate (SOFR) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (SOFR) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for U.S. Dollar LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time);

Fallback Rate (SONIA) means the term adjusted SONIA rate plus the spread relating to Sterling LIBOR, in each case, for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time), as the provider of term

adjusted SONIA and the spread, on the Fallback Rate (SONIA) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (SONIA) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for Sterling LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time).

Fallback Rate (SOR) means the rate based on actual transactions in the U.S. Dollar/Singapore Dollar foreign exchange swap market and a U.S. Dollar interest rate calculated by reference to Fallback Rate (SOFR) including any fallback rate that may apply pursuant to that definition for a period of the Designated Maturity provided by ABS Benchmarks Administration Co Pte. Ltd. (or a successor provider), as the provider of Fallback Rate (SOR), on the Fallback Rate (SOR) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (SOR) Screen means the Refinitiv Screen corresponding to the Refinitiv ticker for the fallback for SOR for a period of the Designated Maturity accessed via the Refinitiv Screen <FBKSORFIX> (or, if applicable, accessed via the relevant Refinitiv Screen for 'price history') or any other published source designated by ABS Benchmarks Administration Co Pte. Ltd. (or a successor provider).

Fallback Rate Screen means, (i) in relation to Fallback Rate (SONIA), the Fallback Rate (SONIA) Screen; (ii) in relation to Fallback Rate (SARON), the Fallback Rate (SARON) Screen; (iii) in relation to Fallback Rate (SOFR), the Fallback Rate (SOFR) Screen; (iv) in relation to Fallback Rate (EuroSTR), the Fallback Rate (EuroSTR) Screen; and (v) in relation to Fallback Rate (TONA), the Fallback Rate (TONA) Screen.

Fallback Rate (THBFIX) means the rate based on actual transactions in the U.S. Dollar/Thai Baht foreign exchange swap market and a U.S. Dollar interest rate calculated by reference to "Fallback Rate (SOFR)" (as set out in the definition of "USD-LIBOR-BBA") including any fallback rate that may apply pursuant to that definition for a period of the Designated Maturity provided by the Bank of Thailand (or a successor provider), as the provider of Fallback Rate (THBFIX), on the Fallback Rate (THBFIX) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (THBFIX) Screen means the Refinitiv Screen corresponding to the Refinitiv ticker for the fallback for THBFIX for a period of the Designated Maturity accessed via the Refinitiv Screen <FBKTHBFIX> (or, if applicable, accessed via the relevant Refinitiv Screen for 'price history') or any other published source designated by the Bank of Thailand (or a successor provider).

Fallback Rate (TONA) means the term adjusted TONA plus the spread relating to Yen LIBOR, in each case, for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or a successor provider as

approved and/or appointed by ISDA from time to time), as the provider of term adjusted TONA and the spread, on the Fallback Rate (TONA) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (TONA) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for Yen LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time).

Non-Representative means, in respect of a Relevant Benchmark, the Relevant Regulator for the administrator of the Relevant Benchmark:

(i) has determined and announced that the Relevant Benchmark is no longer representative of the underlying market and economic reality it is intended to measure and representativeness will not be restored; and

(ii) is aware that certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts have been or are engaged,

provided that such Relevant Benchmark will be ‘Non-Representative’ by reference to the date indicated in the most recent statement or publication contemplated in the definition of "Pre-Cessation Trigger Event”.

Original CHF Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two London Banking Days preceding that Reset Date.

Original EUR Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two TARGET Settlement Days preceding that Reset Date;

Original GBP Fixing Date means, in respect of a Reset Date and unless otherwise agreed, that Reset Date.

Original IBOR Rate Record Day has the meaning given to it on the applicable Fallback Rate Screen.

Original JPY LIBOR Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two London Banking Days preceding that Reset Date.

Original SOR Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two Singapore and London Banking Days preceding that Reset Date;

Original THBFX Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two Bangkok Banking Days preceding that Reset Date.

Original USD Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two London Banking Days preceding that Reset Date.

