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**SUBMISSION COVER SHEET**

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

**Registered Entity Identifier Code (optional):** 22-567

**Organization:** Chicago Mercantile Exchange Inc. ("CME")

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

**Please note - only ONE choice allowed.**

**Filing Date (mm/dd/yy):** 12/22/22 **Filing Description:** Amendments to the Three-Month Eurodollar Futures and Options on Three-Month Eurodollar Futures Contracts to Amend USD London Inter-bank Offered Rate ("LIBOR") Fallback Provisions

**SPECIFY FILING TYPE**

**Please note only ONE choice allowed per Submission.**

**Organization Rules and Rule Amendments**

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|--------------------------|-------------------------------------|------------|
| <input type="checkbox"/> | Certification                       | § 40.6(a)  |
| <input type="checkbox"/> | Approval                            | § 40.5(a)  |
| <input type="checkbox"/> | Notification                        | § 40.6(d)  |
| <input type="checkbox"/> | Advance Notice of SIDCO Rule Change | § 40.10(a) |
| <input type="checkbox"/> | SIDCO Emergency Rule Change         | § 40.10(h) |

**Rule Numbers:**

**New Product**

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

- |                          |                                       |            |
|--------------------------|---------------------------------------|------------|
| <input type="checkbox"/> | Certification                         | § 40.2(a)  |
| <input type="checkbox"/> | Certification Security Futures        | § 41.23(a) |
| <input type="checkbox"/> | Certification Swap Class              | § 40.2(d)  |
| <input type="checkbox"/> | Approval                              | § 40.3(a)  |
| <input type="checkbox"/> | Approval Security Futures             | § 41.23(b) |
| <input type="checkbox"/> | Novel Derivative Product Notification | § 40.12(a) |
| <input type="checkbox"/> | Swap Submission                       | § 39.5     |

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

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|-------------------------------------|---|----------------------|
| <input type="checkbox"/>            | Certification   | § 40.6(a)            |
| <input type="checkbox"/>            | Certification Made Available to Trade Determination     | § 40.6(a)            |
| <input type="checkbox"/>            | Certification Security Futures                          | § 41.24(a)           |
| <input type="checkbox"/>            | Delisting (No Open Interest)                            | § 40.6(a)            |
| <input checked="" type="checkbox"/> | Approval  | § 40.5(a)            |
| <input type="checkbox"/>            | Approval Made Available to Trade Determination          | § 40.5(a)            |
| <input type="checkbox"/>            | Approval Security Futures                               | § 41.24(c)           |
| <input type="checkbox"/>            | Approval Amendments to enumerated agricultural products | § 40.4(a), § 40.5(a) |
| <input type="checkbox"/>            | "Non-Material Agricultural Rule Change"                 | § 40.4(b)(5)         |
| <input type="checkbox"/>            | Notification  | § 40.6(d)            |

**Official Name(s) of Product(s) Affected:** See filing.

**Rule Numbers:** See filing.



Christopher Bowen  
Managing Director and Chief Regulatory Counsel  
Legal Department

December 22, 2022

**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 40.5(a) Request for Approval. Amendments to the Three-Month Eurodollar Futures and Options on Three-Month Eurodollar Futures Contracts to Amend London Inter-bank Offered Rate (“LIBOR”) Fallback Provisions.  
CME Submission No. 22-567**

Dear Mr. Kirkpatrick:

Pursuant to Commodity Futures Trading Commission (“CFTC” or “Commission”) Regulation 40.5(a), Chicago Mercantile Exchange Inc. (“CME” or the “Exchange”) hereby voluntarily submits for Commission review and approval amendments to the Three-Month Eurodollar Futures and Options on Three-Month Eurodollar Futures contracts (the “Contracts”) to amend existing contractual fallbacks for the Contracts (collectively, the “Rule Amendments”) to be incorporated into the rules of the Exchange on February 6, 2023.

| <b>Contract Title</b>                     | <b>CME Globex/<br/>CME ClearPort Code/<br/>Open Outcry-Trading Floor</b>   | <b>CME Rulebook Chapter</b> |
|---|--|-----------------------------|
| Three-Month Eurodollar Futures            | GE/ED  | 452                         |
| Options on Three-Month Eurodollar Futures | GE/ED/Put: PE; Call: CE<br><br>1 Year Mid Curve<br>GE0/ E0<br><br>2 Year Mid Curve<br>GE2/E2<br><br>3 Year Mid Curve<br>GE3/E3<br><br>4 Year Mid Curve<br>GE4/E4<br><br>5 Year Mid Curve<br>GE5/E5 | 452A                        |

The Contracts reference three-month US Dollar ICE LIBOR (“USD LIBOR”)<sup>1</sup> and the Rule Amendments are required to address future circumstances in which USD LIBOR:

- (i) is scheduled to be deemed unrepresentative of the underlying market or economic reality immediately after publication on June 30, 2023, following the U.K. Financial Conduct Authority (“FCA”) announcement of March 5, 2021<sup>2</sup>, made in its capacity as supervisor of the administrator of USD LIBOR (the “FCA Announcement”), or
- (ii) in the event that USD LIBOR is otherwise permanently discontinued.

