SUBMISSION COVER SHEET

***IMPORTANT*: Check box if Confidential Treatment is requested** ☐

Registered Entity Identifier Code (optional): <u>21-515</u>

Organization: <u>Chicago Mercantile Exchange Inc. ("CME")</u>

Filing as a: ☐ **DCM** ☐ **SEF** ☒ **DCO** ☐ **SDR**

Please note - only ONE choice allowed.

Filing Date (mm/dd/yy): <u>11/17/21</u> Filing Description: <u>Modification of Cleared OTC GBP, JPY and CHF Interest Rate Swap Products Referencing LIBOR and Limitation of Acceptance for Clearing</u>

SPECIFY FILING TYPE

Please note only ONE choice allowed per Submission.

Organization Rules and Rule Amendments

☒	Certification	§ 40.6(a)
☐	Approval	§ 40.5(a)
☐	Notification	§ 40.6(d)
☐	Advance Notice of SIDCO Rule Change	§ 40.10(a)
☐	SIDCO Emergency Rule Change	§ 40.10(h)

Rule Numbers: <u>See filing.</u>

New Product **Please note only ONE product per Submission.**

☐	Certification	§ 40.2(a)
☐	Certification Security Futures	§ 41.23(a)
☐	Certification Swap Class	§ 40.2(d)
☐	Approval	§ 40.3(a)
☐	Approval Security Futures	§ 41.23(b)
☐	Novel Derivative Product Notification	§ 40.12(a)
☐	Swap Submission	§ 39.5

Product Terms and Conditions (product related Rules and Rule Amendments)

☐	Certification	§ 40.6(a)
☐	Certification Made Available to Trade Determination	§ 40.6(a)
☐	Certification Security Futures	§ 41.24(a)
☐	Delisting (No Open Interest)	§ 40.6(a)
☐	Approval	§ 40.5(a)
☐	Approval Made Available to Trade Determination	§ 40.5(a)
☐	Approval Security Futures	§ 41.24(c)
☐	Approval Amendments to enumerated agricultural products	§ 40.4(a), § 40.5(a)
☐	"Non-Material Agricultural Rule Change"	§ 40.4(b)(5)
☐	Notification	§ 40.6(d)

Official Name(s) of Product(s) Affected:

Rule Numbers:

Christopher Bowen
Managing Director and Chief Regulatory Counsel
Legal Department

November 17, 2021

VIA ELECTRONIC PORTAL

Mr. Christopher J. Kirkpatrick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, D.C. 20581

Re: CFTC Regulation 40.6(a) Certification. Modification of Cleared Over-the-Counter ("OTC") British Pound ("GBP"), Japanese Yen ("JPY") and Swiss Franc ("CHF") Denominated Interest Rate Swap Products Referencing the London Interbank Offered Rate ("LIBOR") and Limitation of Acceptance for Clearing
CME Submission No. 21-515

Dear Mr. Kirkpatrick:

Pursuant to Commodity Futures Trading Commission ("CFTC" or "Commission") Regulation 40.6(a), Chicago Mercantile Exchange Inc. ("CME" or the "Clearing House"), a registered derivatives clearing organization ("DCO") under the Commodity Exchange Act, as amended ("CEA" or "Act") hereby certifies to the Commission the following modification to certain CME cleared over-the-counter ("OTC") Interest Rate Swap ("IRS") products in connection with the cessation of the bank panels of certain London Interbank Offered Rate ("LIBOR") benchmark rates[1] and the resulting scheduled future cessation or loss of "representativeness" (as applicable) of such rates following publication on December 31, 2021:

- modifications applicable to CME cleared OTC British Pound Sterling ("GBP") denominated IRS products that reference the GBP LIBOR rate, to convert cleared trades in such cleared swap products into corresponding CME cleared overnight index swaps ("OIS") referencing the Sterling Overnight Index Average ("SONIA") interest rate benchmark, to take effect at close of business on Friday, December 17, 2021 (the "GBP Primary Conversion Date"), with the exception of (i) GBP LIBOR IRS that reference a LIBOR Fixing Day between the GBP Conversion Date and January 4, 2022[2]; and (ii) GBP LIBOR IRS submitted for clearing after the GBP Primary Conversion Date but before close of business on January 4, 2022, which shall be converted on January 4, 2022 (the "GBP Secondary Conversion Date") (the "GBP LIBOR Conversion");
- modifications applicable to:
    - CME cleared OTC Japanese Yen ("JPY") denominated IRS products that reference the JPY LIBOR rate, to convert cleared trades in such cleared swap products into corresponding CME cleared OIS referencing the Tokyo Overnight Average Rate ("TONA") interest rate benchmark to take effect at close of business on Friday, December 3, 2021

[1] The family of interest rate benchmarks known as "LIBOR" are also known as "ICE LIBOR" and are administered and published by ICE Benchmark Administration Limited, a U.K. authorised and regulated benchmark administrator. ICE LIBOR is a registered trademark of Intercontinental Exchange Holdings, Inc. and is used under license.

[2] The conversion process for each of GBP, JPY and CHF LIBOR swaps has a "secondary" conversion date under which CME will convert the subset of affected LIBOR trades that reference fixing between the relevant "primary" conversion date and the relevant "Index Cessation Effective Date" (as defined below), in order to respect any fixings of the relevant LIBOR rate in this period.

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(the “JPY/CHF Primary Conversion Date”), with the exception of (i) JPY LIBOR IRS that reference a LIBOR Fixing Day between the JPY/CHF Primary Conversion Date and January 4, 2022; and (ii) JPY LIBOR IRS submitted for clearing after the JPY/CHF Primary Conversion Date but before close of business on January 4, 2022, which shall be converted on January 4, 2022 (the “JPY Secondary Conversion Date”);

  - modifications applicable to CME cleared OTC Swiss Franc (“CHF”) denominated IRS products that reference the CHF LIBOR rate, to convert cleared trades in such cleared swap products into corresponding CME cleared OIS referencing the Swiss Average Rate Overnight (“SARON”) interest rate benchmark to take effect at close of business on the JPY/CHF Primary Conversion Date, with the exception of (i) CHF LIBOR IRS that reference a LIBOR Fixing Day between the JPY/CHF Primary Conversion Date and January 3, 2022[3]; and (ii) CHF LIBOR IRS submitted for clearing after the JPY/CHF Primary Conversion Date but before close of business on January 3, 2022, which shall be converted on January 3, 2022 (the “CHF Secondary Conversion Date”);

(together, the “JPY/CHF LIBOR Conversion”);

- the limitation of clearing support for GBP denominated IRS referencing GBP LIBOR following the GBP Secondary Conversion Date, with the exception of GBP LIBOR IRS with a start date after close of business on the GBP Secondary Conversion, in order to support such swaps arising from processing of bilateral Swaption expiries, which shall continue to be accepted for clearing by CME from close of business on the GBP Secondary Conversion Date and shall be converted by CME into corresponding GBP SONIA referencing IRS at close of business on the date of acceptance for clearing by CME;
- the limitation of clearing support for JPY denominated IRS referencing JPY LIBOR following the JPY Secondary Conversion Date, with the exception of JPY LIBOR IRS with a start date after close of business on the JPY Secondary Conversion, in order to support such swaps arising from processing of bilateral Swaption expiries, which shall continue to be accepted for clearing by CME from close of business on the JPY Secondary Conversion Date and shall be converted by CME into corresponding JPY TONA referencing IRS at close of business on the date of acceptance for clearing by CME;
- the limitation of clearing support for CHF denominated IRS referencing CHF LIBOR following the CHF Secondary Conversion Date with the exception of CHF LIBOR IRS with a start date after close of business on the CHF Secondary Conversion, in order to support such swaps arising from bilateral Swaption expiries, which shall continue to be accepted for clearing by CME from close of business on the CHF Secondary Conversion Date and shall be converted by CME into corresponding CHF SARON referencing IRS at close of business on the date of acceptance for clearing by CME,

(together, the “GBP/CHF/JPY LIBOR Transition”) to be effective from close of business on Friday, December 3, 2021.

[3] January 4, 2022 is the relevant “Index Cessation Effective Date” (within the meaning of the ISDA LIBOR fallbacks in the 2021 ISDA Definitions and the ISDA Fallbacks Protocol) for CHF LIBOR. However, while January 3, 2022 is not a UK (GBP) or Japan (JPY) business day, it is a business day in Switzerland and for CHF. Therefore, CME has determined it most prudent to operate the secondary conversion in respect of CHF LIBOR IRS on January 3, 2022 to ensure IRS Clearing Members are not required to apply the ISDA Fallback Pricing Methodology on CHF LIBOR IRS.

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CME is a systemically important derivatives clearing organization ("SIDCO")[4] and offers clearing for all products traded on the CME exchange, The Board of Trade of the City of Chicago, Inc., New York Mercantile Exchange, Inc., and Commodity Exchange, Inc. as well as other cleared products, and provides clearing services to third parties.

The modification to implement the GBP/CHF/JPY LIBOR Transition is set out in the Clearing Advisory Notice attached as Exhibit 1, effective December 3, 2021. No substantive amendments to the CME Rulebook are required to effect the GBP/CHF/JPY LIBOR Transition.[5] By publishing a Clearing Advisory Notice to the marketplace, CME will make public the limited withdrawal of clearing support for GBP LIBOR IRS from the GBP Secondary Conversion Date, for JPY LIBOR IRS from the JPY Secondary Conversion Date, and for CHF LIBOR IRS from the CHF Secondary Conversion Date (except that, in each case, CME will continue to provide clearing support for GBP, JPY and CHF LIBOR IRS where the start date of such swaps is after the relevant Secondary Conversion Date, in order to support the clearing of swaps arising from the exercise of relevant bilateral Swaptions after the relevant Secondary Conversion Date, until further notice).[6] The list of IRS contracts accepted for clearing by CME will be updated on the CME Group website to reflect the limitation on acceptance for clearing of the relevant IRS contracts and the product rules for GBP, JPY and CHF LIBOR IRS will be amended in Rule 90102.E.1. ("Interest Rate Swaps Rate Options"), as indicated in the attached Exhibit 2.

Background

FCA Announcements Regarding GBP, CHF and JPY LIBOR

Following extensive industry consultation, on March 5, 2021, the U.K. Financial Conduct Authority ("FCA") announced that certain settings of GBP, CHF and JPY LIBOR (among other currencies) will be permanently discontinued or will cease to be provided in a "representative" manner by the administrator of ICE LIBOR, ICE Benchmark Administration Limited ("IBA"), immediately after publication on December 31, 2021.[7]

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[4] On July 18, 2012, CME Inc. was designated as a systemically important financial market utility under Title VIII of the Dodd-Frank Act.

[5] CME Rule 90102.H (Application of Permanent Cessation Fallbacks) will not apply to the GBP, JPY and CHF LIBOR IRS contracts which are the subject of this submission.

[6] CME will cease to accept new executions of GBP, CHF and JPY LIBOR Swaps for clearing following the relevant Index Cessation Effective Date. However, CME considers it necessary to continue to offer an ongoing conversion facility only for GBP, CHF and JPY LIBOR Swaps that arise as a result of bilateral Swaptions exercise and that may be submitted for clearing after the relevant Index Cessation Effective Date for the relevant LIBOR rate. As a result, CME proposes to convert any GBO, CHF or JPY LIBOR swap submitted for clearing after the relevant Secondary Conversion Date, where the start date of such swap is on or after the date of submission, into a corresponding standardized RFR swap on the date of acceptance, utilizing the same methodology applicable to the prior Primary and Secondary Conversion Date processes. A Clearing Advisory notice advising market participants of the proposed limited withdrawal of clearing support for the Contracts will be published by CME prior to the relevant Secondary Conversion Date. The Clearing Advisory will advise that CME will limit the clearing support and acceptance for clearing of the relevant contracts from the relevant Secondary Conversion Date, subject to the necessary regulatory filings.

[7] The FCA announced that all CHF LIBOR settings, the Spot Next, 1-week, 2-month and 12-month JPY LIBOR settings and the overnight, 1-week, 2-month and 12-month GBP LIBOR settings would cease immediately after publication on December 31, 2021. The FCA also proposed the continued publication after December 31, 2021 of the remaining GBP and JPY LIBOR 1-month, 3-month and 6-month settings for a further period on a changed methodology (known as "synthetic") basis in a manner intended to protect consumers and minimize disruption in certain markets. See FCA announcement, March 5, 2021 available at https://www.fca.org.uk/news/press-releases/announcements-end-libor. Please note that the GBP/CHF/JPY LIBOR Transition is limited to swaps referencing GBP, CHF and JPY LIBORs only. In its March 5, 2021 announcement, the FCA also announced that 1-week and 2-month USD LIBOR would cease to be published on December 31, 2021 and that Overnight and 12-month USD LIBOR

On September 29, 2021, the FCA confirmed its approach to the "non-representativeness" of the remaining GBP and JPY LIBOR settings that will continue to be published after December 31, 2021. The FCA announced that, to avoid disruption to legacy contracts that reference the 1-, 3- and 6-month GBP and JPY LIBOR settings, it will require IBA to continue to publish these settings under a "synthetic" methodology, based on term RFRs, for the duration of 2022. The FCA confirmed that continued publication will be on a "non-representative" basis and that, therefore, the relevant GBP and JPY settings will become "permanently unrepresentative" of their underlying markets from 1 January 2022, with first publication under their "synthetic" methodology taking place on January 4, 2022.[8] While publication of certain GBP and JPY LIBOR settings will therefore continue after December 31, 2022, use of the "synthetic" rates will be limited, either explicitly restricted by the FCA and/or by other global regulatory authorities which have imposed restrictions on future use of "non-representative" LIBOR rates by market participants in their jurisdiction, [9] or by the application of contractual fallbacks that are triggered following the loss of "representativeness" of the relevant LIBOR, as discussed in more detail below. In its September 29, 2021 announcement and related consultation paper, the FCA acknowledged that permitted use of "synthetic" and "non-representative" LIBOR rates would not include central counterparty clearing house ("CCP") cleared derivative contracts, noting at the same time that "clearing houses plan to transition all cleared sterling, Japanese yen, Swiss franc and euro LIBOR contracts to risk-free rates by end-2021."[10]

As a result of the FCA's announcements, in the event of a LIBOR setting cessation, cash and derivative market products will no longer be able to utilize the relevant LIBOR rate from the date of cessation. Similarly, where a LIBOR rate continues to be published after December 31, 2021 as a "non-representative" or "synthetic" rate, many market participants will no longer be permitted to enter into new contracts, or will otherwise wish to cease to make use of that rate for cash and derivative market contracts. As a result, bilateral uncleared and cleared derivative market participants are required to put in place appropriate mechanisms to implement transition from affected LIBOR settings.

Contractual Fallbacks in Bilateral Uncleared Markets

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would cease to be published from June 30, 2023. The FCA also announced that 1 month, 3 month and 6 month USD LIBOR would cease to be representative from publication on June 30, 2023, although the FCA made clear in that announcement, and in subsequent statements, that it expects IBA to continue to publish USD LIBOR in a representative manner until end-June 2023 and is confident that this will continue. In due course, subject to regulatory review, in order to address the anticipated future cessation / non-representativeness of certain USD LIBOR settings, CME proposes to adopt a similar strategy to that to be utilized for the GBP/CHF/JPY LIBOR Transition for the purposes of implementing the transition from USD LIBOR to SOFR for CME cleared OTC IRS referencing USD LIBOR, scheduled for end-June 2023.

[8] See FCA announcement, September 29, 2021: https://www.fca.org.uk/news/press-releases/further-arrangements-orderly-wind-down-libor-end-2021 and related Decision Notice: https://www.fca.org.uk/publication/libor-notices/article-21-3-benchmarks-regulation-first-decision-notice.pdf. The FCA will decide and specify before year-end which legacy contracts will be permitted to use synthetic LIBOR rates and the FCA has published a consultation paper on this issue. The FCA is proposing to permit legacy use of synthetic GBP and JPY LIBOR in all contracts except cleared derivatives for the duration of 2022.

[9] See, for example, in respect of JPY LIBOR, the statement of the Bank of Japan and the Japanese Financial Services Agency: https://www.fsa.go.jp/en/policy/libor/syntheticlibor202102.pdf.

[10] Regulatory authorities have stressed that market participants should take positive action to amend their cash and derivatives markets contracts to include fallbacks to RFRs rather than rely on "synthetic" rates in legacy contracts. In June 2021, the FCA recommended an "active conversion" away from LIBOR, noting specifically in relation to GBP LIBOR that "synthetic LIBOR will not give [market participants] the benefits of converting to overnight rates compounded in arrears – the new centre of gravity of sterling interest rate markets, where liquidity is highest, and hedging costs therefore lowest."

The majority of bilateral uncleared OTC derivatives transactions referencing GBP, CHF or JPY LIBOR now incorporate contractual fallbacks contained within the ISDA IBOR Fallbacks Supplement or ISDA IBOR Fallbacks Protocol (which became effective in January 2021) or incorporate the equivalent contractual fallbacks contained within the 2021 ISDA Interest Rate Derivatives Definitions (the "2021 ISDA Definitions") (which became effective on October 4, 2021).[11] For these bilateral uncleared IRS contracts incorporating the ISDA contractual fallbacks the announcement by the FCA on March 5, 2021 constitutes an "Index Cessation Event" within the meaning of the relevant ISDA documentation, triggering the contractual fallbacks contained therein. The relevant ISDA contractual fallbacks operate in a way that causes affected IRS contracts to "fall back" to a "Fallback Rate" based on the nominated successor "risk-free" or "nearly risk-free" rate ("RFR") which is calculated and made publicly available by Bloomberg Index Services Limited ("BISL"). [12] The relevant "Fallback Rate" replaces the relevant affected LIBOR rate in the contract and is in each case calculated by BISL according to the industry-agreed methodology published by ISDA (the "ISDA

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[11] Details on the ISDA IBOR Fallbacks Supplement and the ISDA IBOR Fallbacks Protocol are available at: https://www.isda.org/2020/10/23/isda-launches-ibor-fallbacks-supplement-and-protocol/. ISDA publishes a list of parties that have adhered to the ISDA IBOR Fallbacks Protocol at https://www.isda.org/protocol/isda-2020-ibor-fallbacks-protocol/adhering-parties.

[12] The ISDA Spread Adjustment methodology is designed to reflect a portion of the structural differences between interbank offered rates, such as LIBOR, and the RFRs used for the fallbacks in the case of each LIBOR rate. ISDA has published further information on the determination of the spread adjustment methodology. For a high level overview, please see https://www.isda.org/2021/03/05/libor-cessation-and-the-impact-on-fallbacks/. IBORs such as LIBOR incorporate a credit risk premium and other factors, while RFRs are risk-free or nearly risk-free. Following multiple industry consultations by ISDA, it was determined by ISDA that the fallback for each IBOR setting will be based on the relevant RFR compounded in arrears to address differences in tenor, plus a spread adjustment to account for the credit risk premium and other factors, calculated using a historical median approach over a 5 year lookback period from the date of announcement of the cessation or future non-representativeness of an IBOR. In the case of GBP, CHF and JPY LIBOR rates, the relevant announcement was made by the FCA on March 5, 2021. As a result, the relevant spread adjustment for those LIBOR rates has been fixed, and published by Bloomberg Index Services Limited ("BISL") at: https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf. BISL publishes a summary of the IBOR Fallbacks process on its website at https://data.bloomberglp.com/professional/sites/10/IBOR-Fallbacks-Fact-Sheet.pdf. BLOOMBERG is a trademark and service mark of Bloomberg Finance L.P. ("BFLP"). ISDA is a trademark and service mark of the International Swaps and Derivatives Association, Inc. ("ISDA"). LIBOR® and ICE LIBOR® are trademarks of ICE Benchmark Administration Limited and/or its affiliates (collectively, "ICE") and are used with permission under licence by ICE. Bloomberg Index Services Limited ("BISL" and, collectively with BFLP and their affiliates, "Bloomberg") maintains and calculates the 'fallback' data comprising the 'all in' fallback rates and their component parts, the adjusted 'risk-free' reference rates and the spread adjustment (collectively with any other data or information relating thereto or contained therein, the "Fallback Rates Data") under an engagement between BISL and ISDA. To the extent Bloomberg uses LIBOR in the determination of certain Fallback Rates Data, it does so under licence from ICE. None of Bloomberg, ISDA or, where applicable, ICE guarantees or makes any claim, prediction, warranty or representation whatsoever, express or implied, regarding the timeliness, accuracy, completeness of, or fitness for a particular purpose with respect to, the Fallback Rates Data and each shall have no liability in connection with the Fallback Rates Data. Without limiting the foregoing, to the fullest extent permitted by applicable law, none of Bloomberg, ISDA or, where applicable, ICE will be liable in contract or tort (including negligence), for breach of statutory duty or nuisance, or under antitrust laws, for misrepresentation or otherwise, in respect of any inaccuracies, errors, omissions, delays, failures, cessations or changes (material or otherwise) in the Fallback Rates Data, or for any damage, expense or other loss (whether direct or indirect) suffered by any person arising out of or in connection with the Fallback Rates Data or any reliance placed upon it by any person, and all implied terms, conditions and warranties, including, without limitation, as to quality, merchantability, fitness for purpose, title or non-infringement, in relation to the Fallback Rates Data, are hereby excluded. None of Bloomberg, ISDA or, where applicable, ICE makes any representations regarding whether the Fallback Rates Data would be appropriate for derivative or non-derivative financial instruments, including derivatives transacted outside of standard ISDA documentation and related protocols. Market participants are encouraged to consider and analyze the details of the Fallback Rates Data and determine independently whether they would be appropriate for any such use.

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Fallback Pricing Methodology")[13], based on the combination of the following components for each relevant tenor:

- Adjusted RFR: compounded setting in arrears RFR for each relevant term;[14]
- ISDA Spread Adjustment: median of the historical differences between the relevant LIBOR rate for each tenor and the compounded RFR for that tenor over a five-year period prior to the relevant trigger event. [15]

Under the relevant ISDA fallback provisions, in the case of LIBOR rates, in each case the relevant fallback will occur on the next London business day following either (i) the date of final publication of the relevant LIBOR rate or (ii) the date on which the relevant LIBOR rate ceases to be representative of the underlying market and economic reality it is intended to measure and that representativeness will not be restored, as applicable (the "Index Cessation Effective Date" within the meaning of the ISDA documentation).[16] As a result, the bulk of uncleared bilateral IRS contracts that reference GBP, CHF or JPY LIBOR will transition to the relevant term and spread adjusted RFR (incorporating the relevant ISDA Spread Adjustment) on January 4, 2022.

Contractual Fallbacks under CME Rules and Market Participant-Driven Solution for Cleared Markets

During the course of 2021 CME incorporated into the CME Rules certain contractual fallback language based on the ISDA fallback provisions:

- in January 2021, by way of Clearing Advisory 21-039, CME confirmed the incorporation into the CME Rules of certain interbank offered rate ("IBOR") contractual fallback provisions set out in the ISDA IBOR Fallbacks Supplement, which provided that on an "Index Cessation Effective Date", affected contracts would fall back to the relevant Fallback Rate published by BISL calculated according to the ISDA Fallback Pricing Methodology based on the nominated RFR, incorporating the required term adjustments and the relevant ISDA Spread Adjustment;[17]
- in October 2021, concurrently with the implementation by ISDA of the 2021 ISDA Definitions, by way of amendment to the CME Rules and as set out in Clearing Advisory 21-335, CME revoked Clearing Advisory 21-039 and confirmed the incorporation into the CME Rules of the contractual

[13] BISL and its affiliates was selected by ISDA as the vendor to calculate and distribute the RFR adjustments determined in accordance with the ISDA Fallback Pricing Methodology. BISL calculates and publishes the Adjusted RFR according to the prescribed ISDA methodology, as set out in the IBOR Fallback Rate and Adjustments Rule Book published by BISL at https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf.