Pre-Cessation Effective Date means, in respect of, a Relevant Benchmark, the first date on which the Relevant Benchmark is Non-Representative by reference to the most recent statement or publication contemplated in the definition of "Pre-Cessation Trigger Event".

Pre-Cessation Trigger Event means, in relation to a Relevant Benchmark, a public statement or publication of information by the Relevant Regulator announcing that (A) the regulatory supervisor has determined that such Relevant Benchmark is no longer, or as of a specified future date will no longer be, representative of the underlying market and economic reality that such Relevant Benchmark is intended to measure and that representativeness will not be restored and (B) it is being made in the awareness that the statement or publication will engage certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts.

Pre-Cessation Trigger Event Date means, in relation to a Relevant Benchmark, the date of the first statement or publication which constitutes a Pre-Cessation Trigger Event in relation to that Relevant Benchmark.

Relevant Benchmark means, each interest rate benchmark identified in the first column of the table set-out in Section 1.8.16.

Relevant Floating Rate Option means each floating rate option identified in the third column of the table set-out in Section 1.8.16, where each such rate is as defined in the SwapClear Eligibility Criteria.

Replacement Floating Rate Option means, with respect to a Relevant Floating Rate Option, the corresponding rate identified in the relevant row of the fourth column of the table set-out in Section 1.8.16.

Relevant Regulator means, with respect to a Relevant Benchmark, the regulatory authority responsible for the administrator of such Relevant Benchmark as identified in the second column of the table set-out in Section 1.8.16 or any successor thereto.

SOR means the synthetic rate for deposits in Singapore Dollars known as the Singapore Dollar Swap Offer Rate provided by ABS Benchmarks Administration Co Pte. Ltd., as the administrator of the benchmark, (or a successor administrator).

Sterling LIBOR means the Sterling wholesale funding rate known as the Sterling London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark (or a successor administrator).

Swiss Franc LIBOR is the Swiss Franc wholesale funding rate known as the Swiss Franc London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark, (or a successor administrator).

THBFIX means the synthetic rate for deposits in Thai Baht derived from the swap offered points known as the Thai Baht Interest Rate Fixing provided by the Bank of Thailand, as the administrator of the benchmark, (or a successor administrator).

U.S. Dollar LIBOR means the U.S. Dollar wholesale funding rate known as the U.S. Dollar London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark (or a successor administrator).

Yen LIBOR is the Yen wholesale funding rate known as the Yen London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark (or a successor administrator).

1.8.16 Pre-Cessation Benchmarks

<u>Relevant Benchmark</u>	<u>Relevant Regulator</u>	<u>Relevant Floating Rate Option</u>	<u>Replacement Floating Rate Option</u>
<u>U.S. Dollar LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>USD-LIBOR-BBA</u>	<u>Fallback Rate (SOFR)</u>
<u>Euro LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>EUR-LIBOR-BBA</u>	<u>Fallback Rate (EuroSTR)</u>
<u>Sterling LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>GBP-LIBOR-BBA</u>	<u>Fallback Rate (SONIA)</u>
<u>Yen LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>JPY-LIBOR-BBA</u>	<u>Fallback Rate (TONA)</u>
<u>Swiss Franc LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>CHF-LIBOR-BBA</u>	<u>Fallback Rate (SARON)</u>

1.9 Initial Margin

The Clearing House will require SCMs to transfer Collateral in respect of their initial margin obligations, which are not discharged. This amount will be determined by the prevailing market conditions and the expected time to close out the portfolio. The Portfolio Approach to Interest Rate Scenarios (PAIRS) will be used to calculate initial margin requirements for SwapClear Contracts.

Separate initial margin calculations are performed for an SCM's Proprietary Accounts and for each Individual Segregated Account, Custodial Segregated Account, Omnibus Segregated Account (other than an Omnibus Gross Segregated Account), and Indirect

Appendix II
FCM Procedures



FCM PROCEDURES OF THE CLEARING HOUSE

LCH LIMITED

After adjusting coupons, in accordance with the appropriate Business Day and Business Day Conventions, the Clearing House will, subject to the netting provisions of FCM Regulation 47, credit or debit FCM Clearing Members' Accounts with the appropriate Fixed or Floating Amount with a value date matching the Coupon Payment Date. In the event of SwapClear being closed on a Coupon Payment Date it will pay the Fixed and Floating Amounts on the next Business Day following the Coupon Payment Date.