The Rule Amendments shall be binding on existing and new position holders in such contracts from the effective date of the Rule Amendments.<sup>3</sup>

## **1. Overview of and Rationale for the Rule Amendments**

CME previously amended the terms of the Contracts in March 2021 to implement contractual fallback provisions for the Contracts, which amendments were deemed approved by the Commission under the Commission Regulation 40.5(a) process on March 29, 2021 and subsequently incorporated into the CME Rulebook (the “Current Eurodollar Fallback Provisions”).<sup>4</sup> The Current Eurodollar Fallback Provisions were broadly aligned with initiatives in the OTC cleared and uncleared derivatives market at the time of implementation, coordinated with the International Swaps and Derivatives Association (“ISDA”), and endorsed by global regulatory authorities, each of which anticipates derivative contractual fallback from exposure to USD LIBOR to exposure to the alternative reference rate for USD, the Secured Overnight Financing Rate (“SOFR”). The Current Eurodollar Fallback Provisions were prepared in advance and in anticipation of the FCA Announcement and therefore do not specifically incorporate the scheduled date of 30 June, 2023, following which USD LIBOR will no longer be deemed representative of the underlying market and economic reality the setting is intended to measure (the “Scheduled Final Representative LIBOR Publication Date”). Furthermore, the Current Eurodollar Fallback Provisions were implemented before, and therefore do not take into account, cleared OTC IRS industry USD LIBOR fallback proposals recently finalized during 2022 that propose, in response to market participant preferences for operational scheduling of fallbacks for OTC IRS, to implement contractual fallbacks for cleared USD LIBOR swaps a number of months prior to the Scheduled Final Representative LIBOR Publication Date.<sup>5</sup>

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<sup>1</sup> The USD ICE LIBOR rate is administered by ICE Benchmark Administration Limited (“IBA”), which is regulated and supervised by the UK Financial Conduct Authority as administrator of the benchmark. USD LIBOR is designed to provide an average rate at which certain international banks can borrow funds in USD for certain tenors in the wholesale unsecured funding market.

<sup>2</sup> See FCA announcement on future cessation and loss of representativeness of the LIBOR benchmarks, available at: <https://www.fca.org.uk/publication/documents/future-cessation-loss-representativeness-libor-benchmarks.pdf>. The FCA noted that it would not require any panel banks to continue to submit USD LIBOR rates after publication on 30 June 2023 or to require IBA to continue to publish LIBOR on the basis of panel bank submissions beyond such date. While the FCA reserved its rights to require continued publication of USD LIBOR on a synthetic basis of the 1- month, 3-month and 6-month US dollar LIBOR settings for a further period after end-June 2023, the FCA noted that LIBOR settings published on this synthetic basis will no longer be representative of the underlying market and economic reality the setting is intended to measure. Consequently, the FCA concluded and announced that, in the case of three-month USD LIBOR, such rate will no longer be representative of the underlying market and economic reality that such setting is intended to measure and that representativeness will not be restored, immediately after publication on 30 June 2023.

<sup>3</sup> CME Options on Three-Month Eurodollar Futures contracts (Chapter 452A) exercise into CME Three-Month Eurodollar Futures contracts (Chapter 452). CME also lists for trading (i) One-Month Eurodollar Futures (that reference 1 Month USD LIBOR) (Chapter 453) and (ii) Options on Three-Month Eurodollar Futures Calendar Spreads (Chapter 452D). In each case there are no contracts available for trading that extend beyond the date of end-June 2023 and no further contracts shall be listed by the Exchange. As a result, CME will not amend the rules of Chapter 453, Chapter 453A or Chapter 452D to implement contractual fallbacks for these contracts.

<sup>4</sup> See <https://www.cmegroup.com/content/dam/cmegroup/market-regulation/rule-filings/2021/2/21-082.pdf>. The Current Eurodollar Fallback Provisions provide that from the effective date that USD LIBOR is deemed to be non-representative of the underlying market or economic reality by the FCA or the date that USD LIBOR is otherwise permanently discontinued, trading and clearing of the Contracts will terminate and CME would convert open positions in the Contracts into positions in the corresponding CME futures and options contracts referencing the Secured Overnight Financing Rate (“SOFR”) on such date.

<sup>5</sup> In August 2022, following extensive consultation with market participants, CME announced that, subject to regulatory review, it intends to convert cleared USD LIBOR swaps into equivalent standardized SOFR overnight index swaps (“OIS”) commencing April 21, 2023. The timing of the proposed primary conversion date was based on market participant feedback, with market participants consulted expressing a preference to conduct the conversion process in good time ahead of the Scheduled Final Representative LIBOR Publication Date in order to limit the amount of operational risk and processing throughput challenges faced by those market participants for cleared swaps, and to ensure a minimal amount of operational and timing overlap with the processing of bilateral

Under the Current Eurodollar Fallback Provisions, assuming there is no subsequent event that supersedes the FCA Announcement, the effective date of the contractual fallbacks for the Contracts would be immediately after publication of USD LIBOR on the Scheduled Final Representative LIBOR Publication Date (June 30, 2023). Following discussions with market participants during 2022, in order to ensure that open positions in the Contracts are transitioned away from USD LIBOR (i) in good time ahead of the Scheduled Final Representative LIBOR Publication Date and (ii) at a time scheduled to be closely coordinated with the scheduling of the equivalent OTC IRS industry USD LIBOR transition process, CME proposes to amend the terms of the Contracts and the Current Eurodollar Fallback Provisions such that the contractual fallback provisions will take effect on or shortly after close of business on April 14, 2023 (the “Proposed Eurodollar Fallback Effective Date”), subject to the terms of the Contracts as amended by the Rule Amendments.<sup>6</sup>

CME’s revised approach to the effective time of implementation of contractual fallbacks for the Contracts to be implemented by the Rule Amendments is driven by market participant feedback. The Proposed Eurodollar Fallback Effective Date was selected by CME in response to market participant requests that contractual fallbacks in relation to CME Eurodollar Futures and Options contracts should not occur at the same time as the implementation of the contractual fallbacks in uncleared bilateral derivative contracts in order to limit the amount of operational risk and processing throughput challenges faced by market participants subject to the bilateral market transitions scheduled to take place shortly after June 30, 2023. Given the close relationship between the cleared swap and futures and options markets, market participants also expressed a preference that any Exchange-led transition away from CME Eurodollar Futures and Options should occur as close as possible in terms of timing to the primary cleared USD LIBOR OTC IRS transitions scheduled by major Central Counterparties (“CCPs”), without significant overlap in processing. On the basis of this engagement, CME has determined that the conversion of CME Eurodollar Futures and Options should take place shortly before the equivalent processes for cleared swaps scheduled by CME Clearing (also referred to as the “Clearing House”) and other major CCPs.