[14] To determine the Adjusted RFR, the underlying RFR is compounded over an accrual period corresponding to the tenor of the relevant LIBOR. The start of the accrual period is determined firstly by following the market convention Reference Spot Lag, and then applying a two business day backward shift, of Offset Lag. The compounded rate is annualized, and the day count convention is adjusted to match that of the relevant LIBOR. See: https://data.bloomberglp.com/professional/sites/10/IBOR-Fallbacks-Fact-Sheet.pdf. For the purposes of application of the ISDA Fallback Pricing Methodology as a component of the Conversion processes, CME will calculate the adjusted RFR utilizing the ISDA methodology, as published by BISL.

[15] BISL calculates and publishes the ISDA Spread Adjustment according to the prescribed ISDA methodology, described in summary at https://data.bloomberglp.com/professional/sites/10/IBOR-Fallbacks-Fact-Sheet.pdf. The ISDA Spread Adjustment figures are available at https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf.

[16] January 4, 2022 is the "Index Cessation Effective Date" for GBP, JPY and CHF LIBOR rates within the meaning of the 2021 ISDA Definitions (and the relevant ISDA IBOR Fallbacks Supplement, being the first London business day, and therefore the first date on which those LIBOR rates would ordinarily have been published, following December 31, 2021.

[17] CME Clearing Advisory 21-03 is available at: https://www.cmegroup.com/content/dam/cmegroup/notices/clearing/2021/01/Chadv21-039.pdf.

fallback triggers and fallback provisions contained within the 2021 ISDA Definitions, replacing those substantially equivalent provisions contained in the ISDA IBOR Fallbacks Supplement and subsequent additional supplements by ISDA.[18]

Within the meaning of the CME Rules, the announcement by the FCA on March 5, 2021, constitutes a "Permanent Cessation Trigger" in respect of each of GBP, CHF and JPY LIBOR rates. Pursuant to CME Rule 90102.H. ("Application of Permanent Cessation Fallbacks"), the CME Rules provide that the Clearing House would, subject to other actions permitted by the CME Rules, apply the relevant Permanent Cessation Fallback provisions set out in the ISDA 2021 Definitions from the relevant "Index Cessation Effective Date" in respect of affected CME cleared GBP LIBOR, CHF LIBOR and JPY LIBOR IRS contracts (the "Affected LIBOR Swaps"), with the effect that from the "Index Cessation Effective Date" the Affected LIBOR Swaps would fall back to the relevant Fallback Rate published by BISL, based on the nominated Adjusted RFR and incorporating the relevant ISDA Spread Adjustment.

However, following extensive market participant consultation during the course of 2021[19], the overwhelming majority of market participant feedback has requested that CME (and other CCPs clearing GBP, CHF and JPY IRS) should not follow the bilateral uncleared market process for the transition away from GBP, CHF and JPY LIBOR rates. The industry consensus communicated to CME by market participants indicates that the significant majority of cleared market participants prefer an "early" and "CCP-led" transition of cleared GBP, CHF and JPY LIBOR Swaps to the respective successor standardized cleared RFR IRS. Market participants communicated to CME their widely held concerns around a significant drawback of the bilateral uncleared market approach to contractual fallbacks, namely that the mere substitution of the adjusted RFR for the relevant LIBOR rate under a swap contract subject to a fallback event creates a misalignment between (i) the terms of the resulting post-fallback swap referencing the relevant RFR Fallback Rate and (ii) the terms of standardized swaps referencing that same RFR. Given these fundamental differences in contractual terms between the post-fallback swaps and standardized RFR swaps, these swaps could not be treated as fungible with one another. In turn, the lack of fungibility between the resulting post-fallback RFR swaps and standardized RFR swaps could give rise to problems for market participants that wish to close out or hedge a position in the resulting post-fallback swaps given that the available liquidity in the

[18] CME Rule 90102.H. (Application of Permanent Cessation Fallbacks) confirms the application of the Permanent Cessation Fallback provisions in the 2021 Definitions to CME cleared trades. Rule 90102.H. is expressed to be subject to the other chapters of or provisions of or made under the CME Rules and subject to and without prejudice to any specific actions that are determined by the Clearing House in its sole and absolute discretion to be necessary on the occurrence of a Permanent Cessation Trigger with respect to any Floating Rate Option referenced under an IRS Contract, each as defined in the 2021 ISDA Definitions. As set out in Clearing Advisory 21-335 and CME Submission No. 21-431 , Rule 90102.H. therefore does not limit CME's ability to take alternative action in relation to circumstances that constitute a Permanent Cessation Fallback, for example and without limitation, to participate in a CCP-led transition away from a particular reference rate subject to a Permanent Cessation Fallback ahead of a transition date required under the 2021 Definitions. CME is able to exercise its discretion not to apply the "Permanent Cessation Fallbacks" from the ISDA 2021 Definitions incorporated into the CME Rules. In the case of the scheduled loss of "representativeness" of the relevant LIBOR rates, in response to market participant feedback, CME does not propose to apply the "Permanent Cessation Fallbacks" within the ISDA 2021 Definitions and CME Rule 90102.H to Affected LIBOR Swaps cleared by CME. Instead, based on consultations with market participants and consistent with broader cleared industry initiatives, CME proposes to effect the Conversion of Affected LIBOR Swaps into corresponding standardized RFR OIS on the relevant Conversion Date, and in good time ahead of the relevant Index Cessation Effective Date in respect of the relevant LIBOR rate. As a result, the amendments to the terms of the CME Rules set out in the Clearing Advisory in respect of the Conversion effectively disapply the Permanent Cessation Fallbacks set out in CME Rule 90102.H. for the purposes of the GBP/CHF/JPY LIBOR Transition.

[19] During the course of 2021, as part of ongoing discussions with market participants on this issue, CME has shared public details of the proposals to effect an "early" and "CCP-led" transition away from GBP, CHF and JPY LIBOR ahead of the relevant Index Cessation Effective Date: see https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf.

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post-fallback RFR swaps would be expected to be significantly less than for standardized RFR swaps. As a result, participants have raised concerns that firms wishing to unwind non-standardized RFR swap contracts arising from contractual fallbacks would need to execute and book additional non-standard swaps in an uncertain liquidity environment.

In order to attempt to avoid these circumstances arising in relation to GBP, CHF and JPY LIBOR swaps in cleared markets, market participants have recommended that CCPs should not seek to implement contractual fallbacks designed to align with fallback provisions applicable to these swaps in bilateral uncleared markets. Market participant feedback has instead recommended a CCP-led approach to the transition of cleared GBP, CHF and JPY LIBOR swaps under which CCPs would "convert" cleared GBP, CHF and JPY LIBOR swaps into standardized RFR referencing OIS for the relevant successor rate, accounting for the relevant ISDA Spread Adjustment on the floating leg on the replacement RFR referencing swap, to take place ahead of the relevant Index Cessation Effective Date in respect of the relevant LIBOR swap.[20]

In discussions regarding a CCP-led transition for LIBOR swaps, market participants have informed CME that the CCP-led conversion of GBP, JPY and CHF LIBOR swap exposures into market standard RFR swaps benefits the marketplace by:

- creating a single transparent liquidity pool for trading standardized RFR swaps;
- providing participants with certainty that "legacy" and "new" contracts would be fungible with one another upon transition to the relevant nominated RFRs; and
- supporting market standard RFR OIS that are themselves widely supported by market participants and market infrastructure, thereby removing the need to apply the ISDA IBOR fallbacks protocols which market participants have identified as operationally challenging, specifically "Observation Period Shift" where both the rate and the weighting are determined on the basis of the relevant day of the 'observation period', rather than the weighting being determined based on the relevant day in the Calculation Period.

In response to this market participant feedback, CME has therefore determined that it will not implement the "Permanent Cessation Fallbacks" anticipated by CME Rule 90102.H. for GBP, CHF and JPY LIBOR on the relevant "Index Cessation Effective Date" in each case and proposes instead that, subject to regulatory review, CME will:

- on the relevant Conversion Date(s) determined by CME for each contract, which date shall be prior to or no later than the relevant "Index Cessation Effective Date" for each of GBP, JPY and CHF LIBOR:
    - implement a series of processes to convert each Affected LIBOR Swap to a corresponding standardized CME cleared RFR OIS or series of standardized CME cleared RFR swaps, in each case designed to retain the key economic terms of the original Affected LIBOR Swap trade as far as practicable, subject to certain adjustments determined by CME according to its published methodology, which shall include

[20] As noted above, in the FCA's September 2021 announcement and consultation regarding the transition away from "unrepresentative" LIBOR settings, the FCA acknowledged that major CCPs will transition cleared LIBOR derivatives away from the relevant rates before the rates become "non-representative" or before restrictions on usage come into effect.

accounting for the relevant ISDA Spread Adjustment[21] on the floating leg of the resulting CME cleared RFR swap on a non-compounded basis, and maintaining known coupon amounts through the conversion process by adding known coupons as upfront fees to the resulting CME cleared RFR swaps; and

    - compensate position holders for any resulting change in value between the relevant Affected LIBOR Swap and the resulting CME cleared RFR swap(s), by applying a cash adjustment amount in the form of upfront "fees" on each resulting cleared RFR swap, utilizing a process designed to ensure pricing of the resulting RFR swaps is fair and is not subject to manipulation;[22]

- from the relevant Secondary Conversion Date in each case, cease to accept for clearing trades in Affected LIBOR Swaps except trades in Affected LIBOR Swaps with a start date after close of business ("COB") on the relevant Secondary Conversion Date, in order to support the clearing of swaps that result from bilateral (uncleared) Swaptions expiries. Such swaps shall continue to be accepted for clearing by CME after the relevant Secondary Conversion Date and shall be converted by CME into corresponding standardized CME cleared RFR swaps utilizing the same conversion methodology applied on the relevant Conversion Date(s) for that contract on the date of acceptance of the contract for clearing.

Further details of the transition process for each Affected LIBOR Swap are summarized below.

Summary of Proposed CME Conversion of Affected LIBOR Swaps to Standardized RFR OIS

Background

Following the announcement by the FCA in March 2021, after publication by IBA on December 31, 2021 all settings of CHF LIBOR will be discontinued. In addition, all settings of GBP LIBOR and JPY LIBOR will either be discontinued or will cease to be published in a manner that is "representative" of the underlying market and economic reality it is intended to measure in each case and that representativeness will not be restored, notwithstanding that a "synthetic" GBP LIBOR rate and JPY LIBOR rate will continue to be published for certain settings after that date for a limited period.[23] As a result of the scheduled cessation / non-representativeness of the relevant LIBOR settings, CME proposes to implement fallback rules for all Affected LIBOR Swaps, namely interest rate swaps cleared by CME that reference:

- GBP LIBOR;
- CHF LIBOR; or
- JPY LIBOR,

in order to transition cleared trades in the Affected LIBOR Swaps away from the relevant LIBOR rate. The transition will be effected by converting Affected LIBOR Swaps into cleared standardized OIS referencing

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[21] In the case of JPY LIBOR, in order to reflect the differences in day count between TONA swaps and JPY LIBOR Swaps, CME will apply an adjustment to the ISDA Spread Adjustment applied to each tenor of JPY LIBOR Swaps subject to the relevant conversion processes.

[22] CME will utilize the same standard methodology and the same RFR curve to value each Affected LIBOR Swap and the resulting CME cleared RFR swap(s).

[23] The FCA confirmed in September 2021 that certain settings of GBP and JPY LIBOR would continue to be published after this date in a "synthetic" form which is not representative and to which limitations on use will apply.

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the relevant nominated successor RFR in each case. Details on each of the relevant successor RFRs are provided below.

SONIA

SONIA was selected by the Working Group on Sterling Risk Free Reference Rates to be the preferred benchmark for the transition to sterling risk-free rates from GBP LIBOR. SONIA is administered by the Bank of England and published every London business day. SONIA is based on actual transactions and reflects the average of the interest rates that banks pay to borrow sterling overnight from other financial institutions. The Bank of England administers SONIA in compliance with the IOSCO Principles for Financial Benchmarks.[24]

SONIA Swaps are widely traded and cleared. As at year to date ending October 1, 2021, global SONIA IRS traded notional (excluding basis swaps) was over USD 11,935 billion (compared with the equivalent for GBP LIBOR Swaps of USD 8,961 billion).[25] CME supports clearing of SONIA IRS and CME also lists SONIA futures on the CME designated contract market.[26]

As the nominated RFR successor to GBP LIBOR, spread adjusted SONIA will be the Fallback Rate for bilateral uncleared derivative contracts under ISDA contractual fallbacks. As a result, CME also proposes to utilize SONIA and the relevant ISDA Spread Adjustment for the purposes of determining the fallback calculation for the CME cleared GBP LIBOR swaps that are subject to the GBP LIBOR Conversion. BISL has published the ISDA Spread Adjustment for GBP LIBOR settings following the FCA announcement on March 5, 2021.[27]

SARON

SARON is administered and calculated by SIX Swiss Exchange Financial Information AG ("SIX") in Switzerland. SARON is an overnight benchmark rate based on overnight transactions and quotes posted in the Swiss Franc repo market. Publication of SARON began on August 25, 2009, with historical data available since June 30, 1999. SIX is committed to the IOSCO Principles for Financial Benchmark and SARON is endorsed for use in the European Union and listed in the European Securities and Markets Authority ("ESMA") Register pursuant to the EU Benchmarks Regulation.[28] As part of regulatory and industry initiatives to transition away from certain key IBORs and interest rate benchmarks, in October 2017 the Swiss National Working Group ("NWG") on Swiss Franc Reference Rates recommended SARON as

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[24] The Bank of England has published a Statement of compliance with the IOSCO Principles for Financial Benchmarks, available at: https://www.bankofengland.co.uk/markets/sonia-benchmark/sonia-statement-of-compliance-with-the-iosco-principles-for-financial-benchmarks

[25] See IRS trade count and notional data published by ISDA at: http://analysis.swapsinfo.org/

[26] Information on volume of CME cleared OTC Sonia Swaps are available at https://www.cmegroup.com/education/cme-volume-oi-records.html. CME SONIA Futures, including contract specifications and trading and volume data, are available at https://www.cmegroup.com/trading/interest-rates/sonia-futures.html.

[27] The relevant information on the ISDA Spread Adjustment for GBP LIBOR settings published by BISL under the ISDA methodology is available at: https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf

[28] See https://www.six-group.com/en/products-services/the-swiss-stock-exchange/market-data/indices/swiss-reference-rates.html#scrollTo=governance-regulation

an alternative RFR to CHF LIBOR for new contracts and as the alternative reference rate to replace CHF LIBOR as a "fallback" for references to CHF LIBOR in legacy derivative contracts.[29]

SARON Swaps are widely traded and cleared. As at year to date ending October 1, 2021, global SARON IRS traded notional (excluding basis swaps) was over USD 99 billion.[30] CME supports clearing of SONIA IRS having launched SARON IRS in July 2021.

As the nominated RFR successor to CHF LIBOR, spread adjusted SARON will be the fallback rate for bilateral uncleared derivative contracts under ISDA contractual fallbacks. As a result, CME also proposes to utilize SARON and the relevant ISDA Spread Adjustment for the purposes of determining the fallback calculation for the CME cleared CHF LIBOR swaps that are subject to the CHF LIBOR Conversion. BISL has published the ISDA Spread Adjustment for CHF LIBOR settings following the FCA announcement on March 5, 2021.[31]

TONA

The Bank of Japan and the Study Group on Risk-Free Reference Rates, tasked with identification of a JPY nearly risk-free benchmark rate, concluded in December 2016 that the uncollateralized overnight call rate calculated and published by the Bank of Japan should be selected as the main JPY risk-free rate for the JPY interest rate swaps market.[32] The Tokyo Overnight Average Rate ("TONA") reflects the cost of borrowing in the JPY unsecured overnight money market, as determined from the volume weighted average of the rates of all transactions settled on the same day as the trade date and maturing the following business day. TONA is administered and published by the Bank of Japan.

TONA Swaps are widely traded and cleared. As at year to date ending October 1, 2021, global TONA IRS traded notional (excluding basis swaps) was over USD 317 billion.[33] CME supports clearing of TONA IRS.

As the nominated RFR successor to JPY LIBOR, spread adjusted TONA will be the fallback rate for bilateral uncleared derivative contracts under ISDA contractual fallbacks. As a result, CME also proposes to utilize TONA and the relevant ISDA Spread Adjustment for the purposes of determining the fallback calculation for the CME cleared JPY LIBOR swaps that are subject to the JPY LIBOR Conversion. BISL has published the ISDA Spread Adjustment for JPY LIBOR settings following the FCA announcement on March 5, 2021.[34] In order to reflect the differences in standard floating leg day count between TONA OIS (actual/365.fixed)

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[29] The Swiss NWG is the key forum to foster the transition to SARON and to discuss international developments relating to SARON transition. See https://www.snb.ch/en/ifor/finmkt/fnmkt_benchm/id/finmkt_reformrates

[30] See IRS trade count and notional data published by ISDA at: http://analysis.swapsinfo.org/

[31] The relevant information on the ISDA Spread Adjustment for CHF LIBOR settings published by BISL under the ISDA methodology is available at: https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf

[32] Note that the market participants are not necessarily precluded from using other alternative benchmarks for JPY, including the Tokyo Term Risk Free Rate ("TORF") and TIBOR – see https://www.boj.or.jp/en/paym/market/jpy_cmte/cmt210326c.pdf. For further details on the original conclusions by the Study Group on Risk-Free Reference Rates, please see https://www.boj.or.jp/en/paym/market/sg/rfr1612c.pdf

[33] See IRS trade count and notional data published by ISDA at: http://analysis.swapsinfo.org/

[34] The relevant information on the ISDA Spread Adjustment for JPY LIBOR settings published by BISL under the ISDA methodology is available at: https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf

and JPY LIBOR Swaps (actual/360), CME will apply an adjustment to the ISDA Spread Adjustment that is applied to each tenor of JPY LIBOR Swaps subject to the relevant conversion processes. This procedure will ensure that the relevant ISDA Spread Adjustment is amended to take into account the day count differential between the relevant swap terms.[35]

Proposed Conversion of CME cleared GBP, JPY and CHF LIBOR Swaps

Following extensive engagement with market participants, subject to regulatory review, CME proposes to transition CME cleared GBP, JPY and CHF LIBOR Swaps by converting the relevant LIBOR referencing IRS to CME cleared standardized OIS referencing SONIA, TONA and SARON, respectively, on the relevant Conversion Date determined by CME (and thereafter on a daily basis for a limited category of contracts), utilizing a mandatory conversion process, as summarized below:

[35] Further details are provided in Exhibit 3.

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Date	Relevant Conversion Date Event	CME cleared swaps subject to Conversion on date
December 3, 2021	JPY/CHF Primary Conversion Date	• JPY LIBOR IRS • CHF LIBOR IRS with a maturity date after the JPY/CHF Primary Conversion Date
December 17, 2021	GBP Primary Conversion Date	• GBP LIBOR IRS with a maturity date after the GBP Primary Conversion Date
January 3, 2022	CHF Secondary Conversion Date	• CHF LIBOR IRS that reference a Fixing Day between the JPY/CHF Primary Conversion Date and the CHF Secondary Conversion Date • CHF LIBOR IRS submitted for clearing after COB on the JPY/CHF Primary Conversion Date and before COB on the CHF Secondary Conversion Date • CHF LIBOR IRS that result from exercise of bilateral swaptions submitted for clearing after the JPY/CHF Primary Conversion Date and before the CHF Secondary Conversion Date
January 4, 2022	JPY Secondary Conversion Date	• JPY LIBOR IRS that reference a Fixing Day between the JPY/CHF Primary Conversion Date and the JPY Secondary Conversion Date • JPY LIBOR IRS submitted for clearing after COB on the JPY/CHF Primary Conversion Date and before COB on the JPY Secondary Conversion Date • JPY LIBOR IRS that result from exercise of bilateral swaptions submitted for clearing after the JPY/CHF Primary Conversion Date and before the JPY Secondary Conversion Date
January 4, 2022	GBP Secondary Conversion Date	• GBP LIBOR IRS that reference a Fixing Day between the GBP Primary Conversion Date and the GBP Secondary Conversion Date • GBP LIBOR IRS submitted for clearing after COB on the GBP Primary Conversion Date and before COB on the GBP Secondary Conversion Date • GBP LIBOR IRS that result from exercise of bilateral swaptions submitted for clearing after the GBP Primary Conversion Date and before the GBP Secondary Conversion Date
Daily basis after relevant Secondary Conversion Date	Ongoing Conversion on the date of acceptance for clearing by CME	• JPY LIBOR IRS • CHF LIBOR IRS • GBP LIBOR IRS with a start date after COB on the relevant Secondary Conversion Date, in order to support clearing and conversion of swaps that result from exercise of bilateral swaptions

Conversion of Affected LIBOR Swaps on the relevant Primary Conversion Date

With the exception of:

(i) Affected LIBOR Swaps that mature on the relevant Primary Conversion Date; or
(ii) Affected LIBOR Swaps which reference a Fixing Day between the relevant Primary Conversion Date and the relevant Secondary Conversion Date,

on the relevant Primary Conversion Date determined by CME for each contract, which date shall be prior to the relevant "Index Cessation Effective Date" for each of GBP, JPY and CHF LIBOR, CME will convert each cleared trade in Affected LIBOR Swaps into a corresponding standardized CME cleared swap or series of corresponding standardized cleared OIS referencing the relevant nominated successor RFR, retaining the key economic terms of the original Affected LIBOR Swap trade, subject to certain adjustments determined by CME described below and applied according to its published methodology set out in Exhibit 3:

- each resulting RFR OIS arising from the relevant Conversion process (each, a "Conversion RFR Swap") will account for the relevant ISDA Spread Adjustment[36] on the floating leg of the swap;
- CME will maintain the known LIBOR rate coupons through the relevant Conversion process by the addition of known coupons as upfront fees to the relevant Conversion RFR Swap;
- in order to neutralize the value transfer from the relevant Conversion of the economic position of each Affected LIBOR Swap into each relevant Conversion RFR Swap, CME will calculate a cash adjustment amount that will be based on the difference between the net present value ("NPV") of the Affected LIBOR Swap and the NPV of the Conversion RFR Swap on the relevant Conversion Date. The Cash Adjustment for each Conversion RFR Swap will be equal and opposite to the change in NPV calculated by CME, and therefore may be a positive or negative amount depending on the position (the "Cash Adjustment").[37] The Cash Adjustment amount will be applied by CME in the form of upfront "fees" on each resulting cleared Conversion RFR Swap on the relevant Conversion Date;
- where applicable, known fixed and floating accruals will be calculated by CME and added to the Conversion RFR Swap as an upfront fee, in accordance with CME's published methodology;[38]
- cash flows relating to the Cash Adjustment will be applied in the next end of day clearing cycle following the relevant Conversion Date;
- the Cash Adjustment will ensure that the NPV change for position holders impacted by the change of floating rate option from GBP LIBOR to SONIA, from CHF LIBOR to SARON and JPY LIBOR to TONA, as applicable, will be neutralized;
- in each case, the Conversion RFR Swap will be cleared as a CME cleared RFR OIS, retaining the key economic terms of the original trade, subject to certain adjustments set out above and determined by CME according to its published methodology, and the Floating Rate Option of the converted cleared trade will be:
    - GBP-SONIA-OIS Compound, the SONIA OIS reference rate, in the case of GBP LIBOR Swaps;
    - JPY-TONA-OIS Compound, the TONA OIS reference rate, in the case of JPY LIBOR Swaps; and

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[36] As noted above, CME will apply an adjustment to the applicable ISDA Spread Adjustment with respect to JPY LIBOR Swaps in order to reflect the differences in standard floating leg day count between TONA OIS (actual/365.fixed) and JPY LIBOR Swaps (actual/360).