(i) Calculation Periods

In respect of any Calculation Period that is a not a whole calendar month (a stub period), the applicable rate for the Reset Date in respect 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~~ [Subject to Section 2.1.8\(q\) and Section 2.1.8\(r\), 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 (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 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

FCM Clearing Member should note the provisions of Section 3.2 of Part A of Schedule 1 to the FCM Product Specific Contract Terms And Eligibility Criteria Manual regarding the applicability of the Negative Interest Rate Method, to an FCM SwapClear Contract. FCM Clearing Members may, in the circumstances, wish to ensure that any trade submitted for registration follows that Negative interest Rate Method.

(o) Calculation of Inflation Indices

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

- (A) non-revised Index of Consumer Prices excluding Tobacco in the European Monetary Union;
- (B) non-revised Index of Consumer Prices excluding Tobacco in France;
- (C) non-revised Retail Price Index All Items in the United Kingdom; and
- (D) non-revised index of Consumer Prices for All Urban Consumers (CPI-U) before seasonal adjustment in the United States.

In the event an Index is no available to calculate the Index Final, the Clearing House will, in its sole discretion, determine a value for the Index Final.

(p) Non-deliverable Interest Rate Swaps

The Clearing House will calculate all coupon payments for FCM SwapClear Contracts that are non-deliverable interest rate swaps, including the Fixed Amount or Floating Amount payable under any such FCM SwapClear Contract, in USD, and all amounts due or payable under such FCM SwapClear Contracts must be paid in USD.

(q) Pre-Cessation

(A) Subject to paragraph (f) below, upon the occurrence of a Pre-Cessation Effective Date in relation to:

(I) Sterling LIBOR, for each Reset Date occurring on or after the Pre-Cessation Effective Date, GBP-LIBOR-BBA will, in

respect of all FCM SwapClear Contracts referencing GBP-LIBOR-BBA, be deemed to be Fallback Rate (SONIA) for the 'Original IBOR Rate Record Day' that corresponds to the Original GBP Fixing Date, as most recently provided or published as at 11:30 a.m., London time on the related Fallback Observation Day, and the rate for such FCM SwapClear Contracts shall be determined by the Clearing House accordingly;

(II) Swiss Franc LIBOR, for each Reset Date occurring two or more London Banking Days after the Pre-Cessation Effective Date, CHF-LIBOR-BBA will, in respect of all FCM SwapClear Contracts referencing CHF-LIBOR-BBA, be deemed to be Fallback Rate (SARON) for the 'Original IBOR Rate Record Day' that corresponds to the Original CHF Fixing Date, as most recently provided or published as at 8:30 p.m., Zurich time on the related Fallback Observation Day, and the rate for such FCM SwapClear Contracts shall be determined by the Clearing House accordingly;

(III) U.S. Dollar LIBOR, for each Reset Date occurring two or more London Banking Days after the Pre-Cessation Effective Date, USD-LIBOR-BBA will, in respect of all FCM SwapClear Contracts referencing USD-LIBOR-BBA be deemed to be Fallback Rate (SOFR) for the 'Original IBOR Rate Record Day' that corresponds to the Original USD Fixing Date, as most recently provided or published as at 10:30 a.m., New York City time on the related Fallback Observation Day, and the rate for such FCM SwapClear Contracts shall be determined by the Clearing House accordingly;

(IV) Euro LIBOR, for each Reset Date occurring two or more TARGET Settlement Days after the Pre-Cessation Effective Date, EUR-LIBOR-BBA will, in respect of all FCM SwapClear Contracts referencing EUR-LIBOR-BBA, be deemed to be Fallback Rate (EuroSTR) for the 'Original IBOR Rate Record Day' that corresponds to the Original EUR Fixing Date, as most recently provided or published as at 11:30 a.m., Frankfurt time on the related Fallback Observation Day, and the rate for such FCM SwapClear Contracts shall be determined accordingly; and