While the change to the proposed timing of the Proposed Eurodollar Fallback Effective Date is a material change to the equivalent date under the Current Eurodollar Fallback Provisions, CME’s approach and methodology to effect the conversion process set out in the Rule Amendments is otherwise substantially the same as the Current Eurodollar Fallback Provisions, which approach and methodology was and continues to be supported by market participants. As with the Current Eurodollar Fallback provisions, the proposed revised contractual fallbacks for the Contracts are intended to align with CME’s approach to

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uncleared swap transition arrangements that are scheduled to take place on or around the Scheduled Final Representative LIBOR Publication Date. Further details are available at <https://www.cmegroup.com/content/dam/cmegroup/trading/interest-rates/files/cme-conversion-for-usd-libor-cleared-swaps.pdf>. LCH Group (“LCH”) similarly conducted a consultation exercise with its cleared OTC IRS market participants and has proposed that it will convert USD LIBOR referencing swaps into corresponding market standard SOFR OIS across two dates, a first in April 2023 and a second in May 2023. LCH identified that market participant feedback has determined the proposed timing for the conversion to take place in good time ahead of end-June 2023. Further details are available at <https://www.lch.com/membership/ltd-membership/ltd-member-updates/lchs-consultation-conversion-outstanding-usd-libor>

<sup>6</sup> Note that the Rule Amendments provide that only positions in the Contracts relating to underlying futures expiring after June 30, 2023 will be in scope and eligible for the conversion, based on the timeline set out in the FCA Announcement. The Rule Amendments further provide for certain limited circumstances where the Eurodollar Fallback Effective Date may be amended: (i) in the unlikely event of a “fallback event” in respect of USD LIBOR that supersedes the FCA Announcement, or (ii) in the event that CME determines in its sole and absolute discretion that the Eurodollar Fallback Effective Date must be amended, for example and without limitation, in response to operational, market disruption or financial stability issues that could threaten the orderly transition of the Contracts.

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fallbacks for USD LIBOR-referencing OTC IRS contracts<sup>7</sup>, which is in turn broadly aligned with initiatives in the wider OTC cleared and uncleared derivatives market.<sup>8</sup>

On the Proposed Eurodollar Fallback Effective Date, CME proposes that trading and clearing of affected Contracts will terminate and CME will convert open positions in such affected Contracts into positions in the corresponding Three-Month SOFR Futures (Rulebook Chapter: 460/Commodity Code: SR3) or Options on Three-Month SOFR Futures (Rulebook Chapter 460A; Commodity Code: SR3/S30) (collectively, the “SOFR Contracts”), as applicable, according to a methodology and procedure described in this submission.<sup>9</sup> Given the general alignment between the contractual periods of interest rate risk between CME Three-Month Eurodollar Futures and CME Three-Month SOFR futures, and guided by the principles of maintaining market stability and promoting effective risk management, CME continues to believe that this approach to conversion of open interest in the Contracts meets the needs of market participants and promotes market stability and an orderly transition to SOFR from USD LIBOR, whilst ensuring appropriate alignment with the proposed approach to fallbacks that will be followed by CME Clearing and the wider swap clearing industry for OTC IRS referencing USD LIBOR.<sup>10</sup>

## **2. Background to USD LIBOR Transition**

### **“Non-representativeness” of USD LIBOR**

Following industry consultations,<sup>11</sup> on March 5, 2021, IBA, the UK FCA regulated and supervised administrator of USD LIBOR, announced that in the absence of sufficient panel bank support and without the intervention of the FCA to compel continued contributions to USD LIBOR, it would not be possible for IBA to continue to publish the relevant USD LIBOR settings on a “representative” basis beyond June 30, 2023.<sup>12</sup> In coordination with the IBA announcement, on March 5, 2021, the FCA Announcement confirmed that the FCA would not require any panel banks to continue to submit USD LIBOR rates after publication on 30 June 2023 or to require IBA to continue to publish LIBOR on the basis of panel bank submissions beyond such date. While the FCA reserved its rights to require continued publication of the 1- month, 3-month and 6-month US dollar LIBOR settings on a “synthetic” basis for a further period after end-June

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<sup>7</sup> See CME Clearing rule filing dated December 8, 2020 regarding modifications to OTC interest rate swaps contracts to implement ISDA IBOR fallback provisions: <https://www.cmegroup.com/content/dam/cmegroup/market-regulation/rule-filings/2020/12/20-517.pdf>. As noted above, following discussions with market participants, and to ensure alignment with the broader cleared derivatives industry approach to effecting transition from USD LIBOR to SOFR in IRS contracts, CME proposes to effect a conversion of USD LIBOR referencing IRS contracts into corresponding cleared contracts referencing SOFR, on or around April 21, 2023. See <https://www.cmegroup.com/content/dam/cmegroup/trading/interest-rates/files/cme-conversion-for-usd-libor-cleared-swaps.pdf>. CME Group will be filing appropriate modifications to the applicable CME Clearing rules to implement these changes, amending those set out in Submission 20-517.