[37] Where the holder of a Conversion RFR Swap had benefited from a change in NPV, an upfront fee equal and opposite to that amount of change in NPV would be applied to that Conversion RFR Swap and such amount would be due from the position holder at the next clearing cycle. Where the holder of a Conversion RFR Swap experiences a negative change in NPV, an upfront fee equal and opposite to that amount of change in NPV would be applied to the Conversion RFR Swap and such amount would be due to the position holder at the next clearing cycle. The net cash flow position for all participants is neutral. The net cash flow position for the Clearing House is neutral.

[38] In cases where the Effective Date of the LIBOR swap is prior to the relevant Index Cessation Effective Date (Seasoned Swaps), CME will maintain any known LIBOR or Fixed coupon payments that have not yet paid, applying these amounts as upfront "fees" on the Conversion RFR Swap. Preserving any known LIBOR or Fixed coupons on the Conversion RFR Swaps was viewed by market participants as a critical element of the conversion process.

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- CHF-SARON-OIS Compound, the SARON OIS reference rate, in the case of CHF LIBOR Swaps.

Swaps referencing a Fixing Day between a Primary Conversion Date and Secondary Conversion Date

With respect to CME cleared trades in Affected LIBOR Swaps that reference a Fixing Day between the relevant Primary Conversion Date and the relevant Secondary Conversion Date, at close of business on the relevant Secondary Conversion Date CME will convert such contracts to corresponding Conversion RFR Swaps utilizing the applicable conversion process applied by CME to relevant Affected LIBOR Swaps on the relevant Primary Conversion Date, as described above.[39]

Affected LIBOR Swaps submitted prior to a Secondary Conversion Date

With respect to any Affected LIBOR Swap submitted for clearing after COB on the relevant Primary Conversion Date but before COB on the relevant Secondary Conversion Date (including Swaps that result from the exercise of a bilateral (uncleared) Swaption contract exercise), at close of business on the relevant Secondary Conversion Date CME will convert such Affected LIBOR Swap contracts to corresponding Conversion RFR Swap(s) utilizing the applicable process applied by CME to relevant Affected LIBOR Swaps on the relevant Primary Conversion Date, as described above.

Limitation of Clearing Support for GBP, JPY and CHF LIBOR Swaps after Secondary Conversion Date

From COB on the relevant Secondary Conversion Date, except for the limited exception noted below, CME will cease to accept the relevant Affected LIBOR Swaps for clearing.

Until further notice by CME to market participants, in order to continue to support clearing of any Affected LIBOR Swap that results from the exercise of a bilateral (uncleared) Swaption contract exercise after the relevant Secondary Conversion Date, CME will accept for clearing any Affected LIBOR Swap that is submitted to CME for clearing following COB on the relevant Secondary Conversion Date where the start date of such swap is on or after such date. At COB on the date of acceptance for clearing, CME will convert such Affected LIBOR Swap contract to a corresponding Conversion RFR Swap utilizing the applicable process applied by CME to relevant Affected LIBOR Swaps on the relevant Primary Conversion Date, as described above.

In legal and contractual terms, each Conversion process will amend the terms of cleared trades in CME cleared Affected LIBOR Swaps, converting the terms of each relevant cleared trade to a standardized CME

[39] Where LIBOR fixings have occurred prior to the relevant Conversion process and are yet to settle on the relevant Primary Conversion Date, these will be maintained and carried over to the relevant Conversion RFR Swaps. Where LIBOR fixings would occur after the relevant Primary Conversion Date and prior to the relevant Index Cessation Effective Date, in order to maintain the economics and cash flows associated with these cleared trades, CME will convert these trades on the relevant Secondary Conversion Date, which is a date after the relevant fixing has occurred. The approach to LIBOR trades that reference a LIBOR Fixing Day between the relevant Conversion Date and the relevant Index Cessation Effective Date has been determined by CME based on extensive discussion with market participants. The approach determined by CME has the following advantages: (i) it respects the ICE LIBOR fixing between the relevant Conversion Date and the Index Cessation Effective Date; (ii) buy-side clients are sensitive to accepting basis swaps that might otherwise have been used to address the issue; (iii) this approach accounts for the compounded fixings for compounding and zero-coupon swaps; and (iv) this approach maintains the gross notional in each case.

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cleared swap referencing the corresponding RFR. From an operational perspective, the Conversion will be processed by CME as a "termination" of each relevant Affected LIBOR Swap and the establishment of a "new" corresponding cleared trade in the corresponding RFR OIS within the clearing system, the Conversion RFR Swap. CME will report the close-out of each Affected LIBOR Swap and the establishment of each Conversion RFR Swap in the account of the relevant position holder to the CME Swap Data Repository ("SDR") under Part 45 of the CFTC's Regulations. The "Prior USI" field for each Conversion RFR Swap report will reference the Unique Swap Identifier ("USI") of the relevant corresponding Affected LIBOR Swap, reflecting the nature of the relevant LIBOR Conversion process.

The GBP/CHF/JPY LIBOR Transition is a mandatory process and the terms set out in the Clearing Advisory (in the form appended as Exhibit 1) will apply to all cleared trades in Affected LIBOR Swaps from December 3, 2021, subject to regulatory review.

Overview of Engagement with Market Participants and Industry Groups

The conversion of cleared GBP, CHF and JPY LIBOR Swaps by the amendment of cleared trades into corresponding RFR OIS by CCPs is seen by market participants as a critical element in the overall process of ensuring an orderly and efficient transition from GBP, CHF and JPY LIBOR rates in derivatives markets. As noted above, in January 2021, as part of implementation of contractual provisions to address transition away from certain LIBOR rates (including GBP, JPY and CHF LIBOR), CME and other major CCPs adopted "fallback" provisions designed to ensure certain cleared LIBOR IRS would be able to transition to the relevant successor RFR in each case on or shortly after the final date of publication or "representativeness" of such rate or rates. These contractual fallback provisions were based on the ISDA IBOR Fallbacks Supplement and corresponding ISDA IBOR Fallbacks Protocol and CME subsequently replaced these provisions of the CME Rules in October 2021 by the incorporation of substantially similar fallback provisions based on those contained in the 2021 ISDA Definitions.

CME continues to support the use of ISDA's contractual fallback provisions. However, in CME's engagement with market participants in relation to the specific question of GBP, CHF and JPY LIBOR transition during the first half of 2021, market participants expressed a clear preference for CME to implement a modified approach to fallbacks rather than to fully operationalize the relevant ISDA fallbacks. Market participants have requested that CME should utilize the ISDA Spread Adjustment and ISDA Fallback Pricing Methodology instead to support a CCP-led and compensated conversion of cleared swaps referencing these LIBOR rates into corresponding standardized RFR swaps, accounting for the ISDA Spread Adjustment on the floating leg of the replacement swap, a short period ahead of the last publication of a "representative" LIBOR rate in each case, rather than rely fully on the ISDA-derived contractual fallbacks that would otherwise apply under the CME Rules on the relevant "Index Cessation Effective Date."

The industry consensus communicated to CME by market participants indicates that the significant majority of cleared market participants prefer such an "early" and CCP-led conversion of cleared GBP, CHF and JPY LIBOR Swaps into standardized successor RFR swaps (accounting for the ISDA Spread Adjustment as part of the conversion process) as it has certain advantages for market participants over full reliance on the ISDA-derived contractual fallbacks. In particular, market participants noted that application of the ISDA

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contractual fallbacks without modification would give rise to resulting positions that would not be on the same terms, and therefore not directly fungible with, standardized cleared RFR swaps. This could create difficulties for participants wishing to unwind non-standardized resulting RFR swap contracts; in order to do so, firms would need to execute and book additional non-standard swaps in an uncertain liquidity environment. During CME's industry engagement processes, market participants have informed CME that the CCP-led conversion of LIBOR swap exposures into market standard RFR OIS (whilst accounting for the relevant ISDA Spread Adjustment on the conversion) ensures sufficient alignment with the ISDA contractual fallbacks approach in bilateral uncleared swaps but also benefits the marketplace by:

- Creating a single transparent liquidity pool for trading RFR swaps;
- Providing participants certainty that "legacy" and "new" contracts would be fungible with one another upon transition to the RFR fallback; and
- Supporting market standard RFR OIS that are themselves widely supported by market participants and market infrastructure, thereby removing the need to operationally support the "Observation Period Shift" (within the meaning of the ISDA 2021 Definitions) concept that operates under the ISDA IBOR Fallbacks.[40]

Market participants, industry groups and regulators recognize these benefits of a CCP-led conversion and CME's proposed approach has been well publicized and understood. In its September 29, 2021 announcement and related consultation paper, the FCA acknowledged that permitted use of "synthetic" and "non-representative" LIBOR rates would not include CCP cleared derivative contracts, noting at the same time that "clearing houses plan to transition all cleared sterling, Japanese yen, Swiss franc and euro LIBOR contracts to risk-free rates by end-2021."[41]

In addition, in providing their support for CCP-led conversion, market participants have indicated that an "early" transition of GBP, CHF and JPY LIBOR swaps to their respective RFR OIS could and should be scheduled before the end-December 2021 / early January 2022 time period in order to ease potential operational congestion for cash and derivatives market participants and CCPs due to the scheduled cessation of those LIBOR benchmarks on December 31, 2021.

Furthermore, in CME's engagement with market participants, these stakeholders have expressed a clear preference that CME's approach to the GBP, CHF and JPY LIBOR transition should be aligned as closely as possible with the wider industry approach, and specifically that of the UK and EU CCPs responsible for clearing the overwhelming majority of LIBOR Swaps, each of which have expressed their intention to effect a conversion of GBP, CHF and JPY LIBOR Swaps to reference the respective RFRs in early to mid-December 2021.[42] Given the feedback from market participants, CME has determined to convert GBP, CHF and JPY LIBOR Swaps to the corresponding RFRs ahead of the last publication of the relevant Index Cessation Effective Date in each case, and to align its approach and proposed timing for the GBP/CHF/JPY

[40] The methodology for conversion utilized by CME will account for the payment lag arising from conversion into a standardized RFR swap.

[41] See FCA announcement, September 29, 2021: https://www.fca.org.uk/news/press-releases/further-arrangements-orderly-wind-down-libor-end-2021 and consultation paper .

[42] CME understands that each of LCH Limited and Eurex Clearing AG propose to implement conversion processes for their respective customers in order to convert GBP, CHF and JPY LIBOR swaps to the respective successor RFRs in each case, also to take place on the same conversion dates proposed by CME.

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LIBOR Transition as closely as possible with that of the other major CCPs clearing GBP, CHF and JPY LIBOR swaps. In each case, CME has determined that the relevant Primary Conversion Date shall be aligned with the corresponding date for conversion of corresponding GBP, CHF and JPY LIBOR swaps in the wider cleared swap market in order to help mitigate systemic risk during the transition process. As noted above, in order to ensure close alignment with the operational and economic terms of the ISDA contractual fallbacks that are applicable to bilateral uncleared derivatives, CME's conversion process accounts for the relevant ISDA Spread Adjustment on the floating leg of the resulting CME cleared RFR swap.

CME has consulted with a diverse cross-section of market participants to obtain feedback on the operational processes for the GBP/CHF/JPY LIBOR Transition. CME first informed IRS Clearing Members of its intention to effect the GBP/CHF/JPY LIBOR Transition cycle in late 2020 and CME first presented an overview of the transition proposals to market participants in January 2021, with further updated proposals in Q1 2021, culminating in publication of a summary of the proposed final methodology for the GBP/CHF/JPY LIBOR Transition which was provided to market participants and made publicly available in June 2021. Further, operational level details were provided by CME to market participants in August 2021.[43] Operational testing and additional support was scheduled and provided by CME prior to the proposed date of implementation, including a New Release Dress Rehearsal for the CHF/JPY Conversion for JPY and CHF LIBOR Swaps on October 2, 2021 and a corresponding Dress Rehearsal for GBP LIBOR Swaps on November 5, 2021.[44] An additional New Release Dress Rehearsal took place for JPY, CHF and GBP LIBOR Swaps that fix between the corresponding New Release Dress Rehearsal Conversion Date (October 22 or November 5) and Friday, November 12, 2021. For any JPY, CHF or GBP LIBOR Swaps cleared in New Release on November 15, 2021 or thereafter, CME will run a daily conversion cycle in the New Release environment to establish Conversion RFR Swaps in the New Release environment.[45]

As part of its industry engagement, CME provided an overview of its transition process to the ARRC Paced Transition Plan Working Group and also to the CFTC Market Risk Advisory Committee Subcommittee on Interest Rate Benchmark Reform.

Following the successful USD IRS PA/Discounting Transition, conversion of GBP and JPY Basis Swaps into corresponding fixed float swaps on September 24, 2021 and the conversion of EONIA swaps to €STR on October 15, 2021, market participants are familiar with CME's approach and methodology for implementation of changes to the reference terms of IRS contracts and operational processes to effect cash compensation to reflect valuation changes have been tested in both test and production environments.

[43] CME provided an initial IBOR Conversion Overview Proposal to market participants in January 2021, with further engagement and updates in February 2021. In March 2021, CME provided a further updated proposal to market participants and CME's "IBOR Conversion Proposal for Cleared Swaps" was provided to market participants in April 2021. CME published a detailed conversion plan in June 2021, available at: https://www.cmegroup.com/trading/interest-rates/files/cleared-swaps-considerations-for-ibor-fallbacks-and-conversion-plan.pdf. A further public overview was made available on the CME Group website in August 2021 at: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf.

[44] Details of the relevant Dress Rehearsals are available in CME Clearing Advisory 21-392 and CME Clearing Advisory 21-377.

[45] The public overview is available on the CME Group website at: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf.

The modifications to the CME Rules will be implemented via Advisory Notice published by the Clearing House setting out the terms of the GBP/CHF/JPY LIBOR Transition, in the form set out in Exhibit 1 (the "Advisory Notice"). The Advisory Notice will be binding on all position holders and Clearing Members and shall be effective on Friday, December 3, 2021 and thereafter.

Operational Overview of Conversion Process

The operational processing steps for the Conversion processes are summarized below:

Amendment of Cleared Trades in Affected LIBOR Swaps

With the exception of IRS that mature on the relevant Conversion Date, each CME cleared trade in each Affected LIBOR Swap that is open at COB on the relevant Conversion Date will be amended by CME at COB on the relevant Conversion Date such that the terms of the cleared trade shall be converted to those of a corresponding CME cleared standardized RFR Swap with certain key economic terms from the original Affected LIBOR Swap preserved to the extent practicable (e.g. Currency, Fixed Direction, Maturity Date, Trade Date, etc.) and other economic terms amended as applicable in accordance with CME's published methodology, referred to below.

Methodology for Converting LIBOR Swaps to Conversion RFR Swaps

The CME methodology for effecting the relevant Conversion processes was first published in August 2021 on the CME website and is provided as Exhibit 3 to this document.[46]

Calculation of Cash Adjustment Amount

The Cash Adjustment amount is necessary to account for the difference in valuation between the original Affected LIBOR Swap and the Conversion RFR Swap on the relevant Conversion Date. The difference in the NPV of each Affected LIBOR Swap and the corresponding Conversion RFR Swap(s) on the relevant Conversion Date represents a gain or loss to the relevant position holder in each case. In order to neutralize the transfer in value between position holders arising from the transition, CME will apply a Cash Adjustment amount equal and opposite to the change in NPV resulting from the transition to each Conversion RFR Swap.

The Cash Adjustment amount will be calculated by CME based on the difference between the NPV of the relevant Affected LIBOR Swap and the NPV of the corresponding Conversion RFR Swap on the relevant Conversion Date as follows (the "Conversion Calculation"):

- On or shortly after COB on the relevant Conversion Date, the Clearing House will conduct a standard valuation calculation during the end of day clearing cycle, to determine the NPV for each relevant Affected LIBOR Swap subject to the relevant Conversion process on that date, calculated utilizing CME's closing curve marks on the relevant Conversion Date for each position account and the ISDA Fallback Pricing Methodology.

[46] See: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf.

- Upon establishment of each Conversion RFR Swap within the clearing system, on or shortly after COB on the relevant Conversion Date, the Clearing House will conduct an additional calculation to determine the NPV for each Conversion RFR Swap calculated utilizing CME's closing curve marks on the relevant Conversion Date for each position account.
- Note that the determination of the NPV of the Affected LIBOR Swap and the Conversion RFR Swap will be calculated on an "adjusted" basis, where the adjusted NPV in each case is the NPV less the present value of any fee due to bank on the following Business Day or subsequent Business Day, depending on the settlement convention.
- The difference between the two NPV calculations for each Affected LIBOR Swap and the corresponding Conversion RFR Swap represents the change in NPV arising from the conversion of the reference rate exposure of that position in an Affected Contract from the relevant LIBOR rate to the corresponding RFR.

The relevant Cash Adjustment amount to be applied to each Conversion RFR Swap in each position account shall be equal and opposite to the change in NPV calculated by CME in the Conversion Calculation in relation to such Conversion RFR Swap. As the Cash Adjustment for each Conversion RFR Swap will be equal and opposite to the change in NPV calculated by CME, it may therefore be a positive or negative amount depending on the position.

For example, where the holder of a Conversion RFR Swap had benefited from a change in NPV, i.e. where the Conversion RFR Swap NPV is greater than the corresponding Affected LIBOR Swap NPV, the Cash Adjustment would be a negative amount equal to that change in NPV and would be applied to the Conversion RFR Swap as an upfront fee which would be due and paid from the position holder at the next clearing cycle following the relevant Conversion Date. Where the holder of a Conversion RFR Swap experiences a negative change in NPV, the Cash Adjustment would be a positive amount and would be applied to the Conversion RFR Swap as an upfront fee which would be due and paid to the position holder at the next clearing cycle following the relevant Conversion Date.

<u>Payment of Cash Adjustment Amount</u>

The Cash Adjustment amount will be applied to each relevant position account as an upfront fee (which may be a positive or negative amount) representing the Cash Adjustment on such Conversion RFR Swap and will be banked by CME in the next end of day clearing cycle on the next Clearing Day (for GBP LIBOR Swaps) or the day following the next end of day clearing cycle (for CHF and JPY LIBOR Swaps) following the relevant Conversion Date for each Conversion RFR Swap, during which cycle settlement variation for positions in the Conversion RFR Swaps will be determined and outstanding exposures and payments netted and settled in accordance with CME Rule 814. ("Settlements, Settlement Variation Payment, and Option Value").

Given that the change in NPV calculated by the Conversion Calculation is offset exactly by the Cash Adjustment amount, indicated by the figure in the "Net Cash Flow" column in the examples in the table below, the net cash flow with respect to the NPV change is zero on both a per account basis and an overall product basis for the Clearing House.

The Cash Adjustment process is a mandatory process that will apply in respect of cleared trades in Affected LIBOR Swaps in scope of the relevant Conversion process on the relevant Conversion Date.

Cash Adjustment Examples

The role of the Cash Adjustment process in each Conversion process is based on feedback from market participants and is designed to align with previous relevant industry initiatives, such as the industry-wide PA/Discounting transition in USD IRS to the Secured Overnight Financing Rate ("SOFR") in October 2020 and the July 2020 transition to €STR PA/Discounting for EUR IRS.[47]

Example 1:

The example below demonstrates the operational processing of a Conversion for a hypothetical GBP LIBOR Swap and the Cash Adjustment processes by CME, reflecting the operational characterization of the process as a "termination" of the Affected GBP LIBOR Swap and establishment of a "new" Conversion SONIA Swap. As noted above, in legal terms, the Conversion is treated as an amendment of the terms of the relevant cleared trade.

As of COB on Friday, December 17, 2021

	Value Date	Cleared Trade ID	Floating Rate Option	Status	NPV	NPV Adj.*	Previous NPV Adj.	Variation Margin	Upfront Payment	Fee Type	Payment Date	Net Cash Flow
Affected LIBOR Swap	12/17/21	12345	GBP-LIBOR-BBA	TERMINATED	0	0	55,000.00	-55,000.00	-	-	-	-55,000.00
Conversion RFR Swap	12/17/21	67890	GBP-SONIA-OIS Compound	CLEARED	56,000.00	60,000.00	0	60,000.00	-4,000.00	UPFRONT_FEE	12/20/2021	56,000.00

** NPV Adj. reflects the value of the swap removing any fee payments to be made the following business day (or subsequent settlement days, depending on the settlement offset; for example, for JPY LIBOR Swaps, settlement offset is 2 business days).*

*Cash Adjustment Calculation Example**

Affected LIBOR Swap Valuation NPV Adj. as at 12/17/21) = 56,000.00
Conversion RFR Swap Valuation (NPV Adj. as at 12/17/21) = 60,000.00
Cash Adjustment = Change in Adjusted NPV = 4,000.00

** Note: In this example, the cash adjustment offsets the gain of 4,000 between the Affected LIBOR Swap and the Conversion RFR Swap*
Note: In the event where the relevant Conversion process results in an Affected LIBOR Swap being replaced by a set of Conversion RFR Swaps, the Cash Adjustment amount is determined by summation of the Adjusted NPV of each resulting Conversion RFR Swap arising from the conversion of the relevant Affected LIBOR Swap.

Conversion RFR Swap as of COB on Next Value Date

Value Date	Cleared Trade ID	Floating Rate Index	Status	NPV	NPV Adj.	Previous NPV Adj.	Variation Margin	Upfront Payment	Fee Type	Payment Date	Net Cash Flow

[47] See CME Clearing Advisory at https://www.cmegroup.com/content/dam/cmegroup/notices/clearing/2020/10/Chadv20-391.pdf.

12/20/21	67891	GBP-SONIA-OIS Compound	CLEARED	61,000.00	61,000.00	60,000.00	1,000.00	-	-	-	1,000.00

Calculation Breakdown (12/17)
Affected LIBOR Swap VM = NPV Adj. – Previous NPV Adj.
= 0 - 55,000.00 = -55,000.00
PnL Change = NPV Adj. (Conversion RFR Swap) - NPV Adj. (Affected LIBOR swap)
= 60,000.00 – 56,000.00 = 4,000.00
Cash Adjustment Amount = (NPV Adj. of Affected LIBOR Swap –NPV Adj. of Conversion RFR Swap)
= 56,000.00 – 60,000.00 = -4,000.00
NPV Adj. (Conversion RFR Swap) = NPV – Upfront Payment
= 56,000.00 – (-4,000.00) = 60,000.00

Example 2: One-to-many scenario

The example below demonstrates the operational processing of a Conversion for a hypothetical GBP LIBOR Swap and the Cash Adjustment processes by CME, showing a "one-to-many" conversion where the Conversion RFR Swap output is two SONIA OIS (Conversion RFR Swap 1 and Conversion RFR Swap 2 in the illustration below).