(V) Yen LIBOR, for each Reset Date occurring two or more London Banking Days after the Pre-Cessation Effective Date, JPY-LIBOR-BBA will, in respect of all FCM SwapClear Contracts referencing JPY-LIBOR-BBA, be deemed to be Fallback Rate (TONA) for the 'Original IBOR Rate Record Day' that corresponds to the Original

JPY LIBOR Fixing Date, as most recently provided or published as at 12:30 p.m., Tokyo time on the related Fallback Observation Day, and the rate for such FCM SwapClear Contracts shall be determined by the Clearing House accordingly.

For the purposes of each FCM SwapClear Contract referencing THB-THBFIX-Reuters, if THBFIX for a period of the Designated Maturity in the relevant FCM SwapClear Contract does not appear on the Reuters Screen THBFIX Page and, as of the day that is two Bangkok Banking Days preceding the Reset Date, U.S. Dollar LIBOR for a period of the Designated Maturity is Non-Representative and there is either no U.S. Dollar LIBOR which is not Non-Representative for a period which is longer than the Designated Maturity or no U.S. Dollar LIBOR which is not Non-Representative for a period which is shorter than the Designated Maturity, then the Pre-Cessation Effective Date shall be the first date on which there is no such longer or shorter rate (or, if later, the first date on which U.S. Dollar LIBOR for a period of the Designated Maturity is Non-Representative) and for each Reset Date occurring two or more Bangkok Banking Days after the Pre-Cessation Effective Date THB-THBFIX-Reuters will be determined as if references to THB-THBFIX-Reuters were references to Fallback Rate (THBFIX) for the 'Original THBFIX Rate Record Day' that corresponds to the Original THBFIX Fixing Date, as most recently provided or published as at 10:00 a.m., Bangkok time on the related Fallback Observation Day.

For the purposes of each FCM SwapClear Contract referencing SGD-SOR-VWAP, if SOR for a period of the Designated Maturity does not appear on the Reuters Screen ABSFIX01 Page and, as of the day that is two Singapore and London Banking Days preceding the Reset Date, U.S. Dollar LIBOR for a period of the Designated Maturity is Non-Representative and there is either no U.S. Dollar LIBOR which is not Non-Representative for a period which is longer than the Designated Maturity or no U.S. Dollar LIBOR which is not Non-Representative for a period which is shorter than the Designated Maturity then the related Pre-Cessation Effective Date shall be the first date on which there is no such longer or shorter rate (or, if later, the first date on which U.S. Dollar LIBOR for a period of the Designated Maturity is Non-Representative) and for each Reset Date occurring two or more Singapore and London Banking Days after the Pre-Cessation Effective Date SGD-SOR-VWAP will be determined as if references to SGD-SOR-VWAP were references to Fallback Rate (SOR) for the 'Original SOR Rate Record Day' that corresponds to the Original SOR Fixing Date, as most recently provided or published as at 11:30 a.m., New York City time on the related Fallback Observation Day.

For the purposes of the definition of Fallback Observation Day in relation to a Relevant Floating Rate Option, references to “Business Days” will be to those Business Days applicable for the purposes of the payment obligation which is calculated by reference to such Floating Rate Option. References to an “Original IBOR Rate Record Day” are to that term as used on the Fallback Rate Screen relating to the Replacement Floating Rate Option.

(B) From time to time the Clearing House may, by giving written notice to FCM Clearing Members, include provisions to address the “pre-cessation” of any other Floating Rate Options specified in FCM SwapClear Contracts, and upon the exercise of such right, the Clearing House shall prescribe the terms on which pre-cessation shall take effect with respect to the relevant FCM SwapClear Contracts.

(C) In connection with each Pre-Cessation Effective Date in relation to a Relevant Benchmark, LCH may make any, changes, alterations, modifications, or amendments to the terms of any FCM SwapClear Contract referencing the Replacement Floating Rate Option in relation to such Relevant Benchmark that it determines, in its sole and absolute discretion, are necessary to give effect to the Replacement Floating Rate Option or reflect the use, adoption or implementation of the Replacement Floating Rate Option (including, but not limited to, amendments to the determination of the Reset Dates) and it shall promptly notify each FCM Clearing Member in writing of any such changes, alternations, modifications or amendments.