<sup>8</sup> Regulatory authorities have stressed the need for exchange traded derivatives (“ETDs”) to include robust contractual fallbacks for IBORs, in a similar manner to OTC IRS. While the Rule Amendments effectively bring forward the conversion process for the Contracts, the basic principles of the conversion are still designed to closely reflect the ISDA IBOR fallback provisions, through incorporation of the ISDA Spread Adjustment (explained further in this Submission). Given that cleared OTC and ETD contracts comprise the overwhelming majority of derivative exposures to USD LIBOR, CME considers that it is more important that ETD fallback arrangements should be closely coordinated in terms of timing with the cleared OTC market transitions, rather than with the fallback implementation for bilateral uncleared contracts.

<sup>9</sup> CME Three-Month SOFR Futures (Chapter 460, CME Rulebook) utilize SOFR to determine the final settlement price of the contract on expiry; in a given delivery month the final settlement price is determined by the compounded daily SOFR during the contract reference quarter.

<sup>10</sup> Under the terms of the ISDA contractual fallbacks applicable to bilateral uncleared USD LIBOR swaps, such contracts will fall back to SOFR fallback rates on the relevant Index Cessation Effective Date (within the meaning of the relevant ISDA provisions), which (based on the FCA Announcement), is scheduled to be shortly after the Scheduled Final Representative LIBOR Publication Date. As noted above, CME Group and the wider cleared derivatives industry has consciously elected to effect a transition of cleared USD LIBOR swaps to corresponding SOFR OIS, and also of the Contracts, in good time ahead of the Index Cessation Effective Date to reduce the operational burden on market participants subject to contractual fallbacks for uncleared bilateral swaps.

<sup>11</sup> The consultation was published by IBA on December 4, 2020 and closed on January 25, 2021 and is available at: [https://www.theice.com/publicdocs/ICE\\_LIBOR\\_Consultation\\_on\\_Potential\\_Cessation.pdf](https://www.theice.com/publicdocs/ICE_LIBOR_Consultation_on_Potential_Cessation.pdf).

<sup>12</sup> See IBA Feedback Statement on consultation, March 5, 2021, available at:

[https://www.theice.com/publicdocs/ICE\\_LIBOR\\_feedback\\_statement\\_on\\_consultation\\_on\\_potential\\_cessation.pdf](https://www.theice.com/publicdocs/ICE_LIBOR_feedback_statement_on_consultation_on_potential_cessation.pdf)

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2023, the FCA noted that LIBOR settings published on this synthetic basis will no longer be representative of the underlying market and economic reality the setting is intended to measure. Consequently, the FCA concluded and announced that, in the case of three-month USD LIBOR, such rate will no longer be representative of the underlying market and economic reality that such setting is intended to measure and that representativeness will not be restored, immediately after publication on 30 June 2023. The FCA Announcement also confirmed that such statements were issued “in the awareness that it will engage certain contractual triggers for the calculation and future application of fallbacks that are activated by pre-cessation or cessation announcements made by the FCA (howsoever described) in contracts”.<sup>13</sup> Therefore, the FCA and other regulatory authorities will require that contractual fallbacks should be implemented in bilateral uncleared, cleared and exchange traded derivative markets, triggered by the scheduled date that the rate ceases to be representative, even where the FCA determines that a “synthetic” USD LIBOR shall be published after the Scheduled Final Representative LIBOR Publication Date.<sup>14</sup>

In response to the FCA Announcement, on March 5, 2021, ISDA confirmed that the FCA Announcement constitutes an “Index Cessation Event” under the ISDA Fallbacks Supplement and the ISDA 2020 IBOR Fallbacks Protocol for all USD LIBOR settings, and further confirmed that, as a result, the fallback spread adjustment (which determines the fallback price of the resulting converted SOFR swap arising under the ISDA fallback methodology) published by Bloomberg Index Services Limited (“Bloomberg”) was fixed as of the date of the announcement for such contracts.<sup>15</sup> Under the terms of the ISDA contractual fallbacks for uncleared derivatives, following final publication of a “representative” USD LIBOR on June 30, 2023, the fallbacks for USD LIBOR derivatives under ISDA’s documentation would be implemented so that USD LIBOR swaps will be converted to reference forms of SOFR plus the fixed fallback spread adjustment. In response, Bloomberg issued a Technical Notice confirming that March 5, 2021 was the “Spread Adjustment Fixing Date” for all LIBOR rates and published the fixed Spread Adjustment for USD 3M LIBOR of 0.26161% (the “Spread Adjustment”).<sup>16</sup>

### SOFR as Successor to USD LIBOR

In 2014, the Federal Reserve Board and the Federal Reserve Bank of New York convened the Alternative Reference Rates Committee (“ARRC”) tasked with the mandate of identifying a “nearly risk-free” successor reference rate (“RFR”) to the LIBOR benchmark interest rate for USD LIBOR. In 2017, the ARRC fulfilled this mandate by selecting SOFR, a reference rate administered by the Federal Reserve Bank of New York. SOFR provides a broad measure of the cost of borrowing USD cash overnight collateralized by US Treasury securities, which rate is based on overnight observable transactions in the active and liquid US Treasury repo market.

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<sup>13</sup> See p.2, FCA Announcement, available at <https://www.fca.org.uk/publication/documents/future-cessation-loss-representativeness-libor-benchmarks.pdf>

<sup>14</sup> In November 2022, the FCA opened a public consultation on proposals to require publication of the 1-, 3- and 6- month USD LIBOR settings on a synthetic basis until end-September 2024, as well as the appropriate methodology for constructing such synthetic LIBOR settings, and what use of them should be permitted. The FCA confirmed that “while in our view synthetic LIBOR settings are a fair and reasonable approximation of what LIBOR might have been had it continued to exist, they are not representative of the markets that the original LIBOR settings were intended to measure.” The FCA has proposed that there would be limitations on use of such synthetic USD LIBOR settings, for example, supervised entities would not be permitted to use such rates except for legacy contracts specifically permitted by the FCA. The designation as a permanently unrepresentative benchmark also empowers the FCA to require the administrator of the benchmark to change the methodology of calculation. The FCA has proposed that synthetic US dollar LIBOR would be the sum of the CME Group Benchmark Administration Limited’s Term SOFR Reference Rate plus the ISDA fixed spread adjustment for the corresponding LIBOR setting. The FCA consultation paper is available at: <https://www.fca.org.uk/publication/consultation/cp22-21.pdf>.