As of COB on Friday, December 17, 2021

	Value Date	Cleared Trade ID	Floating Rate Option	Status	NPV	NPV Adj.*	Previous NPV Adj.	Variation Margin	Upfront Payment	Fee Type	Payment Date	Net Cash Flow
Affected LIBOR Swap	12/17/21	56789	GBP-LIBOR-BBA	TERMINATED	0	0	75,000.00	-75,000.00	-	-	-	-75,000.00
Conversion RFR Swap 1	12/17/21	34567	GBP-SONIA-OIS Compound	CLEARED	50,000.00	45,000.00	0	45,000.00	5,000.00	UPFRONT_FEE	12/20/2021	50,000.00
Conversion RFR Swap 2	12/17/21	34568	GBP-SONIA-OIS Compound	CLEARED	20,000.00	20,000.00	0	20,000.00	-	-	-	20,000.00

** NPV Adj. reflects the value of the swap removing any fee payments to be made the following business day (or subsequent settlement days, depending on the settlement offset; for example, for JPY LIBOR Swaps, settlement offset is 2 business days).*

*Cash Adjustment Calculation Example**

Affected LIBOR Swap Valuation NPV Adj. as at 12/17/21) = 70,000.00
Conversion RFR Swap 1 Valuation (NPV Adj. as at 12/17/21) = 45,000.00
Conversion RFR Swap 2 Valuation (NPV Adj. as at 12/17/21) = 20,000.00
Cash Adjustment = Change in Adjusted NPV = 70,000.00 – (45,000.00 + 20,000.00) = 5,000.00

Conversion RFR Swap as of COB on Next Value Date

Value Date	Cleared Trade ID	Floating Rate Index	Status	NPV	NPV Adj.	Previous NPV Adj.	Variation Margin	Upfront Payment	Fee Type	Payment Date	Net Cash Flow
12/20/21	34567	GBP-SONIA-OIS Compound	CLEARED	51,000.00	51,000.00	45,000.00	6,000.00	-	-	-	6,000.00

12/20/21	34568	GBP-SONIA-OIS Compound	CLEARED	20,500.00	20,500.00	20,000.00	500.00	-	-	-	500.00

Calculation Breakdown (12/17)

Affected LIBOR Swap VM = NPV Adj. – Previous NPV Adj.
= 0 - 75,000.00 = -75,000.00
PnL Change = NPV Adj. (Sum of Conversion RFR Swaps) - NPV Adj. (Affected LIBOR swap)
= (45,000.00 + 20,000.00) – 70,000.00 = -5,000.00
Cash Adjustment Amount = (NPV Adj. of Affected LIBOR Swap – Sum of NPV Adj. of Conversion RFR Swaps)
= 70,000.00 – (45,000.00 + 20,000.00) = 5,000.00
NPV Adj. (Sum of Conversion RFR Swaps) = Sum of Conversion RFR Swaps NPV – Upfront Payment
= (50,000.00 + 20,000.00) – (5,000.00) = 65,000.00

Where the holder of the position in a cleared trade in an Affected LIBOR Swap receives a positive change in NPV of that position resulting from the Conversion to the relevant RFR Floating Rate Option (which represents a change in value which must be paid to the account holder from the Clearing House as central counterparty and therefore party to the other side of the cleared trade), the Cash Adjustment will operate to provide an equal and opposite offsetting adjustment amount which must be paid from the position holder to the Clearing House (again, in its capacity as central counterparty acting as the other party to the cleared trade) in the form of an upfront fee on the relevant Conversion RFR Swap. Given that the change in NPV and the Cash Adjustment are equal and opposite, the net cash flow for each account with respect to the change in valuation on each cleared trade is zero.

The position holder on the other side of the cleared trade receives a negative change in NPV of that position resulting from the Conversion to the relevant RFR Floating Rate Option, which must be paid from the account holder to the Clearing House (as central counterparty and party to the other side of the cleared trade). The Cash Adjustment provides for an equal and opposite offsetting adjustment amount which must be paid to the position holder from the Clearing House in the form of an upfront fee. Again, the net cash flow for each account with respect to the change in valuation on each cleared trade is therefore zero.

CME's approach to "compensation" arising from change in NPV through the Cash Adjustment process is widely supported by market participants. The process has been discussed with clearing firms and their customers and is understood to be consistent with the needs and expectations of market participants, and consistent with wider industry initiatives.

Clearing of Conversion RFR Swaps

Each Conversion RFR Swap will be cleared by CME in accordance with the CME Rules.

From the completion of the end of day clearing cycle on the relevant Conversion Date, each Conversion RFR Swap will for the remaining lifecycle of the relevant cleared trade be subject to valuation and settlement variation (as defined in the CME Rules) for each clearing cycle following the relevant Conversion Date.

Operational Messaging and Reporting

As noted above, in legal and contractual terms, each relevant Conversion process will amend the terms of cleared trades in CME cleared Affected LIBOR Swaps, resulting in the establishment of replacement cleared trades in the form of the Conversion RFR Swaps. This is reflected in operational terms by the reporting of each Conversion RFR Swap by CME to CME SDR with reference to the "Prior USI" of the relevant corresponding Affected LIBOR Swap. From an operational perspective within the CME clearing system, in each case the relevant Conversion will be processed by CME as a "termination" of each relevant Affected LIBOR Swap and the establishment of a "new" corresponding cleared trade within the clearing system in the form of the relevant Conversion RFR Swap.

To reflect the operational processes within the clearing system, CME will send:

- a termination message to relevant CME clearing firms in respect of the termination of each relevant Affected LIBOR Swap; and
- a clearing confirmation message to relevant CME clearing firms in respect of the establishment of each new relevant Conversion RFR Swap.

As part of the relevant Conversion process, all relevant Trade IDs on the relevant Affected LIBOR Swaps will be carried over to the relevant Conversion RFR Swaps. In order to identify the link between each Affected LIBOR Swap and the relevant Conversion RFR Swap, CME will add a replacement Trade ID and Original Trade ID respectively in the History section of the clearing confirmation messages.

Reporting to SDR

CME will report the result of the relevant Conversion in each case to CME SDR in accordance with the requirements of the CFTC's Part 45 Regulations, to reflect the conversion of each Affected LIBOR Swap into each corresponding Conversion RFR Swap. With regard to reporting data submitted to SDR in respect of each Conversion RFR Swap, CME will populate the "Prior USI" field with the USI of the relevant Affected LIBOR Swap to reflect the nature of the Conversion process. For SDR reporting purposes, reporting rows will be generated and submitted to CME SDR terminating the USI of each Affected LIBOR Swap and CME will ensure that each Conversion RFR Swap will be reported as a "New Trade."

Fees for GBP/CHF/JPY LIBOR Transition Process

As set out in Clearing Advisory 21-355 and referred to in CME Submission 21-413 (relating to the conversion process for EONIA swaps that took place on October 15, 2021) in supporting transition to RFRs, CME will apply a transaction fee per line item for conversion of any CME cleared interest rate swaps that reference GBP, CHF or JPY LIBOR where such swaps are converted by the Clearing House into equivalent overnight index swaps referencing the relevant nominated successor RFR rate to GBP LIBOR, CHF LIBOR or JPY LIBOR respectively (a "Conversion Fee"). In each case the Conversion Fee shall be a fee of $10 which shall be applied by the Clearing House per line item subject to the relevant Conversion and shall apply on the resulting RFR-referencing Conversion RFR Swap transactions.[48]

Fee Type	Trade Types	Products	Source, Terminate Reason (TR),	HOUSE FM / NONFM	CUSTOMER Standard Client Schedule	High Turnover (HTS)

[48] The Conversion Fee shall not apply to single unit trades booked for the specific purposes of preserving additional payments.

			Create Reason (CR)			
RFR Conversion Fee	All	All	CR = Index Conversion	$10 per line item*	$10 per line item*	$10 per line item*

*This fee will be charged on the resulting RFR trades with the exception of single unit trades booked for the specific purposes of preserving additional payments, which will not be charged.[49]

Note: for bilateral swaption exercise that result in a Conversion RFR Swap under the legacy index reference rate (e.g. GBP LIBOR, etc), CME will conduct a daily conversion of these trades to the respective RFR rate. A charge of $10 per converted trade will be applied to the position in addition to new trade clearing fees.

As a result, CME will apply a Conversion Fee of $10 for each Conversion RFR Swap that is established as a result of the relevant Conversion process in each case.

Limitation of Acceptance for Clearing for GBP, CHF and JPY LIBOR Referencing Swaps Following Relevant Secondary Conversion Date

From close of business on the relevant Secondary Conversion Date, CME Clearing will cease to accept for clearing trades in GBP, CHF and JPY LIBOR Swaps, as applicable, except, in order to support ongoing clearing and conversion of LIBOR Swap trades resulting from exercise of a bilateral (uncleared) Swaption contract, CME will continue to accept GBP, CHF and JPY LIBOR Swaps for clearing where the Start Date of the submitted LIBOR Swap is on or after the Cleared Date (date of submission) of the submitted LIBOR Swap, which must be on or after close of business on the relevant Secondary Conversion Date.

CME will implement validation processes that shall apply from the relevant Secondary Conversion Date which will provide that:

- If the Start Date of the submitted GBP, CHF or JPY LIBOR Swap is on or after the Cleared Date, the trade will be accepted for clearing by CME; and
- If the Start Date of the submitted GBP, CHF or JPY LIBOR Swap is before the Cleared Date, the trade will not be accepted for clearing by CME.

Where an eligible GBP, CHF or JPY LIBOR Swap is submitted for clearing with a Cleared Date that is on or after the Index Cessation Effective Date for the relevant LIBOR rate (a "Residual Swap"), where the Floating Rate Option of such Residual Swap references either GBP LIBOR, JPY LIBOR or CHF LIBOR, immediately on acceptance of the trade for clearing CME shall be deemed to CME apply the Permanent Cessation Fallbacks in CME Rule 90102.H. and shall amend the terms of the Residual Swap such that references to the relevant LIBOR rate shall be deemed to refer to the relevant Fallback Rate as the

[49] For example, in the case of a Seasoned LIBOR Swap with different fixed and floating coupon dates, the relevant LIBOR Swap will be converted to two Conversion RFR Swaps, the second of which is a "single unit trade" booked for the specific purposes of preserving additional payments and therefore no Conversion Fee will be charged in respect of the second Conversion RFR Swap as a result.

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successor floating rate option to the relevant LIBOR rate of such Residual Swap for the purposes of clearing the trade prior to conversion at COB.

At COB on the date of acceptance for clearing by CME of such Residual Swap, CME will apply the relevant Conversion process to such trade to convert the Residual Swap into a corresponding Conversion RFR Swap, utilizing the methodology for the relevant Primary Conversion Date.

Implementation of GBP/CHF/JPY LIBOR Transition

No amendments to the Affected Contract terms or the Rules are necessary to implement the relevant Conversions that make up the GBP/CHF/JPY LIBOR Transition. The GBP/CHF/JPY LIBOR Transition will be implemented via Advisory Notice published by the Clearing House setting out the terms of each Conversion, in the form set out in Exhibit 1. The Advisory Notice will be made available to Clearing Members, market participants and the general public via the CME website. The Advisory Notice will be binding on position holders in all Affected LIBOR Swaps on and after December 3, 2021.

In order to reflect the limited acceptance of GBP, CHF and JPY LIBOR IRS from the relevant Secondary Conversion Date, the product rules for Affected LIBOR Swaps will be amended in Rule 90102.E.1. ("Interest Rate Swaps Rate Options"). Exhibit 2 below provides amendments to Rule 90102.E.1. in blackline format.

The GBP/CHF/JPY LIBOR Transition, each relevant Conversion and Cash Adjustment process are each a mandatory process and market participants will be notified in the Advisory Notice that the GBP/CHF/JPY LIBOR Transition will apply to all positions in Affected LIBOR Swaps on the relevant Conversion Date, except those maturing on or before the relevant Conversion Date. Market participants will be reminded that they should consider the terms and impact of the GBP/CHF/JPY LIBOR Transition as set out in the Advisory Notice and take appropriate action prior to the relevant Conversion Date. Position holders that do not wish to participate in the GBP/CHF/JPY LIBOR Transition must close out any cleared trades in Affected LIBOR Swaps prior to the relevant Conversion Date.

In addition to the information provided in the Advisory Notice, the Clearing House will provide the following information applicable to positions in the Affected LIBOR Swaps on the relevant Conversion Date, or as otherwise specified below:

- End of Day Trade Register report made available by the Clearing House only to IRS clearing members and clients via an sFTP site;
- CME OTC IRS Bookkeeping document, made available to IRS Clearing Members and their customers on request;
- FpML Confirmations for Affected LIBOR Swaps and Conversion RFR Swaps; and
- LIBOR to RFR Cash Adjustment Report made available by the Clearing House only to IRS Clearing Members and clients via an sFTP site, illustrating the NPV for each Affected LIBOR Swap and the revised NPV for each Conversion RFR Swap and the Cash Adjustment at the trade level for each position account. This report will be available as an "Indicative Analysis Report" in the CME Production Environment on a daily basis beginning on Monday November 1, 2021 until January 3, 2022. The actual Cash Adjustment amounts will be indicated in the IRS Trade Register at COB on the relevant Conversion Date.

CME will not apply the Permanent Cessation Fallbacks in CME Rule 90102.H. ("Application of Permanent Cessation Fallbacks") in respect of any IRS Contract referencing Affected LIBOR Swaps, except in relation to any cleared GBP, JPY or CHF LIBOR Swap trade where the start date of the submitted LIBOR swap is on or after the relevant Index Cessation Effective Date.

Governance, Industry Consultation, Comments/Opposing Views:

CME recognizes that the GBP/CHF/JPY LIBOR Transition and each relevant Conversion will have an impact on market participants holding open positions in GBP, CHF and JPY LIBOR Swaps. As noted above, CME has engaged in discussions with Clearing Members and market participants with respect to the GBP/CHF/JPY LIBOR Transition, both specifically in relation to treatment of Affected LIBOR Swaps and as part of wider discussions around transition away from IBORs to alternative risk-free reference rates. Discussions with market participants began in 2020, and continued through the first half of 2021. In Q1 2021 CME provided a series of overview documents setting out its proposals for the GBP/CHF/JPY LIBOR Transition, culminating in publication of a summary of the proposed final methodology for the GBP/CHF/JPY LIBOR Transition which was provided to market participants and made publicly available in June 2021. Throughout the first half of 2021, CME conducted extensive discussions with market participants based on the published proposals during this period. In August 2021 CME published a detailed operational methodology presentation providing full operational level detail on the processes that CME will follow to implement the transition.[50] As part of its industry engagement, CME provided an overview of its transition process to the ARRC Paced Transition Plan Working Group and also to the CFTC Market Risk Advisory Committee Subcommittee on Interest Rate Benchmark Reform. The methodology for the GBP/CHF/JPY Transition and the text of the Advisory Notice is a product of the feedback provided by market participants during these consultation processes.

As part of the preparations for the GBP/CHF/JPY Transition, CME has provided market participants with information, reporting tools and operational “dress rehearsals” to promote operational readiness and to ensure that CME clearing members and their customers understand the processes of the transition and are operationally ready for the relevant Conversion Dates.[51]

As noted above, market participants have expressed a clear preference for CME to effect a conversion of GBP, CHF and JPY LIBOR Swaps a short period ahead of the relevant scheduled “Index Cessation Effective Date” in each case. Market participants have also requested that CME should ensure that the timing for its transition processes should be aligned with that of other major EU and UK CCPs in order to minimize market and operational disruption.

[50] CME provided an initial IBOR Conversion Overview Proposal to market participants in January 2021, with further engagement and updates in February 2021. In March 2021, CME provided a further updated proposal to market participants and CME’s “IBOR Conversion Proposal for Cleared Swaps” was provided to market participants in April 2021. CME published a detailed conversion plan in June 2021, available at: https://www.cmegroup.com/trading/interest-rates/files/cleared-swaps-considerations-for-ibor-fallbacks-and-conversion-plan.pdf. A further public overview was made available on the CME Group website in August 2021 at: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf.

[51] Operational testing and additional support was scheduled and provided by CME prior to the proposed date of implementation, including a New Release Dress Rehearsal for the CHF/JPY Conversion for JPY and CHF LIBOR Swaps on October 2, 2021 and a corresponding Dress Rehearsal for GBP LIBOR Swaps on November 5, 2021. An additional New Release Dress Rehearsal took place for JPY, CHF and GBP LIBOR Swaps that fix between the corresponding New Release Dress Rehearsal Conversion Date (October 22 or November 5) and Friday, November 12, 2021. For any JPY, CHF or GBP LIBOR Swaps cleared in New Release on November 15, 2021 or thereafter, CME will run a daily conversion cycle in the New Release environment to establish Conversion RFR Swaps in the New Release environment. Details of the relevant Dress Rehearsals are available in CME Clearing Advisory 21-392 and CME Clearing Advisory 21-377.

During the consultation process, there were no substantive opposing views raised by market participants with respect to the proposals for the GBP/CHF/JPY LIBOR Transition as set out in the text of the Advisory Notice.

The Clearing House IRS Risk Committee reviewed the GBP/CHF/JPY LIBOR Transition proposal in the July 2021 meeting of the IRS Risk Committee and no objections were raised to the Conversion proposals. The Clearing House Oversight Committee ("CHOC") reviewed the Conversion proposal in the September 2021 meeting of the CHOC and no objections were raised to the Conversion proposals.[52] The Clearing House Oversight Committee reviewed the substantive operative text of the Clearing Advisory in the November 2021 meeting of the CHOC and no objections were raised to the Conversion proposals or the text of the Clearing Advisory.

CME is not aware of any other substantive opposing views with respect to the GBP/CHF/JPY LIBOR Transition or the text of the Advisory Notice.

Derivatives Clearing Organization Core Principles ("DCO Core Principles") Analysis in Connection with the GBP/CHF/JPY LIBOR Transition and Advisory Notice

CME reviewed the DCO Core Principles as set forth in the CEA. During the review, CME identified the following DCO Core Principles as potentially being impacted:

DCO Core Principle D – Risk Management: Following extensive market consultation, the implementation of the GBP/CHF/JPY LIBOR Transition via the Advisory Notice by CME has been designed to be straightforward from an operational processing perspective. The GBP/CHF/JPY LIBOR Transition ensures that each Conversion RFR Swap will retain the key economic terms of the corresponding Affected LIBOR Swap to the extent practicable, in accordance with CME's published methodology, and shall include the relevant ISDA Spread Adjustment. Further, pricing the Affected LIBOR Swaps under the ISDA Fallback Pricing Methodology in order to compute the Cash Adjustment ensures that the LIBOR Swap value is fair and is not subject to market manipulation. As a result, differences in projected cash flow amounts are reduced which ensures the Conversion will result in a minimal change in risk exposure for a position holder of an Affected LIBOR Swap.

Based on extensive outreach to customers, CME understands that market participants support CME's approach and the close alignment with the approach of other CCPs.

DCO Core Principle L – Public Information: The implementation of the GBP/CHF/JPY LIBOR Transition via the Advisory Notice and the operational elements of the GBP/CHF/JPY LIBOR Transition will affect firms holding GBP, CHF and JPY LIBOR. A summary of the GBP/CHF/JPY LIBOR Transition was provided to market participants and made publicly available in June 2021, with a subsequent update in August 2021. CME has taken appropriate steps to provide market participants with sufficient information to enable those market participants to identify and evaluate effectively the risk associated with holding positions in GBP, CHF and JPY LIBOR Swaps at the time of the relevant Conversion and thereafter. The operational workflows and legal basis for the GBP/CHF/JPY LIBOR Transition have been made publicly available. As

[52] CME will effect the Rule amendments under the authority of CME under Chapter 2 (Government) of the CME Rulebook which provides (at Rule 230.(j)) that the CME Board of Directors shall "make and amend the Rules; provided the Board may also delegate authority to make and amend the rules as it deems appropriate."

noted above, as part of the preparations for the GBP/CHF/JPY LIBOR Transition, CME has provided market participants with a number of operational "Dress Rehearsal" testing environments for the relevant Conversion processes, to simulate the processes for the relevant Conversion Date.[53]

CME will report the operational processes relating to the GBP/CHF/JPY LIBOR Transition in accordance with Part 45 of the CFTC's Regulations, as described above.

DCO Core Principle N – Antitrust Considerations: The GBP/CHF/JPY LIBOR Transition will not result in any unreasonable restraint of trade or impose any material anticompetitive burden. The GBP/CHF/JPY LIBOR Transition reflects a critical step in an industry-wide initiative to transition interest rate swaps and other products away from LIBOR rates, in line with the objectives of market participants and industry working groups, which is widely supported by market participants as promoting the orderly transition away from GBP, CHF and JPY LIBOR. CME has engaged with market participants to obtain feedback on the processes for the GBP/CHF/JPY LIBOR Transition and has not received any comments regarding antitrust/fair competition concerns.

The text of the CME Clearing Advisory Notice is attached hereto in Exhibit 1.

The Clearing Advisory Notice shall be effective on December 3, 2021.

Pursuant to Section 5c(c)(1) of the CEA and CFTC Regulation 40.6(a), CME certifies that rule modifications in the form of the Clearing Advisory Notice complies with the CEA and the regulations thereunder.

CME certifies that this submission has been concurrently posted on CME Group's website at http://www.cmegroup.com/market-regulation/rule-filings.html.

Should you have any questions concerning the above, please contact the undersigned at (212) 299-2200 or via e-mail at CMEGSubmissionInquiry@cmegroup.com.

Sincerely,

/s/ Christopher Bowen
Managing Director & Chief Regulatory Counsel

Attachments: Exhibit 1 – CME Clearing Advisory Notice
Exhibit 2 – Amendments to CME Chapter 901 (blackline format)
Exhibit 3 – CME Methodology for GBP/CHF/JPY LIBOR Transition

[53] See footnote 52 above.