(D) If a Relevant Benchmark is subject to a Pre-Cessation Trigger Event and, in relation to such Relevant Benchmark, there is a subsequent announcement of non-representativeness or permanent cessation by the Relevant Regulator in relation to such Relevant Benchmark, the spread adjustment in relation to that Relevant Benchmark and Designated Maturity will continue to be determined as of the Pre-Cessation Trigger Event Date, and such spread adjustment shall apply in the event that the Clearing House exercises its powers under any other relevant provisions of the FCM Rulebook in relation to permanent cessation.

(E) If, in respect of a FCM SwapClear Contract, the definition, methodology, formula or other means of calculating the Floating Rate Option referenced in that FCM SwapClear Contract (or, if applicable, any index, benchmark or other price source that is referred to in the Floating Rate Option) is modified, the FCM Clearing Members acknowledge that, unless otherwise specified or notified, references to that Floating Rate Option (or the index, benchmark or other price source that is referred to in the Floating Rate Option) shall be to the Floating Rate Option (or the index, benchmark or other price source that is referred to in the Floating

Rate Option) as modified pursuant to the terms of this Section 2.1.8(q).

(F)If a Pre-Cessation Trigger Event occurs in relation to some, but not all, of the tenors of a Relevant Floating Rate Option (each, a **Non-Representative Tenor**) and (i) that Non-Representative Tenor is the Designated Maturity in relation to the Relevant Floating Rate Option under a FCM SwapClear Contract, or (ii) that Non-Representative Tenor is used to determine the Floating Rate in relation to a Calculation Period under a FCM SwapClear Contract to which Linear Interpolation applies, then the Clearing House shall determine the Floating Rate in relation to such Calculation Period under that FCM SwapClear Contract in its sole and absolute discretion, taking into account the nearest available shorter and longer tenors of that Relevant Floating Rate Option which have not been subject to a Pre-Cessation Trigger Event (if any) and, if no such tenors are available, the Clearing House shall determine the Floating Rate pursuant to paragraph (a) above.

(G)These provisions shall apply to all existing and future FCM SwapClear Contracts that incorporate the 2000 ISDA Definitions or the 2006 ISDA Definitions.

(H)For the avoidance of doubt the foregoing provisions in relation to the determination of certain rates in connection with FCM SwapClear Contracts shall be without prejudice to any other provision of the FCM Rulebook or a FCM SwapClear Contract from time to time, including without limitation, any provisions in relation to the permanent cessation and/or temporary unavailability of any Floating Rate Option or benchmark, or any supplements published by the International Swaps and Derivatives Association from time to time and incorporated into the FCM SwapClear Contracts in accordance with the FCM Rulebook.

Capitalized terms used in this Section 2.1.8(q) and not otherwise defined will have the meaning given to them in the 2006 ISDA Definitions or the 2000 ISDA Definitions (as applicable and each as defined in FCM SwapClear Contract Terms).

Euro LIBOR means the Euro wholesale funding rate known as the Euro London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark (or a successor administrator).

Fallback Observation Day means, in respect of a Reset Date and the Calculation Period (or any Compounding Period included in that Calculation Period) to which that Reset Date relates, the day that is two Business Days preceding the related Payment Date.

Fallback Rate (EuroSTR) means the term adjusted EuroSTR plus, the spread relating to Euro LIBOR for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time), as the provider of term adjusted EuroSTR and the spread, on the Fallback Rate (EuroSTR) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (EuroSTR) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for Euro LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time).

Fallback Rate (SARON) means the term adjusted SARON plus the spread relating to Swiss Franc LIBOR, in each case, for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time), as the provider of term adjusted SARON and the spread, on the Fallback Rate (SARON) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (SARON) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for Swiss Franc LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time).