<sup>15</sup> See ISDA announcement, available at <https://www.isda.org/2021/03/05/isda-statement-on-uk-fca-libor-announcement/>

<sup>16</sup> See Bloomberg Technical Notice, available at [https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation\\_Announcement\\_20210305.pdf](https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf). Leadership from the Federal Reserve Board, the Federal Reserve Bank of New York and the CFTC applauded the developments represented by these announcements, noting that they provided a clear end-date for USD LIBOR and a clear path for the change to alternative reference rates and encouraged market participants to continue the transition to alternative reference rates. See Alternative Reference Rates Committee Press Release available at [https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/ARRC\\_Press\\_Release\\_Endgame.pdf](https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/ARRC_Press_Release_Endgame.pdf)

The ARRC identified SOFR as the rate that represents best practice for use in new USD derivatives and other financial contracts and the ARRC’s Paced Transition Plan sets out milestones to promote and facilitate the transition away from USD LIBOR to SOFR.<sup>17</sup> SOFR is considered to be more resilient than panel-based IBOR rates because of how the SOFR rate is calculated and the liquidity and depth of the underlying market transactions that determine the rate. Transactions underlying SOFR regularly exceed \$1 trillion in daily volumes, rendering the SOFR rate a transparent rate that is representative of the market across a broad range of market participants, which provides protection against attempted manipulation. Global regulatory authorities continue to encourage market participants with exposure to USD LIBOR to implement contractual fallback arrangements to ensure an orderly transition away from USD LIBOR and to minimize any risk of market disruption ahead of the Scheduled Final Representative LIBOR Publication Date.<sup>18</sup>

Since its first publication in April 2018, use of SOFR has grown significantly for a wide range of financial products, from loans and commercial paper to interest rate swaps and exchange traded futures contracts. CME has supported the key milestones of the ARRC’s Paced Transition Plan, launching the SOFR Futures contract in May 2018, OTC SOFR swaps in October 2018 and Options on SOFR Futures in January 2020. Trading and open interest in CME SOFR derivative products has grown rapidly since launch, and particularly during 2022, such that CME SOFR Futures are now the leading source of SOFR price discovery. As of the end of November 2022, CME SOFR Futures and Options average daily volume (“ADV”) was consistently higher than CME Eurodollar Futures and Options, as demonstrated in the table below:

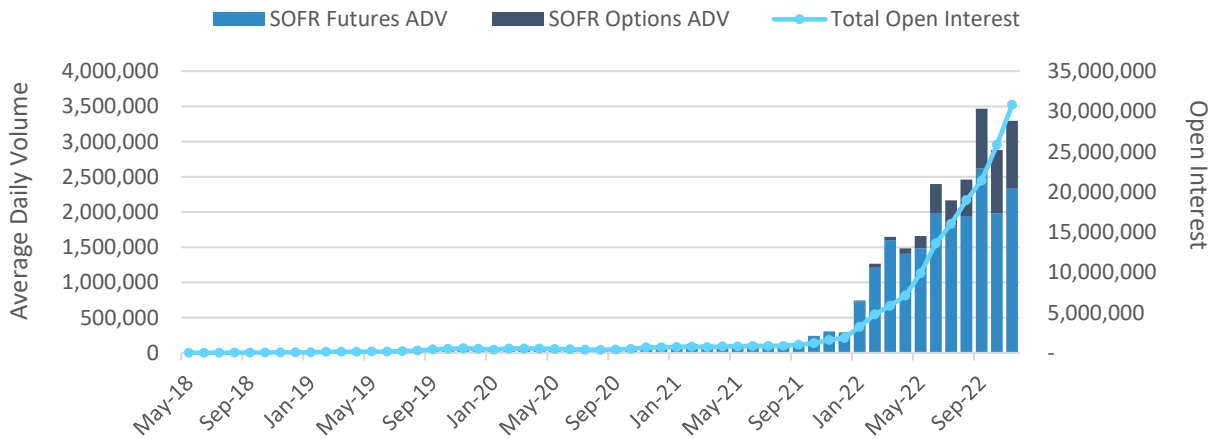
| <b>2022 Q4 through November</b> | <b>ADV</b>  | <b>November-End Open Interest</b> |
|---------------------------------|-------------|-----------------------------------|
| <b>CME Futures</b>              |             |                                   |
| <b>SOFR</b>                     | 2.2M        | 9M                                |
| <b>Eurodollar</b>               | 785k        | 7.3M                              |
| <b>SOFR % of ED</b>             | <b>275%</b> | <b>124%</b>                       |
| <b>CME Options on Futures</b>   |             |                                   |
| <b>SOFR</b>                     | 932k        | 21.9M                             |
| <b>Eurodollar</b>               | 545k        | 19.9M                             |
| <b>SOFR % of ED</b>             | <b>171%</b> | <b>110%</b>                       |

The chart below demonstrates the growth in CME SOFR Futures and Options ADV and open interest since launch in 2018:

<sup>17</sup> Details of the ARRC Paced Transition Plan for SOFR are available at <https://www.newyorkfed.org/arrc/sofr-transition#pacedtransition>.

<sup>18</sup> See, for example, statements from the Federal Reserve at <https://www.federalreserve.gov/supervisionreg/libor-transition.htm> and the FCA at <https://www.fca.org.uk/markets/libor>.