Exhibit 1 CME Clearing Advisory Notice

CME Group | Advisory Notice

TO: Clearing Member Firms
Back Office Managers

DATE: [ ], 2021

FROM: CME Clearing

NOTICE #: 21-[ ]

SUBJECT: **Modification of Cleared Over-the-Counter ("OTC") British Pound ("GBP"), Japanese Yen ("JPY") and Swiss Franc ("CHF") Denominated Interest Rate Swap Products Referencing the London Interbank Offered Rate ("LIBOR") and Limitation of Acceptance for Clearing**

Background

On March 5, 2021, the U.K. Financial Conduct Authority ("FCA") announced that certain settings of GBP, CHF and JPY LIBOR (among other currencies) will be permanently discontinued or will cease to be provided in a "representative" manner by the administrator of ICE LIBOR[1], ICE Benchmark Administration Limited ("IBA"), immediately after publication on December 31, 2021.[2] While publication of certain GBP and JPY LIBOR settings will continue in "non-representative" form after December 31, 2021, use of these "non-representative" or "synthetic" LIBOR rates will be limited, either due to regulatory restrictions on market participants or as a result of the application of contractual "fallback" provisions in the terms of interest rate swap contracts that are triggered following the cessation or loss of "representativeness" of the relevant LIBOR. As a result, market participants are expected to transition the overwhelming majority of interest rate swap ("IRS") products that reference the affected LIBOR rates to the relevant nominated successor "risk-free rates" ("RFRs") following publication on December 31, 2021.[3]

The announcement of the permanent cessation or "non-representativeness" of a LIBOR rate constitutes an "Index Cessation Event" within the meaning of contractual "fallback" provisions within the International Swaps and Derivatives Association, Inc. ("ISDA") IBOR Fallbacks Supplement, ISDA IBOR Fallbacks Protocol and the ISDA 2021 Interest Rate Derivatives Definitions (the "2021 ISDA Definitions"),[4] triggering

[1] The family of interest rate benchmarks known as "LIBOR" are also known as "ICE LIBOR" (LIBOR® and ICE LIBOR®) and are administered and published by ICE Benchmark Administration Limited, a U.K. authorised and regulated benchmark administrator. ICE LIBOR is a registered trademark of Intercontinental Exchange Holdings, Inc. and is used under license.

[2] See FCA announcement, March 5, 2021 available at https://www.fca.org.uk/news/press-releases/announcements-end-libor.

[3] On September 29, 2021, the FCA announced that it will require IBA to continue to publish certain GBP and JPY LIBOR settings under a "synthetic" methodology, based on term RFRs, for the duration of 2022 on a "non-representative" basis, i.e. the rate will no longer be representative of the underlying market or the economic reality it is intended to measure.

[4] Details on the ISDA IBOR Fallbacks Supplement and the ISDA IBOR Fallbacks Protocol are available at: https://www.isda.org/2020/10/23/isda-launches-ibor-fallbacks-supplement-and-protocol/. The 2021 ISDA Definitions came into effect

the contractual fallback of interest rate swaps referencing the relevant ISDA terms from the relevant LIBOR rate to the relevant term and spread adjusted nominated successor RFR[5] (the "Fallback Rate") on January 4, 2022 for each of GBP LIBOR, CHF LIBOR and JPY LIBOR (the "Index Cessation Effective Date" in each case).[6] The relevant "Fallback Rate" in each case under the ISDA fallbacks is calculated and made publicly available by Bloomberg Index Services Limited ("BISL") according to the industry-agreed methodology published by ISDA (the "ISDA Fallback Pricing Methodology"), based on the combination of the following components for each relevant tenor:

- Adjusted RFR: compounded setting in arrears RFR for each relevant term;
- ISDA Spread Adjustment: median of the historical differences between the relevant LIBOR rate for each tenor and the compounded RFR for that tenor over a five-year period prior to the relevant trigger event.[7]

CME cleared GBP LIBOR, CHF LIBOR and JPY LIBOR IRS Contracts (the "Affected LIBOR Swaps") currently incorporate the ISDA "fallback" provisions to provide for contractual fallback to the relevant alternative spread and term adjusted RFR on an Index Cessation Effective Date.[8] However, following

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in October 2021 and incorporate contractual fallbacks substantially similar to those contained in the ISDA IBOR Fallbacks Supplement and IBOR Fallbacks Protocol.

[5] For GBP LIBOR IRS, the Sterling Overnight Index Average ("SONIA") interest rate benchmark administered by the Bank of England is the nominated RFR successor to GBP LIBOR. For CHF LIBOR IRS, the Swiss Average Rate Overnight ("SARON") interest rate benchmark administered and calculated by SIX Swiss Exchange Financial Information AG ("SIX") is the nominated RFR successor to CHF LIBOR. For JPY LIBOR IRS, the Tokyo Overnight Average Rate ("TONA") interest rate benchmark calculated and published by the Bank of Japan is the nominated RFR successor to JPY LIBOR.

[6] The ISDA "Spread Adjustment" methodology is designed to reflect a portion of the structural differences between interbank offered rates, such as LIBOR, and the RFRs used for the fallbacks in the case of each LIBOR rate.

[7] BISL and its affiliates was selected by ISDA as the vendor to calculate and distribute the RFR adjustments determined in accordance with the ISDA Fallback Pricing Methodology. BISL publishes the ISDA Spread Adjustment data at https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf. BISL calculates and publishes the Adjusted RFR according to the prescribed ISDA methodology, as set out in the IBOR Fallback Rate and Adjustments Rule Book published by BISL at https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf. BISL publishes a summary of the IBOR Fallbacks process on its website at https://data.bloomberglp.com/professional/sites/10/IBOR-Fallbacks-Fact-Sheet.pdf. BLOOMBERG is a trademark and service mark of Bloomberg Finance L.P. ("BFLP"). ISDA is a trademark and service mark of the International Swaps and Derivatives Association, Inc. ("ISDA"). LIBOR® and ICE LIBOR® are trademarks of ICE Benchmark Administration Limited and/or its affiliates (collectively, "ICE") and are used with permission under licence by ICE. Bloomberg Index Services Limited ("BISL" and, collectively with BFLP and their affiliates, "Bloomberg") maintains and calculates the 'fallback' data comprising the 'all in' fallback rates and their component parts, the adjusted 'risk-free' reference rates and the spread adjustment (collectively with any other data or information relating thereto or contained therein, the "Fallback Rates Data") under an engagement between BISL and ISDA. To the extent Bloomberg uses LIBOR in the determination of certain Fallback Rates Data, it does so under licence from ICE. None of Bloomberg, ISDA or, where applicable, ICE guarantees or makes any claim, prediction, warranty or representation whatsoever, express or implied, regarding the timeliness, accuracy, completeness of, or fitness for a particular purpose with respect to, the Fallback Rates Data and each shall have no liability in connection with the Fallback Rates Data. Without limiting the foregoing, to the fullest extent permitted by applicable law, none of Bloomberg, ISDA or, where applicable, ICE will be liable in contract or tort (including negligence), for breach of statutory duty or nuisance, or under antitrust laws, for misrepresentation or otherwise, in respect of any inaccuracies, errors, omissions, delays, failures, cessations or changes (material or otherwise) in the Fallback Rates Data, or for any damage, expense or other loss (whether direct or indirect) suffered by any person arising out of or in connection with the Fallback Rates Data or any reliance placed upon it by any person, and all implied terms, conditions and warranties, including, without limitation, as to quality, merchantability, fitness for purpose, title or non-infringement, in relation to the Fallback Rates Data, are hereby excluded. None of Bloomberg, ISDA or, where applicable, ICE makes any representations regarding whether the Fallback Rates Data would be appropriate for derivative or non-derivative financial instruments, including derivatives transacted outside of standard ISDA documentation and related protocols. Market participants are encouraged to consider and analyze the details of the Fallback Rates Data and determine independently whether they would be appropriate for any such use.

[8] In January 2021, CME implemented certain changes to the CME Rulebook to incorporate "fallback" provisions into CME cleared IRS to provide for contractual fallback to a relevant alternative spread and term adjusted RFR on the permanent discontinuation or "non-representativeness" of certain key IBORs, including GBP, CHF and JPY LIBORs. See https://www.cmegroup.com/content/dam/cmegroup/notices/clearing/2021/01/Chadv21-039.pdf. In October 2021, concurrently with

extensive engagement between CME and cleared derivatives industry participants in 2021, market participants have indicated to CME that they do not wish CCPs to apply these fallback provisions to cleared GBP, JPY and CHF LIBOR IRS. Instead, market participants have expressed a clear preference for a CCP-led conversion of such IRS into standardized overnight index swaps ("OIS") referencing the relevant nominated RFR, and accounting for the ISDA Spread Adjustment on the floating leg of such OIS, to take place before the "Index Cessation Effective Date" and the implementation of the ISDA-derived contractual fallback provisions in CCP rulebooks. As a result, in response to this market participant feedback, CME has determined that it will not implement the "Permanent Cessation Fallbacks" anticipated by CME Rule 90102.H. ("Application of Permanent Cessation Fallbacks") for GBP, CHF and JPY LIBOR IRS on the relevant "Index Cessation Effective Date" in each case and proposes instead that, subject to regulatory review, CME shall effect a series of conversions of CME cleared trades in Affected LIBOR Swaps, amending the terms of such swaps to reference the relevant successor RFR Floating rate option, with a cash adjustment mechanism to compensate for any resulting change in valuation and accounting for the relevant ISDA Spread Adjustment[9], further details of which are provided below. Following the relevant "Index Cessation Effective Date," CME will provide only a limited clearing service in respect of Affected LIBOR Swaps, in order to continue to support clearing of any Affected LIBOR Swap that results from the exercise of a bilateral (uncleared) Swaption contract exercise after the Index Cessation Effective Date, and CME will subject any eligible swaps to a similar conversion process on the day of acceptance of such swap for clearing (such processes, together, the "GBP/CHF/JPY LIBOR Transition").

The conversion processes that together form the GBP/CHF/JPY LIBOR Transition have been determined by CME based on extensive discussions with market participants and to ensure alignment with wider industry initiatives for transition of cleared GBP LIBOR, JPY LIBOR and CHF LIBOR IRS products.

This Clearing Advisory sets out the terms of the GBP/CHF/JPY LIBOR Transition and shall be binding on Clearing Members and position holders of CME cleared IRS Contracts in Affected LIBOR Swaps from close of busines on Friday, December 3, 2021.

Summary of Conversion Process

Conversion of CME cleared GBP, JPY and CHF LIBOR Swaps

Subject to regulatory review, CME will transition CME cleared GBP, JPY and CHF LIBOR Swaps by converting the relevant LIBOR referencing IRS to CME cleared standardized OIS referencing SONIA, TONA and SARON, respectively, and accounting for the relevant ISDA Spread Adjustment on the floating leg of the resulting standardized OIS, on the relevant Conversion Date determined by CME and specified in the table below by category of cleared contract (and thereafter on a daily basis for a limited category of contracts), utilizing a mandatory conversion process, as summarized below:

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the implementation by ISDA of the 2021 ISDA Definitions, by way of amendment to the CME Rules and as set out in Clearing Advisory 21-335, CME revoked Clearing Advisory 21-039 and confirmed the incorporation into the CME Rules of the contractual fallback triggers and fallback provisions contained within the 2021 ISDA Definitions in CME Rule 90102.H ("Application of Permanent Cessation Fallbacks"), replacing those substantially equivalent provisions contained in the ISDA IBOR Fallbacks Supplement and subsequent additional supplements by ISDA.

[9] In order to reflect the differences in standard floating leg day count between TONA OIS (actual/365.fixed) and JPY LIBOR Swaps (actual/360), CME will apply an adjustment to the ISDA Spread Adjustment that is applied to each tenor of JPY LIBOR Swaps subject to the relevant conversion processes. This procedure will ensure that the relevant ISDA Spread Adjustment is amended to take into account the day count differential between the relevant swap terms.

Date	Relevant Conversion Date Event	CME cleared swaps subject to Conversion on date
December 3, 2021	JPY/CHF Primary Conversion Date	• JPY LIBOR IRS • CHF LIBOR IRS with a maturity date after the JPY/CHF Primary Conversion Date
December 17, 2021	GBP Primary Conversion Date	• GBP LIBOR IRS with a maturity date after the GBP Primary Conversion Date
January 3, 2022	CHF Secondary Conversion Date	• CHF LIBOR IRS that reference a Fixing Day between the JPY/CHF Primary Conversion Date and the CHF Secondary Conversion Date • CHF LIBOR IRS submitted for clearing after close of business ("COB") on the JPY/CHF Primary Conversion Date and before COB on the CHF Secondary Conversion Date • CHF LIBOR IRS that result from exercise of bilateral swaptions submitted for clearing after the JPY/CHF Primary Conversion Date and before the CHF Secondary Conversion Date
January 4, 2022	JPY Secondary Conversion Date	• JPY LIBOR IRS that reference a Fixing Day between the JPY/CHF Primary Conversion Date and the JPY Secondary Conversion Date • JPY LIBOR IRS submitted for clearing after COB on the JPY/CHF Primary Conversion Date and before COB on the JPY Secondary Conversion Date • JPY LIBOR IRS that result from exercise of bilateral swaptions submitted for clearing after the JPY/CHF Primary Conversion Date and before the JPY Secondary Conversion Date
January 4, 2022	GBP Secondary Conversion Date	• GBP LIBOR IRS that reference a Fixing Day between the GBP Primary Conversion Date and the GBP Secondary Conversion Date • GBP LIBOR IRS submitted for clearing after COB on the GBP Primary Conversion Date and before COB on the GBP Secondary Conversion Date • GBP LIBOR IRS that result from exercise of bilateral swaptions submitted for clearing after the GBP Primary Conversion Date and before the GBP Secondary Conversion Date
Daily basis after relevant Secondary Conversion Date	Ongoing Conversion on the date of acceptance for clearing by CME	• JPY LIBOR IRS • CHF LIBOR IRS • GBP LIBOR IRS with a start date after COB on the relevant Secondary Conversion Date, in order to support clearing and conversion of swaps that result from exercise of bilateral swaptions

Conversion of Affected LIBOR Swaps on the relevant Primary Conversion Date

With the exception of:

(iii) Affected LIBOR Swaps that mature on the relevant Primary Conversion Date; or
(iv) Affected LIBOR Swaps which reference a Fixing Day between the relevant Primary Conversion Date and the relevant Secondary Conversion Date,

on the relevant Primary Conversion Date determined by CME for each contract, which date shall be prior to the relevant "Index Cessation Effective Date" for each of GBP, JPY and CHF LIBOR, CME will convert each cleared trade in Affected LIBOR Swaps into a corresponding standardized CME cleared OIS or series of corresponding standardized cleared swaps referencing the relevant nominated successor RFR, retaining the key economic terms of the original Affected LIBOR Swap trade, subject to certain adjustments determined by CME described below and applied according to its published methodology[10]:

- each resulting RFR swap arising from the relevant Conversion process (each, a "Conversion RFR Swap") will account for the relevant ISDA Spread Adjustment on the floating leg of the swap;[11]
- CME will maintain the known LIBOR rate coupons through the relevant Conversion process by the addition of known coupons as upfront fees to the relevant Conversion RFR Swap;
- in order to neutralize the value transfer from the relevant Conversion of the economic position of each Affected LIBOR Swap into each relevant Conversion RFR Swap, CME will calculate a cash adjustment amount that will be based on the difference between the net present value ("NPV") of the Affected LIBOR Swap and the NPV of the Conversion RFR Swap on the relevant Conversion Date. The Cash Adjustment for each Conversion RFR Swap will be equal and opposite to the change in NPV calculated by CME, and therefore may be a positive or negative amount depending on the position (the "Cash Adjustment").[12] The Cash Adjustment amount will be applied by CME in the form of upfront "fees" on each resulting cleared Conversion RFR Swap on the relevant Conversion Date;
- where applicable, known fixed and floating accruals will be calculated by CME and added to the Conversion RFR Swap as an upfront fee, in accordance with CME's published methodology;[13]
- cash flows relating to the Cash Adjustment will be applied in the next end of day clearing cycle following the relevant Conversion Date;
- the Cash Adjustment will ensure that the NPV change for position holders impacted by the change of floating rate option from GBP LIBOR to SONIA, from CHF LIBOR to SARON and JPY LIBOR to TONA, as applicable, will be neutralized;
- in each case, the Conversion RFR Swap will be cleared as a CME cleared RFR OIS, retaining the key economic terms of the original trade, subject to certain adjustments set out above and determined by CME according to its published methodology, and the Floating Rate Option of the converted cleared trade will be:
    - GBP-SONIA-OIS Compound, the SONIA OIS reference rate, in the case of GBP LIBOR Swaps;
    - JPY-TONA-OIS Compound, the TONA OIS reference rate, in the case of JPY LIBOR Swaps; and
    - CHF-SARON-OIS Compound, the SARON OIS reference rate, in the case of CHF LIBOR Swaps.

Swaps referencing a Fixing Day between a Primary Conversion Date and Secondary Conversion Date

[10] CME's operational methodology for the GBP/CHF/JPY Transition Conversion processes was made available on the CME Group website in August 2021 at: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf and is included as Exhibit 3 to CME Submission 21-515.

[11] As noted above, CME will apply an adjustment to the ISDA Spread Adjustment that is applied to each tenor of JPY LIBOR Swaps subject to the relevant conversion processes to take into account the day count differential between the relevant swap terms.

[12] Where the holder of a Conversion RFR Swap had benefited from a change in NPV, an upfront fee equal and opposite to that amount of change in NPV would be applied to that Conversion RFR Swap and such amount would be due from the position holder at the next clearing cycle. Where the holder of a Conversion RFR Swap experiences a negative change in NPV, an upfront fee equal and opposite to that amount of change in NPV would be applied to the Conversion RFR Swap and such amount would be due to the position holder at the next clearing cycle. The net cash flow position for all participants is neutral. The net cash flow position for the Clearing House is neutral.

[13] In cases where the Effective Date of the LIBOR swap is prior to the relevant Index Cessation Effective Date (Seasoned Swaps), CME will maintain any known LIBOR or Fixed coupon payments that have not yet paid, applying these amounts as upfront "fees" on the Conversion RFR Swap. Preserving any known LIBOR or Fixed coupons on the Conversion RFR Swaps was viewed by market participants as a critical element of the conversion process.

With respect to CME cleared trades in Affected LIBOR Swaps that reference a Fixing Day between the relevant Primary Conversion Date and the relevant Secondary Conversion Date, at close of business on the relevant Secondary Conversion Date CME will convert such contracts to corresponding Conversion RFR Swaps utilizing the applicable conversion process applied by CME to relevant Affected LIBOR Swaps on the relevant Primary Conversion Date, as described above.[14]

Affected LIBOR Swaps submitted prior to a Secondary Conversion Date

With respect to any Affected LIBOR Swap submitted for clearing after COB on the relevant Primary Conversion Date but before COB on the relevant Secondary Conversion Date (including Swaps that result from the exercise of a bilateral (uncleared) Swaption contract exercise), at close of business on the relevant Secondary Conversion Date CME will convert such Affected LIBOR Swap contracts to corresponding Conversion RFR Swap(s) utilizing the applicable process applied by CME to relevant Affected LIBOR Swaps on the relevant Primary Conversion Date, as described above.

Limitation of Clearing Support for GBP, JPY and CHF LIBOR Swaps after Secondary Conversion Date

From COB on the relevant Secondary Conversion Date, except for the limited exception noted below, CME will cease to accept the relevant Affected LIBOR Swaps for clearing.

Until further notice by CME to market participants, in order to continue to support clearing of any Affected LIBOR Swap that results from the exercise of a bilateral (uncleared) Swaption contract exercise after the relevant Secondary Conversion Date, CME will accept for clearing any Affected LIBOR Swap that is submitted to CME for clearing following COB on the relevant Secondary Conversion Date where the start date of such swap is on or after such date. At COB on the date of acceptance for clearing, CME will convert such Affected LIBOR Swap contract to a corresponding Conversion RFR Swap utilizing the applicable process applied by CME to relevant Affected LIBOR Swaps on the relevant Primary Conversion Date, as described above.

Where an eligible GBP, CHF or JPY LIBOR Swap is submitted for clearing with a Cleared Date that is on or after the Index Cessation Effective Date for the relevant LIBOR rate, where the Floating Rate Option of such Residual Swap references either GBP LIBOR, JPY LIBOR or CHF LIBOR, immediately on acceptance of the trade for clearing and prior to the conversion of the trade at close of business, CME shall be deemed to CME apply the Permanent Cessation Fallbacks in CME Rule 90102.H and shall amend the terms of such swap such that references to the relevant LIBOR rate shall be deemed to refer to the relevant Fallback Rate as the successor floating rate option to the relevant LIBOR rate for the purposes of clearing the trade prior to conversion at COB.

[14] Where LIBOR fixings have occurred prior to the relevant Conversion process and are yet to settle on the relevant Primary Conversion Date, these will be maintained and carried over to the relevant Conversion RFR Swaps. Where LIBOR fixings would occur after the relevant Primary Conversion Date and prior to the relevant Index Cessation Effective Date, in order to maintain the economics and cash flows associated with these cleared trades, CME will convert these trades on the relevant Secondary Conversion Date, which is a date after the relevant fixing has occurred. The approach to LIBOR trades that reference a LIBOR Fixing Day between the relevant Conversion Date and the relevant Index Cessation Effective Date has been determined by CME based on extensive discussion with market participants. The approach determined by CME has the following advantages: (i) it respects the ICE LIBOR fixing between the relevant Conversion Date and the Index Cessation Effective Date; (ii) buy-side clients are sensitive to accepting basis swaps that might otherwise have been used to address the issue; (iii) this approach accounts for the compounded fixings for compounding and zero-coupon swaps; and (iv) this approach maintains the gross notional in each case.

Operational Overview of Conversion Processes

The operational processing steps for the Conversion processes are summarized below:

Amendment of Cleared Trades in Affected LIBOR Swaps

In legal and contractual terms, each Conversion process will amend the terms of cleared trades in CME cleared Affected LIBOR Swaps, converting the terms of each relevant cleared trade to a standardized CME cleared swap referencing the corresponding RFR, accounting for the relevant ISDA Spread Adjustment (as adjusted by CME, in the case of JPY LIBOR Swaps) on the floating leg, with certain key economic terms from the original Affected LIBOR Swap preserved to the extent practicable (e.g. Currency, Fixed Direction, Maturity Date, Trade Date, etc.) and other economic terms amended as applicable in accordance with CME's published methodology referenced below.

From an operational perspective, the Conversion will be processed by CME as a "termination" of each relevant Affected LIBOR Swap and the establishment of a "new" corresponding cleared trade in the corresponding RFR OIS within the clearing system, the Conversion RFR Swap. CME will report the close-out of each Affected LIBOR Swap and the establishment of each Conversion RFR Swap in the account of the relevant position holder to the CME Swap Data Repository ("SDR") under Part 45 of the CFTC's Regulations. The "Prior USI" field for each Conversion RFR Swap report will reference the Unique Swap Identifier ("USI") of the relevant corresponding Affected LIBOR Swap, reflecting the nature of the relevant LIBOR Conversion process.

Methodology for Converting LIBOR Swaps to Conversion RFR Swaps

The CME methodology for effecting the relevant Conversion processes was first made public in August 2021 on the CME website[15] and is published as Exhibit 3 to CME Submission 21-515.

Calculation of Cash Adjustment Amount

The Cash Adjustment amount is necessary to account for the difference in valuation between the original Affected LIBOR Swap and the corresponding Conversion RFR Swap on the relevant Conversion Date. The difference in the NPV of each Affected LIBOR Swap and the corresponding Conversion RFR Swap(s) on the relevant Conversion Date represents a gain or loss to the relevant position holder in each case. In order to neutralize the transfer in value between position holders arising from the transition, CME will apply a Cash Adjustment amount equal and opposite to the change in NPV resulting from the transition to each Conversion RFR Swap.

The Cash Adjustment amount will be calculated by CME based on the difference between the NPV of the relevant Affected LIBOR Swap and the NPV of the corresponding Conversion RFR Swap on the relevant Conversion Date as follows (the "Conversion Calculation"):

- On or shortly after COB on the relevant Conversion Date, the Clearing House will conduct a standard valuation calculation during the end of day clearing cycle, to determine the NPV

[15] See: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf.

for each relevant Affected LIBOR Swap subject to the relevant Conversion process on that date, calculated utilizing CME's closing curve marks on the relevant Conversion Date for each position account and the ISDA Fallback Pricing Methodology.