Fallback Rate (SOFR) means the term adjusted SOFR plus the spread relating to U.S. Dollar LIBOR, in each case, for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time), as the provider of term adjusted SOFR and the spread, on the Fallback Rate (SOFR) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (SOFR) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for U.S. Dollar LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time);

Fallback Rate (SONIA) means the term adjusted SONIA rate plus the spread relating to Sterling LIBOR, in each case, for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or

a successor provider as approved and/or appointed by ISDA from time to time), as the provider of term adjusted SONIA and the spread, on the Fallback Rate (SONIA) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (SONIA) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for Sterling LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time).

Fallback Rate (SOR) means the rate based on actual transactions in the U.S. Dollar/Singapore Dollar foreign exchange swap market and a U.S. Dollar interest rate calculated by reference to Fallback Rate (SOFR) including any fallback rate that may apply pursuant to that definition for a period of the Designated Maturity provided by ABS Benchmarks Administration Co Pte. Ltd. (or a successor provider), as the provider of Fallback Rate (SOR), on the Fallback Rate (SOR) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (SOR) Screen means the Refinitiv Screen corresponding to the Refinitiv ticker for the fallback for SOR for a period of the Designated Maturity accessed via the Refinitiv Screen <FBKSORFIX> (or, if applicable, accessed via the relevant Refinitiv Screen for ‘price history’) or any other published source designated by ABS Benchmarks Administration Co Pte. Ltd. (or a successor provider).

Fallback Rate Screen means, (i) in relation to Fallback Rate (SONIA), the Fallback Rate (SONIA) Screen; (ii) in relation to Fallback Rate (SARON), the Fallback Rate (SARON) Screen; (iii) in relation to Fallback Rate (SOFR), the Fallback Rate (SOFR) Screen; (iv) in relation to Fallback Rate (EuroSTR), the Fallback Rate (EuroSTR) Screen; and (v) in relation to Fallback Rate (TONA), the Fallback Rate (TONA) Screen.

Fallback Rate (THBFIX) means the rate based on actual transactions in the U.S. Dollar/Thai Baht foreign exchange swap market and a U.S. Dollar interest rate calculated by reference to “Fallback Rate (SOFR)” (as set out in the definition of “USD-LIBOR-BBA”) including any fallback rate that may apply pursuant to that definition for a period of the Designated Maturity provided by the Bank of Thailand (or a successor provider), as the provider of Fallback Rate (THBFIX), on the Fallback Rate (THBFIX) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (THBFIX) Screen means the Refinitiv Screen corresponding to the Refinitiv ticker for the fallback for THBFIX for a period of the Designated Maturity accessed via the Refinitiv Screen <FBKTHBFIX> (or, if applicable, accessed via the relevant Refinitiv

Screen for ‘price history’) or any other published source designated by the Bank of Thailand (or a successor provider).

Fallback Rate (TONA) means the term adjusted TONA plus the spread relating to Yen LIBOR, in each case, for a period of the Designated Maturity provided by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time), as the provider of term adjusted TONA and the spread, on the Fallback Rate (TONA) Screen (or by other means) or provided to, and published by, authorized distributors.

Fallback Rate (TONA) Screen means the Bloomberg Screen corresponding to the Bloomberg ticker for the fallback for Yen LIBOR for a period of the Designated Maturity accessed via the Bloomberg Screen <FBAK> <GO> Page (or, if applicable, accessed via the Bloomberg Screen <HP> <GO>) or any other published source designated by Bloomberg Index Services Limited (or a successor provider as approved and/or appointed by ISDA from time to time).

Non-Representative means, in respect of a Relevant Benchmark, the Relevant Regulator for the administrator of the Relevant Benchmark:

(i) has determined and announced that the Relevant Benchmark is no longer representative of the underlying market and economic reality it is intended to measure and representativeness will not be restored; and

(ii) is aware that certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts have been or are engaged,

provided that such Relevant Benchmark will be ‘Non-Representative’ by reference to the date indicated in the most recent statement or publication contemplated in the definition of "Pre-Cessation Trigger Event”.

Original CHF Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two London Banking Days preceding that Reset Date.