### SOFR futures and options ADV and OI



SOFR is an overnight rate only based on the funding cost of overnight transactions secured by US Treasuries. As a result, CME's Three-Month SOFR Futures reference a rate equal to the compounded daily SOFR interest during the relevant contract reference quarter, expressed as an interest rate per annum for which such interest rate shall accrue on the basis of the actual number of days spanned by such contract reference quarter, divided by a 360-day year.

CME's leading SOFR Futures and Options contracts and cleared OTC SOFR swaps are alternative liquid SOFR products available to market participants as they transition away from USD LIBOR. The timing of the Proposed Eurodollar Fallback Date continues to provide market participants with a choice among the Contracts, the SOFR Contracts and CME Fed Funds Futures and Options as close to the Scheduled Final Representative LIBOR Publication Date as is considered appropriate for their risk management needs.

#### Coordination with Contractual Fallbacks in OTC Interest Rate Derivative Contracts

CME's broad approach to contractual fallbacks set out in the Rule Amendments remains consistent with the Current Eurodollar Fallback Provisions, which were designed, in turn, to be consistent with the industry approach in cleared and uncleared OTC derivatives contracts markets and in line with the goals of global regulatory authorities.<sup>19</sup>

<sup>19</sup> CME Group first outlined our proposed approach to transition for USD LIBOR for Eurodollar futures and options in a [webinar](#) in November 2019, which was implemented through Submission 21-082 (accessible at <https://www.cmegroup.com/content/dam/cmegroup/market-regulation/rule-filings/2021/2/21-082.pdf>), subject to minor amendments to reflect market developments and market participant feedback during 2020. CME provided a follow up webinar for market participants on January 26<sup>th</sup>, 2021, available at <https://www.cmegroup.com/education/videos/sofr-based-fallbacks-for-eurodollar-futures-and-options.html>. CME introduced the Current Eurodollar Fallback Provisions on March 29, 2021. See <https://www.cmegroup.com/content/dam/cmegroup/market-regulation/rule-filings/2021/2/21-082.pdf>



ISDA's IBOR Fallbacks Supplement<sup>20</sup> and IBOR Fallbacks Protocol<sup>21</sup> were published in October 2020 and are designed to provide a contractual framework for implementation of fallback provisions for OTC derivative market participants using ISDA legal documentation and include contractual fallbacks to term and spread-adjusted versions of RFRs triggered by defined "fallback events", i.e. a permanent discontinuation of a covered IBOR or the non-representativeness of a LIBOR rate (the "ISDA IBOR Fallbacks").<sup>22</sup> In the case of USD LIBOR, the ISDA IBOR Fallbacks provide for a contractual fallback to a term and spread adjusted SOFR rate on the effective date of a relevant Fallback Event. Market participants have been encouraged by regulatory authorities to adopt and adhere to these fallback provisions such that the overwhelming majority of uncleared USD LIBOR OTC IRS are understood to have incorporated the ISDA contractual fallbacks.

Under the ISDA IBOR Fallback provisions applicable to Three-Month USD LIBOR, the effective date of the "Index Cessation Event" represented by the FCA Announcement will occur after the Scheduled Final Representative LIBOR Publication Date, which is the first London business day on which Three-Month USD LIBOR is non-representative (including where a "USD LIBOR" rate continues to be published in "synthetic" form) or no longer provided (as applicable, the "Index Cessation Effective Date").

CME Group believes that a coordinated approach to triggers and fallbacks between cleared and uncleared derivatives markets is positive for the marketplace.<sup>23</sup> While CME has recently proposed to effect an "early" conversion of USD LIBOR referencing IRS contracts ahead of the Index Cessation Effective Date, the relevant methodology to be utilized by CME Clearing remains closely aligned with the ISDA IBOR Fallbacks and, critically, applies the ISDA Spread Adjustment to ensure close correlation with the ISDA IBOR Fallback Rate for SOFR to be used in bilateral uncleared derivatives.<sup>24</sup>

#### ISDA IBOR Fallback Rate for Three-Month USD LIBOR and Spread Adjustment

Under the ISDA IBOR Fallbacks, on the "Index Cessation Effective Date" the relevant derivative contract would "fall back" from the relevant USD LIBOR tenor to the (term and spread adjusted) SOFR rate for the designated maturity. The tenor, term and spread adjusted SOFR rate (the "all-in" Fallback Rate) is calculated and published by Bloomberg which applies under the ISDA fallbacks from the Index Cessation Effective Date for contracts of the relevant maturity, and is based on the methodology prescribed by ISDA, as follows:

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<sup>20</sup> The ISDA IBOR Fallbacks Supplement is titled "Amendments to the 2006 ISDA Definitions to include new IBOR fallbacks, Supplement number 70 to the 2006 ISDA Definitions, Final on October 23, 2020 and published and effective on January 25, 2021". The ISDA IBOR Fallbacks Supplement will have the effect of amending the 2006 ISDA Definitions to include new IBOR fallback provisions for new contracts entered into after the date of implementation. The ISDA IBOR Fallbacks Supplement is available at <http://assets.isda.org/media/3062e7b4/23aa1658-pdf/>.

<sup>21</sup> The ISDA 2020 IBOR Fallbacks Protocol is a voluntary protocol for market participants that wish to incorporate the ISDA IBOR Fallbacks into existing contracts with other adhering bilateral counterparties from the date of implementation of the ISDA IBOR Fallbacks Supplement. The Protocol is available at <http://assets.isda.org/media/3062e7b4/08268161-pdf/>.