- Upon establishment of each Conversion RFR Swap within the clearing system, on or shortly after COB on the relevant Conversion Date, the Clearing House will conduct an additional calculation to determine the NPV for each Conversion RFR Swap calculated utilizing CME's closing curve marks on the relevant Conversion Date for each position account.
- Note that the determination of the NPV of the Affected LIBOR Swap and the Conversion RFR Swap will be calculated on an "adjusted" basis, where the adjusted NPV in each case is the NPV less the present value of any fee due to bank on the following Business Day or subsequent Business Day, depending on the settlement convention.
- The difference between the two NPV calculations for each Affected LIBOR Swap and the corresponding Conversion RFR Swap represents the change in NPV arising from the conversion of the reference rate exposure of that position in an Affected Contract from the relevant LIBOR rate to the corresponding RFR.

The relevant Cash Adjustment amount to be applied to each Conversion RFR Swap in each position account shall be equal and opposite to the change in NPV calculated by CME in the Conversion Calculation in relation to such Conversion RFR Swap. As the Cash Adjustment for each Conversion RFR Swap will be equal and opposite to the change in NPV calculated by CME, it may therefore be a positive or negative amount depending on the position.

For example, where the holder of a Conversion RFR Swap had benefited from a change in NPV, i.e. where the Conversion RFR Swap NPV is greater than the corresponding Affected LIBOR Swap NPV, the Cash Adjustment would be a negative amount equal to that change in NPV and would be applied to the Conversion RFR Swap as an upfront fee which would be due and paid from the position holder at the next clearing cycle following the relevant Conversion Date. Where the holder of a Conversion RFR Swap experiences a negative change in NPV, the Cash Adjustment would be a positive amount and would be applied to the Conversion RFR Swap as an upfront fee which would be due and paid to the position holder at the next clearing cycle following the relevant Conversion Date.

<u>Payment of Cash Adjustment Amount</u>

The Cash Adjustment amount will be applied to each relevant position account as an upfront fee (which may be a positive or negative amount) representing the Cash Adjustment on such Conversion RFR Swap and will be banked by CME in the next end of day clearing cycle on the next Clearing Day (for GBP LIBOR Swaps) or the day following the next end of day clearing cycle (for CHF and JPY LIBOR Swaps) following the relevant Conversion Date for each Conversion RFR Swap, during which cycle settlement variation for positions in the Conversion RFR Swaps will be determined and outstanding exposures and payments netted and settled in accordance with CME Rule 814. ("Settlements, Settlement Variation Payment, and Option Value").

The Cash Adjustment process is a mandatory process that will apply in respect of cleared trades in Affected LIBOR Swaps in scope of the relevant Conversion process on the relevant Conversion Date.

Cash Adjustment Examples

The role of the Cash Adjustment process in each Conversion process is based on feedback from market participants and is designed to align with previous relevant industry initiatives, such as the industry-wide PA/Discounting transition in USD IRS to the Secured Overnight Financing Rate ("SOFR") in October 2020.[16]

Example 1:

The example below demonstrates the operational processing of a Conversion for a hypothetical GBP LIBOR Swap and the Cash Adjustment processes by CME, reflecting the operational characterization of the process as a "termination" of the Affected GBP LIBOR Swap and establishment of a "new" Conversion SONIA Swap. As noted above, in legal terms, the Conversion is treated as an amendment of the terms of the relevant cleared trade.

As of COB on Friday, December 17, 2021

	Value Date	Cleared Trade ID	Floating Rate Option	Status	NPV	NPV Adj.*	Previous NPV Adj.	Variation Margin	Upfront Payment	Fee Type	Payment Date	Net Cash Flow
Affected LIBOR Swap	12/17/21	12345	GBP-LIBOR-BBA	TERMINATED	0	0	55,000.00	-55,000.00	-	-	-	-55,000.00
Conversion RFR Swap	12/17/21	67890	GBP-SONIA-OIS Compound	CLEARED	56,000.00	60,000.00	0	60,000.00	-4,000.00	UPFRONT_FEE	12/20/2021	56,000.00

** NPV Adj. reflects the value of the swap removing any fee payments to be made the following business day (or subsequent settlement days, depending on the settlement offset; for example, for JPY LIBOR Swaps, settlement offset is 2 business days).*

*Cash Adjustment Calculation Example**

Affected LIBOR Swap Valuation NPV Adj. as at 12/17/21) = 56,000.00
Conversion RFR Swap Valuation (NPV Adj. as at 12/17/21) = 60,000.00
Cash Adjustment = Change in Adjusted NPV = 4,000.00

** Note: In this example, the cash adjustment offsets the gain of 4,000 between the Affected LIBOR Swap and the Conversion RFR Swap*
Note: In the event where the relevant Conversion process results in an Affected LIBOR Swap being replaced by a set of Conversion RFR Swaps, the Cash Adjustment amount is determined by summation of the Adjusted NPV of each resulting Conversion RFR Swap arising from the conversion of the relevant Affected LIBOR Swap.

Conversion RFR Swap as of COB on Next Value Date

Value Date	Cleared Trade ID	Floating Rate Index	Status	NPV	NPV Adj.	Previous NPV Adj.	Variation Margin	Upfront Payment	Fee Type	Payment Date	Net Cash Flow
12/20/21	67891	GBP-SONIA-OIS Compound	CLEARED	61,000.00	61,000.00	60,000.00	1,000.00	-	-	-	1,000.00

Calculation Breakdown (12/17)
Affected LIBOR Swap VM = NPV Adj. – Previous NPV Adj.
= 0 - 55,000.00 = -55,000.00

[16] See CME Clearing Advisory at https://www.cmegroup.com/content/dam/cmegroup/notices/clearing/2020/10/Chadv20-391.pdf.

PnL Change = NPV Adj. (Conversion RFR Swap) - NPV Adj. (Affected LIBOR swap)
= 60,000.00 – 56,000.00 = 4,000.00
Cash Adjustment Amount = (NPV Adj. of Affected LIBOR Swap –NPV Adj. of Conversion RFR Swap)
= 56,000.00 – 60,000.00 = -4,000.00
NPV Adj. (Conversion RFR Swap) = NPV – Upfront Payment
= 56,000.00 – (-4,000.00) = 60,000.00

Example 2: One-to-many scenario

The example below demonstrates the operational processing of a Conversion for a hypothetical GBP LIBOR Swap and the Cash Adjustment processes by CME, showing a "one-to-many" conversion where the Conversion RFR Swap output is two SONIA OIS (Conversion RFR Swap 1 and Conversion RFR Swap 2 in the illustration below).

As of COB on Friday, December 17, 2021

	Value Date	Cleared Trade ID	Floating Rate Option	Status	NPV	NPV Adj.*	Previous NPV Adj.	Variation Margin	Upfront Payment	Fee Type	Payment Date	Net Cash Flow
Affected LIBOR Swap	12/17/21	56789	GBP-LIBOR-BBA	TERMINATED	0	0	75,000.00	-75,000.00	-	-	-	-75,000.00
Conversion RFR Swap 1	12/17/21	34567	GBP-SONIA-OIS Compound	CLEARED	50,000.00	45,000.00	0	45,000.00	5,000.00	UPFRONT_FEE	12/20/2021	50,000.00
Conversion RFR Swap 2	12/17/21	34568	GBP-SONIA-OIS Compound	CLEARED	20,000.00	20,000.00	0	20,000.00	-	-	-	20,000.00

** NPV Adj. reflects the value of the swap removing any fee payments to be made the following business day (or subsequent settlement days, depending on the settlement offset; for example, for JPY LIBOR Swaps, settlement offset is 2 business days).*

*Cash Adjustment Calculation Example**

Affected LIBOR Swap Valuation NPV Adj. as at 12/17/21) = 70,000.00
Conversion RFR Swap 1 Valuation (NPV Adj. as at 12/17/21) = 45,000.00
Conversion RFR Swap 2 Valuation (NPV Adj. as at 12/17/21) = 20,000.00
Cash Adjustment = Change in Adjusted NPV = 70,000.00 – (45,000.00 + 20,000.00) = 5,000.00

Conversion RFR Swap as of COB on Next Value Date

Value Date	Cleared Trade ID	Floating Rate Index	Status	NPV	NPV Adj.	Previous NPV Adj.	Variation Margin	Upfront Payment	Fee Type	Payment Date	Net Cash Flow
12/20/21	34567	GBP-SONIA-OIS Compound	CLEARED	51,000.00	51,000.00	45,000.00	6,000.00	-	-	-	6,000.00
12/20/21	34568	GBP-SONIA-OIS Compound	CLEARED	20,500.00	20,500.00	20,000.00	500.00	-	-	-	500.00

<u>Calculation Breakdown (12/17)</u>
Affected LIBOR Swap VM = NPV Adj. – Previous NPV Adj.
= 0 - 75,000.00 = -75,000.00
PnL Change = NPV Adj. (Sum of Conversion RFR Swaps) - NPV Adj. (Affected LIBOR swap)
= (45,000.00 + 20,000.00) – 70,000.00 = -5,000.00

Cash Adjustment Amount = (NPV Adj. of Affected LIBOR Swap – Sum of NPV Adj. of Conversion RFR Swaps)
= 70,000.00 – (45,000.00 + 20,000.00) = 5,000.00
NPV Adj. (Sum of Conversion RFR Swaps) = Sum of Conversion RFR Swaps NPV – Upfront Payment
= (50,000.00 + 20,000.00) – (5,000.00) = 65,000.00

Where the holder of the position in a cleared trade in an Affected LIBOR Swap receives a positive change in NPV of that position resulting from the Conversion to the relevant RFR Floating Rate Option (which represents a change in value which must be paid to the account holder from the Clearing House as central counterparty and therefore party to the other side of the cleared trade), the Cash Adjustment will operate to provide an equal and opposite offsetting adjustment amount which must be paid from the position holder to the Clearing House (again, in its capacity as central counterparty acting as the other party to the cleared trade) in the form of an upfront fee on the relevant Conversion RFR Swap. Given that the change in NPV and the Cash Adjustment are equal and opposite, the net cash flow for each account with respect to the change in valuation on each cleared trade is zero.

The position holder on the other side of the cleared trade receives a negative change in NPV of that position resulting from the Conversion to the relevant RFR Floating Rate Option, which must be paid from the account holder to the Clearing House (as central counterparty and party to the other side of the cleared trade). The Cash Adjustment provides for an equal and opposite offsetting adjustment amount which must be paid to the position holder from the Clearing House in the form of an upfront fee. Again, the net cash flow for each account with respect to the change in valuation on each cleared trade is therefore zero.

CME's approach to "compensation" arising from change in NPV through the Cash Adjustment process is widely supported by market participants. The process has been discussed with clearing firms and their customers and is understood to be consistent with the needs and expectations of market participants, and consistent with wider industry initiatives.

Clearing of Conversion RFR Swaps

Each Conversion RFR Swap will be cleared by CME in accordance with the CME Rules.

From the completion of the end of day clearing cycle on the relevant Conversion Date, each Conversion RFR Swap will for the remaining lifecycle of the relevant cleared trade be subject to valuation and settlement variation (as defined in the CME Rules) for each clearing cycle following the relevant Conversion Date.

Fees for GBP/CHF/JPY Transition Conversion Processes

As set out in Clearing Advisory 21-355, in supporting transition to RFRs, CME will apply a transaction fee per line item for conversion of any CME cleared interest rate swaps that reference GBP LIBOR, CHF LIBOR or JPY LIBOR where such swaps are converted by the Clearing House into equivalent overnight index swaps referencing the relevant nominated successor RFR rate to GBP LIBOR, CHF LIBOR or JPY LIBOR respectively (a "Conversion Fee"). In each case the Conversion Fee shall be a fee of $10 which shall be applied by the Clearing House per line item subject to the relevant Conversion and shall apply on the resulting RFR-referencing Conversion RFR Swap transactions.[17]

[17] The Conversion Fee shall not apply to single unit trades booked for the specific purposes of preserving additional payments.

Fee Type	Trade Types	Products	Source, Terminate Reason (TR), Create Reason (CR)	HOUSE FM / NONFM	CUSTOMER Standard Client Schedule	High Turnover (HTS)
RFR Conversion Fee	All	All	CR = Index Conversion	$10 per line item*	$10 per line item*	$10 per line item*

*This fee will be charged on the resulting RFR trades with the exception of single unit trades booked for the specific purposes of preserving additional payments, which will not be charged.[18]

Note: for bilateral swaption exercise that result in a Conversion RFR Swap under the legacy index reference rate (e.g. GBP LIBOR, etc), CME will conduct a daily conversion of these trades to the respective RFR rate. A charge of $10 per converted trade will be applied to the position in addition to new trade clearing fees.

As a result, CME will apply a Conversion Fee of $10 for each Conversion RFR Swap that is established as a result of the relevant Conversion process in each case.

Rationale for GBP/CHF/JPY Transition Processes

The conversion of cleared GBP, CHF and JPY LIBOR Swaps by the amendment of cleared trades into corresponding standardized RFR OIS by CCPs is seen by market participants as a critical element in the overall process of ensuring an orderly and efficient transition from GBP, CHF and JPY LIBOR rates in derivatives markets. As noted above, CME and other major CCPs have adopted “fallback” provisions designed to ensure certain cleared LIBOR IRS would be able to transition to the relevant successor RFR in each case on or shortly after the final date of publication or “representativeness” of such rate or rates. These contractual fallback provisions were based on the ISDA IBOR Fallbacks Supplement and corresponding ISDA IBOR Fallbacks Protocol and, in the case of CME, subsequently aligned in October 2021 with interest rate fallback provisions in the 2021 ISDA Definitions.

CME continues to support the use of ISDA’s contractual fallback provisions. However, in CME’s engagement with market participants in relation to the specific question of GBP, CHF and JPY LIBOR transition during the first half of 2021, market participants expressed a clear preference for CME to implement a modified approach to fallbacks rather than to fully operationalize the relevant ISDA-derived fallbacks in CME Rule 90102.H (Application of Permanent Cessation Fallbacks). Market participants have requested that CME should utilize the ISDA Spread Adjustment and ISDA Fallback Pricing Methodology instead to impose a mandatory conversion of cleared swaps referencing these LIBOR rates into corresponding standardized RFR swaps, accounting for the relevant ISDA Spread Adjustment on the floating leg of the replacement swap, a short period ahead of the last publication of a “representative” LIBOR rate in each case, rather than rely fully on the ISDA-derived contractual fallbacks that would otherwise apply under the CME Rules on the event of an “Index Cessation Event”.

[18] For example, in the case of a Seasoned LIBOR Swap with different fixed and floating coupon dates, the relevant LIBOR Swap will be converted to two Conversion RFR Swaps, the second of which is a “single unit trade” booked for the specific purposes of preserving additional payments and therefore no Conversion Fee will be charged in respect of the second Conversion RFR Swap as a result.

The industry consensus communicated to CME by market participants indicates that the significant majority of cleared market participants prefer such an "early" and CCP-led conversion of cleared GBP, CHF and JPY LIBOR Swaps into standardized successor RFR swaps (accounting for the ISDA Spread Adjustment on the floating leg of the resulting successor RFR swaps as part of the conversion process) as it has certain advantages for market participants over full reliance on the ISDA-derived contractual fallbacks. In particular, market participants noted that application of the ISDA contractual fallbacks without modification would give rise to resulting positions that would not be on the same terms as, and therefore not directly fungible with, standardized cleared RFR swaps. This could create difficulties for participants wishing to unwind non-standardized resulting RFR swap contracts; in order to do so, firms would need to execute and book additional non-standard swaps in an uncertain liquidity environment. During CME's industry engagement processes, market participants have informed CME that the CCP-led conversion of LIBOR swap exposures into market standard RFR swaps (whilst accounting for the ISDA Spread Adjustment on the conversion) ensures sufficient alignment with the ISDA contractual fallbacks approach in bilateral uncleared swaps but also benefits the marketplace by:

- creating a single transparent liquidity pool for trading RFR swaps;
- providing participants certainty that "legacy" and "new" contracts would be fungible with one another upon transition to the RFR fallback; and
- supporting market standard RFR OIS that are themselves widely supported by market participants and market infrastructure, thereby removing the need to operationally support the "Observation Period Shift" (within the meaning of the ISDA 2021 Definitions) concept that operates under the ISDA IBOR Fallbacks.[19]

Market participants, industry groups and regulators recognize these benefits of a CCP-led conversion and CME's proposed approach has been well publicized and understood. In its September 29, 2021 announcement and related consultation paper, the FCA acknowledged that permitted use of "synthetic" and "non-representative" LIBOR rates would not include CCP cleared derivative contracts, noting at the same time that "clearing houses plan to transition all cleared sterling, Japanese yen, Swiss franc and euro LIBOR contracts to risk-free rates by end-2021."[20]

In addition, in providing their support for CCP-led conversion, market participants have indicated that an "early" transition of GBP, CHF and JPY LIBOR swaps to their respective RFR OIS could and should be scheduled before the end-December 2021 / early January 2022 time period in order to ease potential operational congestion for cash and derivatives market participants and CCPs due to the scheduled cessation of those LIBOR benchmarks on December 31, 2021. Furthermore, these stakeholders have expressed a clear preference that CME's approach to the GBP, CHF and JPY LIBOR transition should be aligned as closely as possible with the wider industry approach, and specifically that of the UK and EU CCPs responsible for clearing the overwhelming majority of affected LIBOR Swaps, each of which have expressed their intention to effect a conversion of GBP, CHF and JPY LIBOR Swaps to reference the

[19] The methodology for conversion utilized by CME will account for the payment lag arising from conversion into a standardized RFR swap.

[20] See FCA announcement, September 29, 2021: https://www.fca.org.uk/news/press-releases/further-arrangements-orderly-wind-down-libor-end-2021 and consultation paper .

respective RFRs in early to mid-December 2021.[21] Given the feedback from market participants, CME has determined to convert GBP, CHF and JPY LIBOR Swaps to the corresponding RFRs ahead of the last publication of the relevant Index Cessation Effective Date in each case, and to align its approach and proposed timing for the GBP/CHF/JPY LIBOR Transition as closely as possible with that of the other major CCPs clearing GBP, CHF and JPY LIBOR swaps. In each case, CME has determined that the relevant Primary Conversion Date shall be aligned with the corresponding date for conversion of corresponding GBP, CHF and JPY LIBOR swaps in the wider cleared swap market in order to help mitigate systemic risk during the transition process. As noted above, in order to ensure close alignment with the operational and economic terms of the ISDA contractual fallbacks that are applicable to bilateral uncleared derivatives, CME's conversion process accounts for the relevant ISDA Spread Adjustment on the floating leg of the resulting CME cleared RFR swap.

CME has consulted with a diverse cross-section of market participants to obtain feedback on the operational processes for the GBP/CHF/JPY LIBOR Transition. CME first informed IRS Clearing Members of its intention to effect the GBP/CHF/JPY LIBOR Transition cycle in late 2020 and CME first presented an overview of the transition proposals to market participants in January 2021, with further updated proposals in Q1 2021, culminating in publication of a summary of the proposed final methodology for the GBP/CHF/JPY LIBOR Transition which was provided to market participants and made publicly available in June 2021. Further, operational level details were provided by CME to market participants in August 2021.[22] Operational testing and additional support was scheduled and provided by CME prior to the proposed date of implementation, including a New Release Dress Rehearsal for the CHF/JPY Conversion for JPY and CHF LIBOR Swaps on October 2, 2021 and a corresponding Dress Rehearsal for GBP LIBOR Swaps on November 5, 2021.[23] An additional New Release Dress Rehearsal took place for JPY, CHF and GBP LIBOR Swaps that fix between the corresponding New Release Dress Rehearsal Conversion Date (October 22 or November 5) and Friday, November 12, 2021. For any JPY, CHF or GBP LIBOR Swaps cleared in New Release on November 15, 2021 or thereafter, CME will run a daily conversion cycle in the New Release environment to establish Conversion RFR Swaps in the New Release environment.[24]

Implementation of GBP/CHF/JPY Transition

This Advisory Notice sets out the binding rules and operational processes under which CME Clearing will implement each Conversion process of the GBP/CHF/JPY Transition, including the modification and operational close-out of GBP LIBOR, CHF LIBOR and JPY LIBOR IRS Contracts and the establishment of replacement corresponding GBP SONIA, CHF SARON and JPY TONA standardized OIS interest rate

[21] CME understands that each of LCH Limited and Eurex Clearing AG propose to implement conversion processes for their respective customers in order to convert GBP, CHF and JPY LIBOR swaps to the respective successor RFRs in each case, also to take place on the same conversion dates proposed by CME.

[22] CME provided an initial IBOR Conversion Overview Proposal to market participants in January 2021, with further engagement and updates in February 2021. In March 2021, CME provided a further updated proposal to market participants and CME's "IBOR Conversion Proposal for Cleared Swaps" was provided to market participants in April 2021. CME published a detailed conversion plan in June 2021, available at: https://www.cmegroup.com/trading/interest-rates/files/cleared-swaps-considerations-for-ibor-fallbacks-and-conversion-plan.pdf. A further public overview was made available on the CME Group website in August 2021 at: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf.

[23] Details of the relevant Dress Rehearsals are available in CME Clearing Advisory 21-392 and CME Clearing Advisory 21-377.

[24] The public overview is available on the CME Group website at: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf.

swaps, which will be implemented by CME with respect to open cleared trades in affected CME cleared products at the relevant Conversion Date. The GBP/CHF/JPY LIBOR Transition is a mandatory process and the terms set out below in this Clearing Advisory will apply to all cleared trades in Affected LIBOR Swaps from December 3, 2021, subject to regulatory review.

Capitalized terms not defined below shall have the meaning set out in the CME Rules.

CME Cleared Contracts Subject to the GBP/CHF/JPY Transition and this Advisory Notice

The Conversion process will apply to all cleared trades in CME cleared Interest Rate Swaps that reference GBP LIBOR, JPY LIBOR or CHF LIBOR[25] as the interest rate swap rate option (the "Floating Rate Option") and that are open at close of business ("COB") on the relevant Conversion Date and that do not mature on the relevant Conversion Date (the "Affected Contracts").

Terms and Operation of Conversion Processes

JPY LIBOR IRS

1. Except with respect to cleared JPY LIBOR IRS to which paragraph 2 below applies, at or shortly after COB on December 3, 2021 (the "JPY/CHF Primary Conversion Date"), CME Clearing will amend the terms of each cleared trade in JPY LIBOR IRS that is open at COB on the JPY/CHF Primary Conversion Date in the account of the relevant position holder (each such cleared trade, a "Pre-Conversion JPY Swap") such that the cleared trade shall be converted into a corresponding CME cleared Overnight Index Swap ("OIS") referencing the Tokyo Overnight Average Rate ("TONA") interest rate benchmark (a "Conversion JPY Swap") in the position account of the relevant position holder, with the terms of such Conversion JPY Swap determined according to CME's published methodology[26].