Original EUR Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two TARGET Settlement Days preceding that Reset Date;

Original GBP Fixing Date means, in respect of a Reset Date and unless otherwise agreed, that Reset Date.

Original IBOR Rate Record Day has the meaning given to it on the applicable Fallback Rate Screen.

Original JPY LIBOR Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two London Banking Days preceding that Reset Date.

Original SOR Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two Singapore and London Banking Days preceding that Reset Date;

Original THBFIX Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two Bangkok Banking Days preceding that Reset Date.

Original USD Fixing Date means, in respect of a Reset Date and unless otherwise agreed, the day that is two London Banking Days preceding that Reset Date.

Pre-Cessation Effective Date means, in respect of, a Relevant Benchmark, the first date on which the Relevant Benchmark is Non-Representative by reference to the most recent statement or publication contemplated in the definition of "Pre-Cessation Trigger Event".

Pre-Cessation Trigger Event means, in relation to a Relevant Benchmark, a public statement or publication of information by the Relevant Regulator announcing that (A) the regulatory supervisor has determined that such Relevant Benchmark is no longer, or as of a specified future date will no longer be, representative of the underlying market and economic reality that such Relevant Benchmark is intended to measure and that representativeness will not be restored and (B) it is being made in the awareness that the statement or publication will engage certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts.

Pre-Cessation Trigger Event Date means, in relation to a Relevant Benchmark, the date of the first statement or publication which constitutes a Pre-Cessation Trigger Event in relation to that Relevant Benchmark.

Relevant Benchmark means, each interest rate benchmark identified in the first column of the table set-out in Section 2.1.8(r).

Relevant Floating Rate Option means each floating rate option identified in the third column of the table set-out in Section 2.1.8(r), where each such rate is as defined in the FCM SwapClear Product Eligibility Criteria.

Replacement Floating Rate Option means, with respect to a Relevant Floating Rate Option, the corresponding rate identified in the relevant row of the fourth column of the table set-out in Section 2.1.8(r).

Relevant Regulator means, with respect to a Relevant Benchmark, the regulatory authority responsible for the administrator of such Relevant Benchmark as identified in the second column of the table set-out in Section 2.1.8(r) or any successor thereto.

SOR means the synthetic rate for deposits in Singapore Dollars known as the Singapore Dollar Swap Offer Rate provided by ABS Benchmarks Administration Co Pte. Ltd., as the administrator of the benchmark, (or a successor administrator).

Sterling LIBOR means the Sterling wholesale funding rate known as the Sterling London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark (or a successor administrator).

Swiss Franc LIBOR is the Swiss Franc wholesale funding rate known as the Swiss Franc London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark, (or a successor administrator).

THBFIX means the synthetic rate for deposits in Thai Baht derived from the swap offered points known as the Thai Baht Interest Rate Fixing provided by the Bank of Thailand, as the administrator of the benchmark, (or a successor administrator).

U.S. Dollar LIBOR means the U.S. Dollar wholesale funding rate known as the U.S. Dollar London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark (or a successor administrator).

Yen LIBOR is the Yen wholesale funding rate known as the Yen London Interbank Offered Rate provided by ICE Benchmark Administration Limited, as the administrator of the benchmark (or a successor administrator).

(r)Pre-Cessation Benchmarks

<u>Relevant Benchmark</u>	<u>Relevant Regulator</u>	<u>Relevant Floating Rate Option</u>	<u>Replacement Floating Rate Option</u>
<u>U.S. Dollar LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>USD-LIBOR-BBA</u>	<u>Fallback Rate (SOFR)</u>
<u>Euro LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>EUR-LIBOR-BBA</u>	<u>Fallback Rate (EuroSTR)</u>
<u>Sterling LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>GBP-LIBOR-BBA</u>	<u>Fallback Rate (SONIA)</u>
<u>Yen LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>JPY-LIBOR-BBA</u>	<u>Fallback Rate (TONA)</u>
<u>Swiss Franc LIBOR</u>	<u>The U.K. Financial Conduct Authority</u>	<u>CHF-LIBOR-BBA</u>	<u>Fallback Rate (SARON)</u>