<sup>22</sup> In each case, fallback triggers, fallback rates and the term and spread adjustment have been determined by ISDA following feedback during the extensive consultation process conducted by ISDA, details of which are available at <https://www.isda.org/2020/05/11/benchmark-reform-and-transition-from-libor/#consultations>. For example, term and spread adjustments are considered necessary because IBORs are available in multiple tenors and incorporate bank credit premiums and other factors that are not applicable to overnight RFRs. ISDA conducted extensive public consultation on methodologies for spread and term adjustments to overnight RFRs to inform the fallback approach.

<sup>23</sup> CME has fully supported the efforts of the official sector, ARRC and ISDA and their industry-wide working groups to improve and strengthen LIBOR fallbacks and indicated at an early stage our intention to align with ISDA to include revised fallback language in our rules at a time which is concurrent with amendments or new definitions being adopted across the OTC derivative marketplace: <https://www.cmegroup.com/education/articles-and-reports/cme-group-supports-isda-s-libor-fallback-provisions.html>. See also CME Clearing rule filing dated December 8, 2020 regarding modifications to OTC interest rate swaps contracts to implement ISDA IBOR fallback provisions: <https://www.cmegroup.com/content/dam/cmegroup/market-regulation/rule-filings/2020/12/20-517.pdf> and CME Clearing Advisory 21-039 of January 25, 2021 <https://www.cmegroup.com/notices/clearing/2021/01/Chadv21-039.html>.

<sup>24</sup> CME Group will be filing appropriate modifications to the applicable CME Clearing rules to implement these changes, amending those set out in Submission 20-517, <https://www.cmegroup.com/content/dam/cmegroup/market-regulation/rule-filings/2020/12/20-517.pdf>.

- Adjusted SOFR: the compounded setting in arrears SOFR for each relevant term – daily compounding of the publicly available SOFR rate.
- Spread Adjustment: the median of the historical differences between USD LIBOR for each tenor and the compounded SOFR for that tenor over a five-year lookback period, i.e. the Spread Adjustment, calculated by Bloomberg in accordance with the relevant methodology.
- Fallback Rate: the “all-in” fallback rate (i.e., the Adjusted SOFR plus the Spread Adjustment for each tenor).<sup>25</sup>

As noted above, the FCA Announcement on March 5, 2021 was the fixing date for the Spread Adjustment, published by Bloomberg. The relevant Spread Adjustment in respect to Three-Month USD LIBOR was accordingly fixed by Bloomberg at 0.26161%. In order to promote alignment with the ISDA IBOR Fallbacks, the Current Eurodollar Fallback Provisions incorporated the Spread Adjustment into the conversion methodology by reference to the future rate to be published by Bloomberg. Following the fixing of the Spread Adjustment at 0.26161% in response to the FCA Announcement, the Rule Amendments will expressly incorporate the actual Spread Adjustment figure and the Exchange will utilize this figure for the purposes of the conversion process, although no other substantive changes are required to the conversion methodology underpinning the Current Eurodollar Fallback Provisions.

### **3. Implementation of Rule Amendments to modify USD LIBOR Fallbacks for CME Three-Month Eurodollar Futures and Options on Three-Month Eurodollar Futures**

In order to align CME’s approach to fallbacks for the Contracts with recent proposals for cleared OTC IRS market developments and market participant feedback, CME considers it necessary to implement the Rule Amendments, as described in this filing, into the rules applicable to open interest and new positions in the Contracts.

CME anticipates that the Rule Amendments will become effective in good time ahead of the Proposed Eurodollar Fallback Effective Date to ensure market participants are fully informed and have sufficient time for operational preparation and readiness.

CME proposes that, subject to the amended terms of the Contracts (as amended by the Rule Amendments) on the Proposed Eurodollar Fallback Effective Date:

- trading in CME Three-Month Eurodollar Futures that expire after the Scheduled Final Representative LIBOR Publication Date, and Options on such Three-Month Eurodollar Futures, will terminate; and
- open positions in CME Three-Month Eurodollar Futures that expire after the Scheduled Final Representative LIBOR Publication Date, and Options on such Three-Month Eurodollar Futures contracts, will be converted into positions in the corresponding CME Three-Month SOFR Futures or CME Options on Three-Month SOFR Futures contract (as applicable), according to a methodology and procedure set out in this submission and previously published by CME.<sup>26</sup>

<sup>25</sup> Further information on the calculations and rates performed by Bloomberg, for example, are available on the Bloomberg website at: <https://data.bloomberglp.com/professional/sites/10/IBOR-Fallbacks-Fact-Sheet.pdf>. Bloomberg maintains a publicly available rulebook (the “IBOR Fallback Rate Adjustments Rule Book”, available at <https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf>) which sets out the processes utilized by Bloomberg to calculate the rate adjustments in line with the approach and methodology agreed by market participants under ISDA’s extensive consultation process. To account for the (nearly) risk-free nature of the RFRs v. the liquidity characteristics and supply/demand factors affecting IBORs, a spread adjustment is calculated for each RFR/IBOR pair (per tenor) using a five year historical median calculation. These calculations are each generally referred to as the “Spread Adjustment”.

<sup>26</sup> See Eurodollar Fallbacks Implementation confirmation published by CME on October 11, 2022, available at:

<https://www.cmegroup.com/articles/files/2022/eurodollar-fallbacks-implementation-plan.pdf>

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Note that following the Proposed Eurodollar Fallback Effective Date, trading in CME Three-Month Eurodollar Futures that expire before the Scheduled Final Representative LIBOR Publication Date, and Options on such Three-Month Eurodollar Futures, will continue to be available for trading until expiration.