2. With respect to each cleared JPY LIBOR IRS that:

   (a) references a Fixing Day between the JPY/CHF Primary Conversion Date and January 4, 2022; or
   (b) is accepted for clearing by CME after COB on the JPY/CHF Primary Conversion Date and prior to COB on January 4, 2022,

   at or shortly after COB on January 4, 2022 (the "JPY Secondary Conversion Date"), CME Clearing will amend the terms of each such cleared trade in JPY LIBOR IRS that is open at COB on the JPY Secondary Conversion Date in the account of the relevant position holder (each such cleared trade, a "Pre-Conversion JPY Swap") such that the cleared trade shall be converted into a corresponding CME cleared OIS referencing the TONA interest rate benchmark (a "Conversion JPY Swap") in the position account of the relevant position holder, with the terms of such Conversion JPY Swap determined according to CME's published methodology.

3. With respect to each cleared JPY LIBOR IRS that:

[25] GBP LIBOR Swaps include any CME cleared IRS referencing "GBP-LIBOR-BBA" or "GBP LIBOR" as the Floating Rate Option. JPY LIBOR Swaps include any CME cleared IRS referencing "JPY-LIBOR-BBA" or "JPY LIBOR" as the Floating Rate Option. CHF LIBOR Swaps include any CME cleared IRS referencing "CHF-LIBOR-BBA" or "CHF LIBOR" as the Floating Rate Option.
[26] The methodology is available in Exhibit 3 of CME Submission 21-515.

(a) has a start date on or after COB on the JPY Secondary Conversion Date; and
(b) is accepted for clearing by CME after COB on or after the JPY Secondary Conversion Date,

at or shortly after COB on the date of acceptance of the trade for clearing, CME Clearing will amend the terms of each such cleared trade in JPY LIBOR IRS in the account of the relevant position holder (each such cleared trade, a "Pre-Conversion JPY Swap") such that the cleared trade shall be converted into a corresponding CME cleared OIS referencing the TONA interest rate benchmark (a "Conversion JPY Swap") in the position account of the relevant position holder, with the terms of such Conversion JPY Swap determined according to CME's published methodology.

4. At or shortly after COB on, as applicable:

(a) the JPY/CHF Primary Conversion Date;
(b) the JPY Secondary Conversion Date; or
(c) each Business Day following the JPY Secondary Conversion Date on which CME accepts for clearing JPY LIBOR IRS that satisfy the requirements in paragraph 3 above,

(each a “JPY Conversion Date”),

with respect to each relevant position account, CME will calculate the difference in net present value (“NPV”) at COB on such relevant JPY Conversion Date (at closing curve levels on the relevant JPY Conversion Date) between:

(i) each Pre-Conversion JPY Swap subject to Conversion on such JPY Conversion Date; and
(ii) the corresponding Conversion JPY Swap,

(the “Conversion Calculation”).

5. CME Clearing will determine settlement variation for each Conversion JPY Swap on the relevant JPY Conversion Date (at closing curve levels on the relevant JPY Conversion Date) for valuation for the end of day clearing cycle on the relevant JPY Conversion Date.

6. At the next end of day clearing cycle following the relevant JPY Conversion Date, for each Conversion JPY Swap, CME Clearing will:

(a) apply as an upfront fee to each Conversion JPY Swap an offsetting cash compensation amount that is equal and opposite to the difference in NPV between the Conversion JPY Swap and the corresponding Pre-Conversion JPY Swap, as determined by CME Clearing during the Conversion Calculation (the “Cash Adjustment”):

i. where the Conversion Calculation determines that the NPV of a Conversion JPY Swap is greater than the NPV of the corresponding Pre-Conversion JPY Swap, the Cash Adjustment applied to the Conversion JPY Swap will be negative;
ii. where the Conversion Calculation determines that the NPV of a Conversion JPY Swap is less than the NPV of the corresponding Pre-Conversion JPY

Swap, the Cash Adjustment applied to the Conversion JPY Swap will be positive; and

(b) settle outstanding exposures and payments from the end of day clearing cycle (including for the avoidance of doubt, settlement variation and the Cash Adjustment) in accordance with CME Rule 814. The relevant Cash Adjustment will offset the change in NPV for each Conversion JPY Swap such that the net cash flow in respect of the Conversion will be zero for each cleared trade in such Affected Contract per account.

7. Following the relevant JPY Conversion Date, each Conversion JPY Swap will be cleared by CME subject to the terms of the Rules applicable to JPY TONA OIS.

CHF LIBOR IRS

8. Except with respect to cleared CHF LIBOR IRS to which paragraph 9 below applies, at or shortly after COB on December 3, 2021 (the “JPY/CHF Primary Conversion Date”), CME Clearing will amend the terms of each cleared trade in CHF LIBOR IRS that is open at COB on the JPY/CHF Primary Conversion Date in the account of the relevant position holder (each such cleared trade, a "Pre-Conversion CHF Swap") such that the cleared trade shall be converted into a corresponding CME cleared OIS referencing the Swiss Average Rate Overnight (“SARON”) interest rate benchmark (a "Conversion CHF Swap") in the position account of the relevant position holder, with the terms of such Conversion CHF Swap determined according to CME’s published methodology.

9. With respect to each cleared CHF LIBOR IRS that:

   (a) references a Fixing Day between the JPY/CHF Primary Conversion Date and January 3, 2022; or
   (b) is accepted for clearing by CME after COB on the JPY/CHF Primary Conversion Date and prior to COB on January 3, 2022,

   at or shortly after COB on January 3, 2022 (the “CHF Secondary Conversion Date”), CME Clearing will amend the terms of each such cleared trade in CHF LIBOR IRS that is open at COB on the CHF Secondary Conversion Date in the account of the relevant position holder (each such cleared trade, a "Pre-Conversion CHF Swap") such that the cleared trade shall be converted into a corresponding CME cleared OIS referencing the SARON interest rate benchmark (a "Conversion CHF Swap") in the position account of the relevant position holder, with the terms of such Conversion CHF Swap determined according to CME’s published methodology.

10. With respect to each cleared CHF LIBOR IRS that:

   (a) has a start date on or after COB on the CHF Secondary Conversion Date; and
   (b) is accepted for clearing by CME after COB on or after the CHF Secondary Conversion Date,

   at or shortly after COB on the date of acceptance of the trade for clearing, CME Clearing will amend the terms of each such cleared trade in CHF LIBOR IRS in the account of the relevant position holder (each such cleared trade, a "Pre-Conversion CHF Swap") such that the cleared trade shall be converted into a corresponding CME cleared OIS referencing the SARON interest rate benchmark (a "Conversion CHF Swap") in the position account of the relevant position holder, with the terms of such Conversion CHF Swap determined according to CME's published methodology.

11. At or shortly after COB on, as applicable:

    (a) the JPY/CHF Primary Conversion Date;
    (b) the CHF Secondary Conversion Date; or
    (c) each Business Day following the CHF Secondary Conversion Date on which CME accepts for clearing CHF LIBOR IRS that satisfy the requirements in paragraph 10 above,

    (each a "CHF Conversion Date"),

    with respect to each relevant position account, CME will calculate the difference in net present value ("NPV") at COB on such relevant CHF Conversion Date (at closing curve levels on the relevant CHF Conversion Date) between:

    (iii) each Pre-Conversion CHF Swap subject to Conversion on such CHF Conversion Date; and
    (iv) the corresponding Conversion CHF Swap,

    (the "Conversion Calculation").

12. CME Clearing will determine settlement variation for each Conversion CHF Swap on the relevant CHF Conversion Date (at closing curve levels on the relevant CHF Conversion Date) for valuation for the end of day clearing cycle on the relevant CHF Conversion Date.

13. At the next end of day clearing cycle following the relevant CHF Conversion Date, for each Conversion CHF Swap, CME Clearing will:

    (a) apply as an upfront fee to each Conversion CHF Swap an offsetting cash compensation amount that is equal and opposite to the difference in NPV between the Conversion CHF Swap and the corresponding Pre-Conversion CHF Swap, as determined by CME Clearing during the Conversion Calculation (the "Cash Adjustment"):

        i. where the Conversion Calculation determines that the NPV of a Conversion CHF Swap is greater than the NPV of the corresponding Pre-Conversion CHF Swap, the Cash Adjustment applied to the Conversion CHF Swap will be negative;
        ii. where the Conversion Calculation determines that the NPV of a Conversion CHF Swap is less than the NPV of the corresponding Pre-Conversion CHF Swap, the Cash Adjustment applied to the Conversion CHF Swap will be positive; and

    (b) settle outstanding exposures and payments from the end of day clearing cycle (including for the avoidance of doubt, settlement variation and the Cash Adjustment) in accordance with CME Rule 814. The relevant Cash Adjustment will offset the change in NPV for each Conversion CHF Swap such that the net cash flow in respect of the Conversion will be zero for each cleared trade in such Affected Contract per account.

14. Following the relevant CHF Conversion Date, each Conversion CHF Swap will be cleared by CME subject to the terms of the Rules applicable to CHF SARON OIS.

<u>GBP LIBOR IRS</u>

15. Except with respect to cleared GBP LIBOR IRS to which paragraph 16 below applies, at or shortly after COB on December 17, 2021 (the “GBP Primary Conversion Date”), CME Clearing will amend the terms of each cleared trade in GBP LIBOR IRS that is open at COB on the GBP Primary Conversion Date in the account of the relevant position holder (each such cleared trade, a "Pre-Conversion GBP Swap") such that the cleared trade shall be converted into a corresponding CME cleared OIS referencing the Sterling Overnight Index Average (“SONIA”) interest rate benchmark (a "Conversion GBP Swap") in the position account of the relevant position holder, with the terms of such Conversion GBP Swap determined according to CME’s published methodology.

16. With respect to each cleared GBP LIBOR IRS that:

    (a) references a Fixing Day between the GBP Primary Conversion Date and January 4, 2022; or
    (b) is accepted for clearing by CME after COB on the GBP Primary Conversion Date and prior to COB on January 4, 2022,

    at or shortly after COB on January 4, 2022 (the “GBP Secondary Conversion Date”), CME Clearing will amend the terms of each such cleared trade in GBP LIBOR IRS that is open at COB on the GBP Secondary Conversion Date in the account of the relevant position holder (each such cleared trade, a "Pre-Conversion GBP Swap") such that the cleared trade shall be converted into a corresponding CME cleared OIS referencing the SONIA interest rate benchmark (a "Conversion GBP Swap") in the position account of the relevant position holder, with the terms of such Conversion GBP Swap determined according to CME’s published methodology.

17. With respect to each cleared GBP LIBOR IRS that:

    (a) has a start date on or after COB on the GBP Secondary Conversion Date; and
    (b) is accepted for clearing by CME after COB on or after the GBP Secondary Conversion Date,

    at or shortly after COB on the date of acceptance of the trade for clearing, CME Clearing will amend the terms of each such cleared trade in GBP LIBOR IRS in the account of the relevant position holder (each such cleared trade, a "Pre-Conversion GBP Swap") such that the cleared trade shall be converted into a corresponding CME cleared OIS referencing the SONIA interest rate benchmark (a "Conversion GBP Swap") in the position account of the relevant position holder, with the terms of such Conversion GBP Swap determined according to CME’s published methodology.

18. At or shortly after COB on, as applicable:

    (a) the GBP Primary Conversion Date;
    (b) the GBP Secondary Conversion Date; or

(c) each Business Day following the GBP Secondary Conversion Date on which CME accepts for clearing GBP LIBOR IRS that satisfy the requirements in paragraph 17 above,

(each a “GBP Conversion Date”),

with respect to each relevant position account, CME will calculate the difference in net present value (“NPV”) at COB on such relevant GBP Conversion Date (at closing curve levels on the relevant GBP Conversion Date) between:

(i) each Pre-Conversion GBP Swap subject to Conversion on such GBP Conversion Date; and
(ii) the corresponding Conversion GBP Swap,

(the “Conversion Calculation”).

19. CME Clearing will determine settlement variation for each Conversion GBP Swap on the relevant GBP Conversion Date (at closing curve levels on the relevant GBP Conversion Date) for valuation for the end of day clearing cycle on the relevant GBP Conversion Date.

20. At the next end of day clearing cycle following the relevant GBP Conversion Date, for each Conversion GBP Swap, CME Clearing will:

(a) apply as an upfront fee to each Conversion GBP Swap an offsetting cash compensation amount that is equal and opposite to the difference in NPV between the Conversion GBP Swap and the corresponding Pre-Conversion GBP Swap, as determined by CME Clearing during the Conversion Calculation (the “Cash Adjustment”):
   i. where the Conversion Calculation determines that the NPV of a Conversion GBP Swap is greater than the NPV of the corresponding Pre-Conversion GBP Swap, the Cash Adjustment applied to the Conversion GBP Swap will be negative;
   ii. where the Conversion Calculation determines that the NPV of a Conversion GBP Swap is less than the NPV of the corresponding Pre-Conversion GBP Swap, the Cash Adjustment applied to the Conversion GBP Swap will be positive; and

(b) settle outstanding exposures and payments from the end of day clearing cycle (including for the avoidance of doubt, settlement variation and the Cash Adjustment) in accordance with CME Rule 814. The relevant Cash Adjustment will offset the change in NPV for each Conversion GBP Swap such that the net cash flow in respect of the Conversion will be zero for each cleared trade in such Affected Contract per account.

21. Following the relevant GBP Conversion Date, each Conversion GBP Swap will be cleared by CME subject to the terms of the Rules applicable to GBP SONIA OIS.

<u>General Provisions</u>

22. CME will account for:

(a) the relevant ISDA Spread Adjustment published by Bloomberg Index Services Limited (the “ISDA Spread Adjustment”) in determining the floating amount of each Conversion GBP Swap or Conversion CHF Swap; and
(b) the relevant ISDA Spread Adjustment multiplied by 365 divided by 360 in determining the floating amount of each Conversion JPY Swap,

in each case in accordance with CME’s published methodology.

23. Where applicable, known fixed and floating accruals relating to each Affected Contract which have not been settled on the relevant Conversion Date will be calculated by CME and added to the corresponding Conversion JPY Swap, Conversion CHF Swap or Conversion GBP Swap, as applicable, as an upfront fee, in accordance with CME's published methodology.
24. CME will apply a fixed conversion surcharge of $10 (the “Conversion Fee”) for each Conversion JPY Swap, Conversion GBP Swap or Conversion CHF Swap or set of such swaps that is established as a result of the Conversion process in respect of each relevant Pre-Conversion Swap.
25. Except as expressly stated in relation to IRS Contracts falling within paragraphs 3, 10 or 17 (“Residual Swaps”), CME will not apply the Permanent Cessation Fallbacks in CME Rule 90102.H (Application of Permanent Cessation Fallbacks) in respect of any Affected Contract. On acceptance for clearing of a Residual Swap on or after COB on the relevant Secondary Conversion Date, for the purposes of clearing such Residual Swap, CME will amend the terms of the Residual Swap such that any reference to GBP LIBOR, JPY LIBOR or CHF LIBOR shall be deemed to be a reference to the relevant nominated successor Fallback Rate published by Bloomberg Index Services Limited for such Residual Swap prior to conversion at COB.
26. CME shall make such further amendments to the terms of Affected Contracts as it deems necessary in its sole and absolute discretion to implement the terms of this Advisory Notice.
27. The terms of this Advisory Notice and each relevant Conversion process are binding on Clearing Members and position holders in all Affected Contracts, effective December 3, 2021. To the extent that there is any conflict between the Rules and the terms of this Advisory Notice with respect to any Conversion process, this Advisory Notice shall prevail. For the purposes of this Advisory Notice, Rule 90103.A (Contract Modifications; CME Rules) shall not apply to the extent it purports to restrict modification to the terms of IRS Contracts that are the subject of this Advisory Notice.

Each Conversion process on a relevant Conversion Date is a mandatory process. Each Conversion and the relevant Cash Adjustment in each case will therefore apply to all positions in cleared trades in relevant Affected Contracts on the relevant Conversion Date, as set out in this Advisory Notice. Market participants should consider the terms and impact of each relevant Conversion as set out in this Advisory Notice and take appropriate action prior to the relevant Conversion Date. Position holders that do not wish to participate in a Conversion process must close out any positions in relevant Affected Contracts prior to the relevant Conversion Date.

Limitation of Acceptance for Clearing for Affected Contracts Following Relevant Secondary Conversion Date

From COB on the relevant Secondary Conversion Date, with the exception of Residual Swaps that meet the relevant requirements in paragraph 3, 10 or 17 above, as applicable, after COB on the relevant Secondary Conversion Date, CME Clearing will cease to accept for clearing trades in the Affected Contracts.

From COB on the relevant Secondary Conversion Date, CME Clearing will continue to accept Residual Swaps that meet the relevant requirements in paragraph 3, 10 or 17 above, as applicable. Such trades will be subject to the relevant Conversion process described above in:

- paragraphs 3 to 7 for JPY LIBOR Swaps;
- paragraphs 10 to 14 for CHF LIBOR Swaps; and
- paragraphs 17 to 21 for GBP LIBOR Swaps.

The list of IRS Rate Options in CME Rule 90102.E.1. (Interest Rate Swaps Rate Options) in Chapter 901 ("Interest Rate Swaps Contract Terms") of the CME Rulebook will be updated accordingly from December 3, 2021, as detailed in CME Submission 21-515.

Operational Information

CME Clearing will provide the following information in relation to Affected Contracts:

- End of Day Trade Register report made available by the Clearing House only to IRS clearing members and clients via an sFTP site;
- CME OTC IRS Bookkeeping document, made available to IRS Clearing Members and their customers on request;
- FpML Confirmations for Affected LIBOR Swaps and Conversion RFR Swaps; and
- LIBOR to RFR Cash Adjustment Report made available by the Clearing House only to IRS Clearing Members and clients via an sFTP site, illustrating the NPV for each Affected LIBOR Swap and the revised NPV for each Conversion RFR Swap and the Cash Adjustment at the trade level for each position account. This report will be available as an "Indicative Analysis Report" in the CME Production Environment on a daily basis beginning on Monday November 1, 2021 until January 3, 2022. The actual Cash Adjustment amounts will be indicated in the IRS Trade Register at COB on the relevant Conversion Date.

To reflect the operational processes within the clearing system, CME will send:

- a termination message to relevant CME clearing firms in respect of the termination of each relevant Affected LIBOR Swap; and
- a clearing confirmation message to relevant CME clearing firms in respect of the establishment of each new relevant Conversion RFR Swap.

As part of the relevant Conversion process, all relevant Trade IDs on the relevant Affected LIBOR Swaps will be carried over to the relevant Conversion RFR Swaps. In order to identify the link between each Affected LIBOR Swap and the relevant Conversion RFR Swap, CME will add a replacement Trade ID and Original Trade ID respectively in the History section of the clearing confirmation messages.

Reporting to SDR

CME will report the result of the relevant Conversion in each case to CME SDR in accordance with the requirements of the CFTC's Part 45 Regulations, to reflect the conversion of each Affected LIBOR Swap into each corresponding Conversion RFR Swap. With regard to reporting data submitted to SDR in respect of each Conversion RFR Swap, CME will populate the "Prior USI" field with the USI of the relevant Affected LIBOR Swap to reflect the nature of the Conversion process. For SDR reporting purposes, reporting rows will be generated and submitted to CME SDR terminating the USI of each Affected LIBOR Swap and CME will ensure that each Conversion RFR Swap will be reported as a "New Trade."

Additional details regarding the Conversion may be viewed in ***CME Submission No. 21-515***.

Inquiries regarding the aforementioned may be directed to:

Jim Roper - Clearing	jim.roper@cmegroup.com	312.338.7137
Steve Dayon - OTC Products	steven.dayon@cmegroup.com	312.466.4447

Exhibit 2
CME Rulebook
(additions **underscored**; deletions ~~overstruck~~)

Chapter 901
Interest Rate Swap Contract Terms

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90102. CONTRACT TERMS

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90102.E. Rate Options

90102.E.1. Interest Rate Swaps Rate Options

With respect to an IRS Contract, the Floating Rate Option elected by the IRS Clearing Participant in accordance with Rule 90002.F from the following Floating Rate Options names specified in the 2006 ISDA Definitions or Floating Rate Options names specified in the ISDA Definitions Floating Rate Matrix, or combination of rate options:

	2006 ISDA Definitions Floating Rate Option ("FRO") Name	**2021 ISDA Definitions FRO Name**
1.	USD-LIBOR-BBA	USD-LIBOR
2.	USD-Federal Funds-H.15-OIS-COMPOUND	USD-Federal Funds-OIS Compound
3.	USD-Federal Funds-H. 15	USD-Federal Funds
4.	EUR-EURIBOR-Reuters	EUR-EURIBOR
5.	EUR-EURIBOR-Telerate (as defined in the 2000 ISDA Definitions, as published by ISDA)	Not applicable
6.	GBP-LIBOR-BBA*****	GBP-LIBOR*****
	****As set out in CME Clearing Advisory Notice [ ], effective January 4, 2022, CME will cease to accept for clearing IRS Contracts referencing GBP-LIBOR-BBA or GBP-LIBOR except where the start date of such swap is on or after January 4, 2022.***	
7.	GBP-SONIA-COMPOUND	GBP-SONIA-OIS Compound
8.	JPY-LIBOR-BBA******	JPY-LIBOR******
	*****As set out in CME Clearing Advisory Notice [ ], effective January 4, 2022, CME will cease to accept for clearing IRS Contracts referencing JPY-LIBOR-BBA or JPY-LIBOR except where the start date of such swap is on or after January 4, 2022.***	
9.	JPY-TONA-OIS-COMPOUND	JPY-TONA-OIS Compound
10.	CHF-LIBOR-BBA*******	CHF-LIBOR*******
	******As set out in CME Clearing Advisory Notice [ ], effective January 3, 2022, CME will cease to accept for clearing IRS Contracts referencing CHF-LIBOR-BBA or CHF-LIBOR except where the start date of such swap is on or after January 3, 2022.***	
11.	CAD-BA-CDOR	CAD-CDOR
12.	CAD-CORRA-OIS-COMPOUND	CAD-CORRA-OIS Compound
13.	AUD-BBR-BBSW	AUD-BBSW
14.	AUD-AONIA-OIS-COMPOUND	AUD-AONIA-OIS Compound
15.	SEK-STIBOR-SIDE	SEK-STIBOR
16.	DKK-CIBOR-DKNA13	DKK-CIBOR
17.	DKK-CIBOR2-DKNA13	DKK-CIBOR2

18.	NOK-NIBOR-NIBR	NOK-NIBOR
19.	NOK-NIBOR-OIBOR	NOK-NIBOR
20.	HKD-HIBOR-HKAB	HKD-HIBOR
21.	NZD-BBR-FRA	NZD-BKBM FRA
22.	SGD-SOR-VWAP	SGD-SOR
23.	HUF-BUBOR-Reuters	HUF-BUBOR
24.	PLN-WIBOR-WIBO	PLN-WIBOR
25.	CZK-PRIBOR-PRBO	CZK-PRIBOR
26.	ZAR-JIBAR-SAFEX	ZAR-JIBAR
27.	MXN-TIIE-Banxico	MXN-TIIE
28.	USD-SOFR-COMPOUND	USD-SOFR-OIS Compound
29.	EUR-EuroSTR-COMPOUND	EUR-EuroSTR-OIS Compound
30.	CHF-SARON-OIS-COMPOUND	CHF-SARON-OIS Compound
31.	USD-BSBY	USD-BSBY
32.	Not supported	SGD-SORA-OIS Compound

[Remainder of Rule unchanged.]

Exhibit 3
CME Methodology for GBP/CHF/JPY LIBOR Transition

This methodology was made publicly available in a substantially similar form on the CME website in August 2021.[27] Capitalized terms used but not defined herein shall have the meaning in CME Submission 21-515.

Application of ISDA Fallback Pricing Methodology for computing the projected LIBOR forward rate

CME will utilize the ISDA IBOR Fallback Methodology to price Affected LIBOR Swaps to ensure that pricing of the Affected LIBOR Swaps and the relevant conversion process is fair and not subject to manipulation of LIBOR benchmarks.[28] CME will utilize the ISDA Fallback Pricing Methodology for the purposes of computing the projected LIBOR forward rate on each relevant Conversion Date.[29]

The Fallback reference rate FF, with respect to an IBOR tenor f and Record/Fixing Date t is computed as:

$$FF_{f,t} = ARR_{f,t} + SA_{f,t}$$

where $ARR_{f,t}$ is the Adjusted Risk-Free Rate, $SA_{f,t}$ is the ISDA Spread Adjustment fixed by Bloomberg for each IBOR tenor

$$ARR_{f,t} = \frac{DayCount_I}{DayCount_{RR}} \times \frac{1}{\delta_{S_{f,t},\ E_{f,t}}} \times \left[\left(\prod_{u \in AP_{f,t}} \left(1 + RFR_u \times \delta_{u,u+1}\right)\right) - 1\right]$$

where:

- $DayCount_I$ is day-count convention for IBOR index
- $DayCount_{RR}$ is day-count convention for Reference Rate index
- $S_{f,t}$ is the accrual start date for IBOR tenor
- $E_{f,t}$ is the accrual end date for IBOR tenor
- $\delta_{A,B}$ is the day count fraction for the Reference Rate
- $AP_{f,t}$ is the Accrue Period for RFR compounding;
- u is the business day within Accrue Period defined by RFR holiday calendar
- RFR_u is the daily risk-free rate

Application of ISDA Fallback Pricing Methodology for determining the accrual period for RFR compounding

In order to determine the accrual period for RFR compounding in each case, it is necessary to compute:

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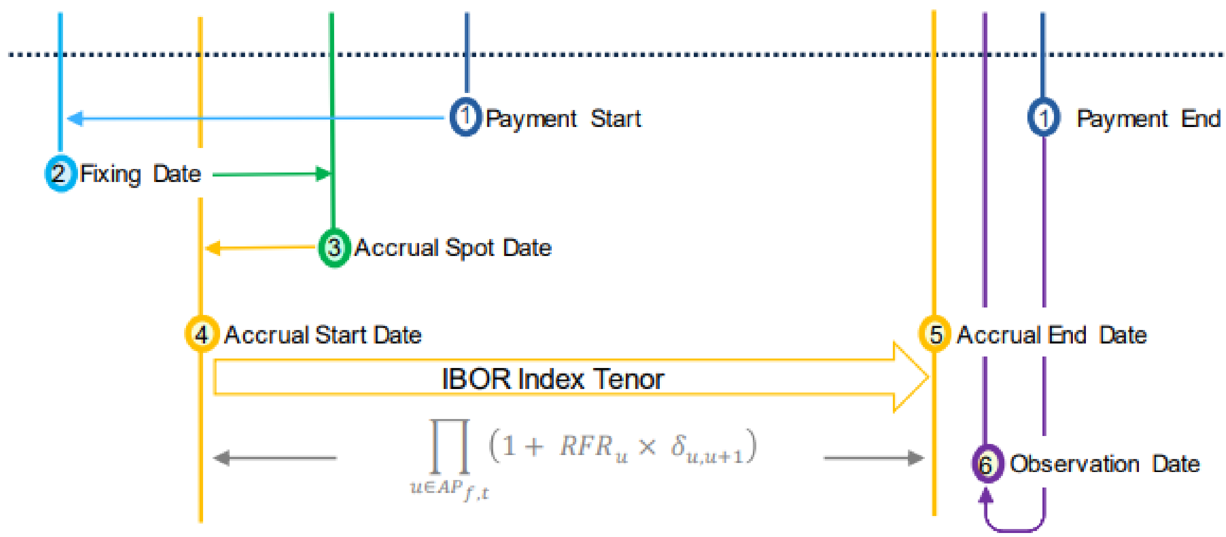
[27] See: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf.

[28] CME will utilize the same standard methodology and the same RFR curve to value each Affected LIBOR Swap and the resulting CME cleared RFR swap(s). Since both valuation processes utilize the same pricing curve, the Cash Adjustment process is accounting only for differences in standard RFR swap cashflows versus the cashflow determined under the Fallback Pricing Methodology. Using the same curve and fallback pricing methodology removes any reliance on the relevant LIBOR benchmarks which in turn ensures that the process is fair and not subject to manipulation.

[29] BISL publishes the ISDA Spread Adjustment (https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf) and calculates and publishes the Fallback Rates and Adjusted RFRs according to the prescribed ISDA methodology, as set out in the IBOR Fallback Rate Adjustments Rule Book published by BISL at https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf, with the relevant methodology reproduced here.

1. the Payment Start Date and Payment End Date based on trade attributes
2. LIBOR Fixing date from Payment Start Date using fixing offset, calendar and business convention from trade attributes
3. Accrual Spot Date as Spot Lag number of business days from Fixing Date using RFR calendar and Following convention
4. Accrual Start Date as 2 business days before Accrual Spot Date on RFR calendar using Preceding convention
5. Accrual End Date by adding IBOR Index tenor from Accrual Start Date
6. Observation Date as 2 business days before Payment Date on trade payment calendar using Preceding convention. Ensure the Accrual End date is on or before Observation Date. If not, then adjust the Fixing Date backward until the condition is satisfied



Further details of the ISDA Fallback Pricing Methodology can be found within the IBOR Fallback Rate Adjustments Rule Book made publicly available by BISL.

Applicable ISDA Spread Adjustment

CME will utilize the relevant ISDA Spread Adjustment published by BISL for the purposes of each Conversion process except that, in relation JPY LIBOR Swaps, in order to reflect the differences in standard floating leg day count between TONA OIS (actual/365.fixed) and JPY LIBOR Swaps (actual/360), CME will apply an adjustment to the relevant ISDA Spread Adjustment that is applied to each tenor of JPY LIBOR Swaps subject to the relevant conversion processes. CME will apply the relevant ISDA Spread Adjustment multiplied by 365 divided by 360 in determining the floating amount of each Conversion JPY Swap. This procedure will ensure that the relevant ISDA Spread Adjustment is amended to take into account the day count differential between the relevant swap terms.

*6M JPY LIBOR Example = 5.809 * 365/360 = 5.89 bps*

Where:

- 5.809 is the ISDA Spread Adjustment (as published by BISL)
- 365 is the JPY RFR day count convention
- 360 is the JPY LIBOR day count convention
- 5.89 is the new adjusted ISDA Spread Adjustment that will be applied by CME

JPY Tenor	ISDA Spread Adj % (Original)	Adjusted ISDA Spread Adj % (New)
1M	-0.02923	-0.02964
3M	0.00835	0.00847
6M	0.05809	0.05890

Treatment of LIBOR Fixings for Coupons, Payment Frequencies and Payment Dates

CME will maintain known coupon amounts through the conversion processes by adding known coupons as upfront fees to the resulting CME cleared Conversion RFR Swaps:

- Where LIBOR fixings have occurred prior to the relevant Conversion process and are yet to settle on the relevant Primary Conversion Date, these will be maintained and carried over to the relevant Conversion RFR Swaps.
- Where LIBOR fixings would occur after the relevant Primary Conversion Date and prior to the relevant Index Cessation Effective Date, in order to maintain the economics and cash flows associated with these cleared trades, CME will convert these trades on the relevant Secondary Conversion Date, which is a date after the relevant fixing has occurred. Again, where the fixings have occurred and are yet to settle on the Conversion Date, these will be maintained and carried over to the relevant Conversion RFR Swaps.

In most cases, the LIBOR fixed and floating payment frequencies do not change as part of Conversion. This is because the compounding and payment frequencies typically match (e.g. both 3M). However, for compounding Affected LIBOR Swaps, it is necessary to amend the compounding frequency upon Conversion so that it matches the payment frequency on the corresponding Conversion RFR Swap, as illustrated in the examples below.

In relation to payment dates:

- For GBP Conversion RFR Swaps, the original LIBOR coupon payment dates can be maintained as a result of Conversion. This is because GBP RFR swaps have a payment day offset = 0D.
- For JPY and CHF Conversion RFR Swaps, the original LIBOR coupon payment dates will be shifted by 2 days, due to a standard payment day offset = 2D for these currencies.

CME will apply the following principles to settlement of coupons due in respect of Affected Contracts:

Coupon Banking on relevant Conversion Date:

- GBP – Coupon is banked on Affected LIBOR Swap
- CHF/JPY – Coupon is banked on Affected LIBOR Swap

Coupon Banking on relevant Conversion Date + 1 (Monday):

- GBP – Coupon is banked as an upfront fee on Conversion RFR Swap
- CHF/JPY – Coupon is banked on Affected LIBOR Swap

Coupon Banking on relevant Conversion Date + 2 (Tuesday):

- GBP – Coupon is banked as an upfront fee on Conversion RFR Swap
- CHF/JPY – Coupon is banked as a fee on Conversion RFR Swap

These principles are applicable to both fixed and floating legs.

The nature of the Affected LIBOR Swap cleared by CME will determine the methodology applied by CME for the Conversion of that swap into corresponding Conversion RFR Swap(s), as set out in the examples below. These examples are for illustration purposes only and do not represent an exhaustive list of conversion scenarios:

Conversion of Vanilla Forward Starting Swap

In this scenario, the Effective Date of the relevant Affected LIBOR Swap is a date that is after the relevant Index Cessation Effective Date.

For the pricing and termination of the relevant Affected LIBOR Swap, CME will compute the payment period start/end date, payment date and fixing date using the Affected LIBOR Swap trade attributes. The fallback rate that will be applied for each period is equal to the relevant adjusted RFR[30] + ISDA Spread Adjustment.

For the relevant Conversion RFR Swap, CME will compute the payment period start/end date using the trade attributes of the Affected LIBOR Swap trade. The Interest Amount for each period is equal to the RFR + RFR Trade Spread[31] where the RFR Trade Spread is set as the ISDA Spread Adjustment (based on the IBOR Index) + Trade Spread of the original Affected LIBOR Swap trade subject to the conversion (if applicable). CME will utilize existing RFR pricing curves to value Affected LIBOR Swaps and Conversion RFR Swaps under the ISDA Fallback Pricing Methodology.

CME will:

- Apply the ISDA Fallback Pricing Methodology to each of the fixing dates and imply a compounded adjusted RFR from the bootstrapped RFR curve
- Price the LIBOR leg as priced currently using the fallback rate implied for each reset

[30] CME will calculate the relevant adjusted RFR using the ISDA Fallback Pricing Methodology, as published by BISL.
[31] The Trade Spread is any specified spread agreed in the original terms of the swap and which must be added to the relevant LIBOR fixing when computing the cash flow on the swap.

- Effective date, maturity date, notional, payment frequency, and direction on the Conversion RFR Swap are preserved from the Affected LIBOR Swap
- Override the Payment Offset to the standard RFR convention on both fixed and floating legs of the Conversion RFR Swap
- Override the below attributes to market standard RFR convention for the LIBOR leg of the Conversion RFR Swap:
    - Index Name and Tenor
    - Fixing Offset and Calendar
    - Payment Offset
    - ISDA Spread Adjustment added to compounded RFR leg as simple interest amount
- Upfront fee is added to Conversion RFR Swap to process the Cash Adjustment.

Conversion of Vanilla Seasoned Swap

In this scenario, the Effective Date of the relevant Affected LIBOR Swap is a date that is prior to the relevant Index Cessation Effective Date.

For the pricing and termination of the relevant Affected LIBOR Swap, CME will compute the payment period start/end date, payment date and fixing date using the Affected LIBOR Swap trade attributes. The fallback rate that will be applied for each period is equal to the relevant adjusted RFR[32] + ISDA Spread Adjustment.

For the relevant Conversion RFR Swap, CME will compute the payment period start/end date using the trade attributes of the Affected LIBOR Swap trade. The Interest Amount for each period is equal to the RFR + ISDA Spread Adjustment + Trade Spread (if applicable).

In the case of a Seasoned Affected LIBOR Swap with matching fixed and floating coupon dates, the relevant Affected LIBOR Swap will be converted to a single Conversion RFR Swap. In the case of a Seasoned Affected LIBOR Swap with different fixed and floating coupon dates, the relevant Affected LIBOR Swap will be converted to two Conversion RFR Swaps.[33]

CME will:

- Book a forward starting Conversion RFR Swap with Effective Date set as the next payment period start date of the floating leg immediately following the relevant Index Cessation Effective Date
- Any known LIBOR payments or fixed coupon payments accrued but not paid are settled as upfront fees as per the new coupon dates:
    - If the fixed and float coupon dates match, then a single upfront fee is added to the Conversion RFR Swap with the net coupon amount which shall be equal to the net of the known LIBOR and Fixed leg coupon payments;

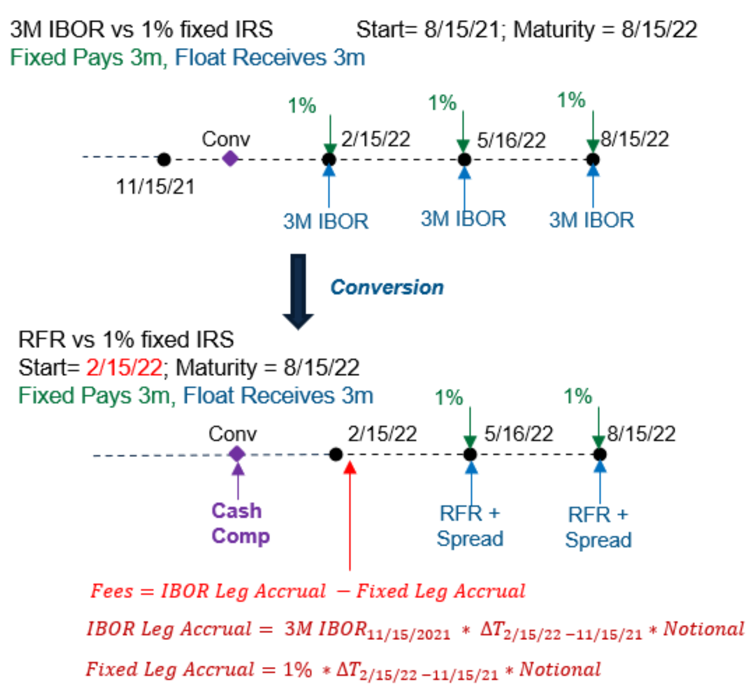
[32] CME will calculate the relevant adjusted RFR using the ISDA Fallback Pricing Methodology, as published by BISL.
[33] The relevant Cash Adjustment will be based on the sum of the adjusted NPVs of the two resulting Conversion RFR Swaps. Note that a “single unit trade” is booked in this example for the specific purposes of preserving additional payments and therefore this will not be subject to a Conversion Fee.

- If the fixed and float coupon dates do not match, then:
  - The fraction of the fixed coupon accrued but not paid is included as an upfront fee on the Conversion RFR Swap
  - Known but unpaid float coupon is added as an upfront fee on a new single-unit notional Conversion RFR Swap (i.e. a second Conversion RFR Swap in addition to the previous Conversion RFR Swap, booked for the specific purposes of preserving additional payments) with a maturity date and fee payment date matching the current relevant LIBOR coupon payment date plus any applicable payment offset
  - A short initial stub may be needed on the Fixed Leg; in the event the Start Date of the Conversion RFR Swap lands between the Payment Period Start and End Dates of the LIBOR fixed leg accrual, a short initial stub will be applied to the fixed leg of the Conversion RFR Swap.

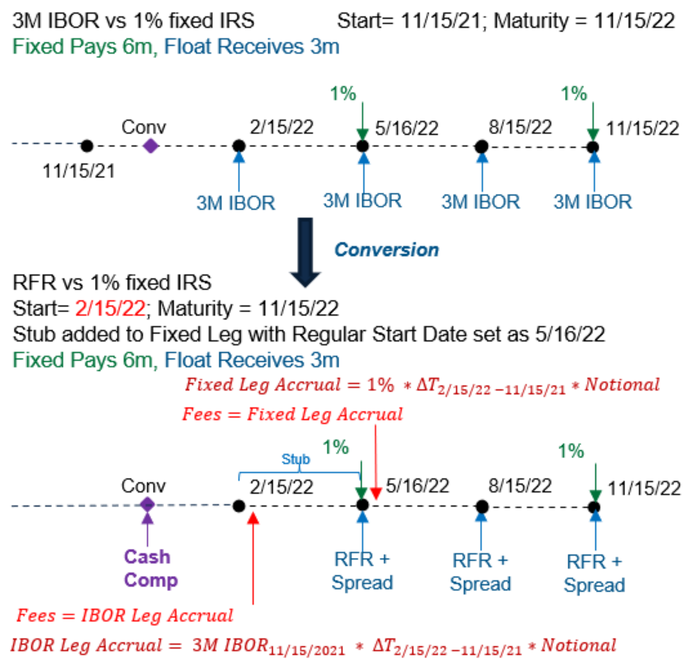
Note that any upfront fees related to coupon payments are applied separately to the upfront fees applicable to the Cash Adjustment.

Forward Fee Computation Examples:

Example 1: Matching Fixed and Floating Payment Dates



Example 2: Different Fixed and Floating Payment Dates



In the case of an Affected LIBOR Swap in the final floating coupon period, pricing and termination calculations for the Affected LIBOR Swap and Conversion RFR Swap will be the same as for other Vanilla Seasoned Affected LIBOR Swaps. However, the conversion methodology will differ as follows:

- No forward starting Conversion RFR Swap is booked since the swap is in the last coupon period
- The known LIBOR payment and fixed coupon payment are settled as an upfront fee on a new Conversion RFR Swap that pays on the LIBOR maturity date + payment offset
    - Notional = 1-unit (single unit trade booked specifically for the purposes of preserving payments)
- Effective date will match the start of the current LIBOR payment period.
    - Maturity date will match the fee payment date and payment frequency will be set to "1T".
- Upfront fee is added to the Conversion RFR Swap to process the Cash Adjustment
- CME will replace the below attributes of the Affected LIBOR Swap with market standard RFR conventions for the Floating (RFR) leg of the Conversion RFR Swap:
    - Index Name and Tenor
    - Fixing Offset and Calendar
    - Payment Offset
    - ISDA Spread Adjustment added to compounded RFR leg as simple interest amount

Conversion of Vanilla Swap with Stubs

In the case of a vanilla Affected LIBOR Swap with stubs, pricing of the Affected LIBOR Swap for the Conversion Calculation will be as follows:

- Stub periods with known fixings but unsettled will use the LIBOR fixing(s) and payment dates. These stubs are priced the same way as regular LIBOR coupon periods
- Forward starting stub periods are priced using the ISDA Fallback Pricing Methodology i.e., compound the RFR by backward shifting the stub period by 2 business days and add the respective ISDA Spread Adjustment
- The ISDA Fallback spread is derived by interpolating the ISDA Fallback Spread Adjustment for the stub LIBOR index tenors (stub tenors are supported on all LIBOR products at CME, excluding OIS)
- All regular periods in the swap are priced using the methodology outlined in the previous examples

The Conversion RFR Swap trade attributes will be as follows:

- Stub periods with known fixings but unsettled payments will apply the LIBOR rate as an upfront fee defined on the Conversion RFR Swap
- Forward starting stub periods retain the stub period's start date and end date
- Daily compounded RFR will be used to calculate the stub rate
- For forward starting stub, the difference of the ISDA Spread Adjustment for the stub and the ISDA Spread Adjustment for the regular swap index will be cash settled as part of the Cash Adjustment
- Standard RFR payment offsets are added to fixed and float payments including stub period
- All regular coupon periods in the swap are converted using the methodology outlined in the previous examples

Conversion of Compounding Swap

In this scenario, the Affected LIBOR Swap trade has different compounding frequency versus payment frequency, e.g. 1M vs. 3M.

For the pricing and termination of the relevant Affected LIBOR Swap, CME will compute the payment period start/end date, payment date and fixing date using the Affected LIBOR Swap trade attributes. The fallback rate for each compound period is equal to the adjusted RFR + ISDA Spread Adjustment.

For the relevant Conversion RFR Swap, CME will compute the compound period start/end date using the trade attributes of the Affected LIBOR Swap trade. The Interest Amount for each period is equal to the RFR + ISDA Spread Adjustment + Trade Spread (if applicable).

CME will:

- Book a forward starting Conversion RFR Swap with Effective Date set as the next compound period start date immediately following the Index Cessation Effective Date. The payment accruals are preserved. RFR by default compounds every 1D
- Notional for the Conversion RFR Swap is the same notional as the original Affected LIBOR Swap cleared trade
- Create stub with regular period start date set to next payment start date
- Change Leg Spread as ISDA Spread Adjustment + Trade Spread (if applicable)

- Any known LIBOR payments or fixed coupon payments that are accrued but not paid are settled as upfront fees on the Conversion RFR Swap as per the new payment dates:
    - The payment based on the known LIBOR is derived by accruing the known LIBOR fixings inclusive of any trade spread using the compounding convention on the LIBOR trade
    - ISDA Spread Adjustment for the stub on the Conversion RFR Swap will be accounted for and processed as part of the upfront fees.

Conversion of Zero-Coupon Swap

In this scenario, the Affected LIBOR Swap compounds more frequently during the term but only pays once at maturity.

For the pricing and termination of the relevant Affected LIBOR Swap, CME will compute the payment period start/end date, payment date and fixing date using the Affected LIBOR Swap trade attributes. The fallback rate for each compound period is equal to the adjusted RFR + ISDA Spread Adjustment.

For the relevant Conversion RFR Swap, CME will compute the compound period start/end date using the trade attributes of the Affected LIBOR Swap trade. The Interest Amount for each period is equal to the RFR + RFR Trade Spread where the RFR Trade Spread is set as the ISDA Spread Adjustment (based on the IBOR Index) + Trade Spread of the original LIBOR trade in conversion (if applicable).

CME will:

- Book a forward starting Conversion RFR Swap with Effective Date set as the next compound period start date. The payment accruals are preserved. RFR by default compounds every 1D
- Fixed Rate is removed (if applicable), and the compounded interest is set to Known amount
- Notional Amount for the Conversion RFR Swap is adjusted as notional accrued based on the known LIBOR fixing inclusive of trade spread (if applicable) using the Swap compounding convention, e.g., Notional for a Conversion RFR Swap where two LIBOR fixings are known, and trade has no spread and FLAT compounding convention will be computed as

$$\text{New Notional} = \text{Notional} * (1 + \text{Fixing}_1 * t_1) * (1 + \text{Fixing}_2 * t_2)$$

- Change Leg Spread as ISDA Spread Adjustment + Trade Spread (if applicable)
- Any known LIBOR payments that is accrued but not paid is settled as upfront fees on the Conversion RFR Swap as per the new payment date

$$\text{Fees} = \text{New Notional} - \text{Notional}$$