CME proposes that the Rule Amendments to implement USD LIBOR Fallbacks into the contract terms for the Contracts will be implemented via a change to the CME Rulebook chapters setting out the contract terms for the relevant products:

- Chapter 452 (Three-Month Eurodollar Futures)
  - Chapter 452A (Options on Three-Month Eurodollar Futures)
- (the “Contracts”).<sup>27</sup>

The Rule Amendments are summarized below and set out in Exhibit 1 (with additions underscored and deletions struck through) and will be binding on all position holders and Clearing Members. The Rule Amendments shall be applicable to new positions and existing open positions in the affected Contracts from the effective date, subject to regulatory approval. The Rule Amendments will be published in a market notice / Special Executive Report (“SER”) which will be made available to Clearing Members, market participants and the general public via the CME Group website.

#### Amendments to Current Eurodollar Fallback Provisions for CME Three-Month Eurodollar Futures

CME Three-Month Eurodollar Futures contracts directly reference Three-Month USD LIBOR for determining the final settlement price of the contract on expiry. As a result, the Current Eurodollar Fallback Provisions were designed to incorporate robust ex ante contractual fallbacks into the relevant contract rules governing the trading and clearing of those contracts to provide the market with clarity and to promote an orderly transition for open positions in CME Three-Month Eurodollar Futures in the event that the relevant USD LIBOR tenor was to be permanently discontinued or cease to be representative of the underlying market or economic reality.<sup>28</sup>

The FCA Announcement constitutes a fallback trigger under ISDA documentation and also a “USD 3M LIBOR Fallback Announcement” under the Current Eurodollar Fallback Provisions in Current Rule 45236.A. In accordance with the FCA Announcement, the effective date of the fallback trigger under Current Rule 45236.B. is the date on which USD LIBOR will cease to be representative even if the rate continues to be provided (the Index Cessation Effective Date within the meaning of the ISDA IBOR Fallbacks and the “Eurodollar Fallback Effective Date” for the purposes of Current Rule 45236.B.) which is the London business day after the Scheduled Final Representative LIBOR Publication Date. As a result, under Current Rule 45236.B., the conversion of the Contracts would take place on the “Eurodollar Fallback Effective Date” determined in accordance with the provisions of Current Rule 45236.C. (Eurodollar Futures) and Current

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<sup>27</sup> The Rule Amendments do not apply to CME One-Month Eurodollar Futures (Chapter 453), Options on One-Month Eurodollar Futures (Chapter 453A) or Options on Three-Month Eurodollar Futures Calendar Spreads (Chapter 452D). In each case there are no contracts available for trading that extend beyond the anticipated 3 month or 1 month USD LIBOR cessation date of end-June 2023. CME proposes to continue to support One-Month Eurodollar Futures, Options on One-Month Eurodollar Futures contracts and Options on Three-Month Eurodollar Futures Calendar Spreads but has not scheduled for trading on the Exchange any contract months beyond June 2023. As a result, it is not necessary for CME to amend the rules of Chapter 453, Chapter 453A or Chapter 452D to implement additional contractual fallbacks as the contracts will expire and cease to trade before the Scheduled Final Representative LIBOR Publication Date.

<sup>28</sup> CME agrees with regulatory authorities that it would not be acceptable for exchange traded derivatives to continue to reference a USD LIBOR rate that had been declared by the FCA as non-representative of the underlying market or economic reality, from the effective date of that determination, even if the USD LIBOR rate continues to be provided to assist market participants in “tough legacy” contracts that are not able to implement contractual fallbacks.

Rule 452A04.B. (Eurodollar Options), which would be July 3, 2023, the “Index Cessation Effective Date” for the purposes of ISDA IBOR contractual fallbacks.

As noted above, in order to reflect market participant feedback, in response to the trigger event represented by the FCA Announcement, CME proposes to convert certain Contracts ahead of the Index Cessation Effective Date; in the absence of a subsequent announcement by the FCA that supersedes the FCA Announcement, CME proposes that the conversion of certain of the Contracts should take place on April 14, 2023 (the “Proposed Eurodollar Fallback Effective Date”).

CME proposes that, on the Proposed Eurodollar Fallback Effective Date, trading in CME Three-Month Eurodollar Futures that expire after the Scheduled Final Representative LIBOR Publication Date (the “Affected Futures Contracts”), will terminate and open positions in the Affected Futures Contracts that expire after the Scheduled Final Representative LIBOR Publication Date, will be converted into positions in the corresponding CME Three-Month SOFR Futures contract, according to the methodology and procedure set out in this submission.

In order to implement this change to the fallback provisions, CME proposes the following:

*Amendments to Fallback Events and Eurodollar Fallback Effective Date*

The Rule Amendments amend the contractual fallback trigger language for CME Three-Month Eurodollar Futures in Current Rule 45236.A. to make explicit reference to the FCA Announcement. Proposed Rule 45236.A. expressly acknowledges that CME considers that the FCA Announcement is a “USD 3M LIBOR Fallback Announcement” for the purposes of the contractual fallback provisions in the Chapter. This is consistent with the approach adopted by the FCA and ISDA which have recognized that the FCA Announcement is a trigger event for the purposes of contractual fallbacks.

This is because the FCA Announcement constitutes, in respect of USD LIBOR:

a public statement or publication of information by the regulatory supervisor for the administrator of the rate announcing that:

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

As noted above, the FCA Announcement confirms that the Scheduled Final Representative LIBOR Publication Date will be the last date on which a representative USD LIBOR rate will be published, notwithstanding that a “synthetic” USD LIBOR may continue to be published after such date.

Under Current Rule 45236.B., following the FCA Announcement, the “Eurodollar Fallback Effective Date” (i.e., the date of conversion of open positions and termination of trading) would be the first date on which the Three-Month USD LIBOR rate is non-representative by reference to the most recent statement or publication referred by the FCA, even if the rate continues to be provided on such date, which corresponds to the ISDA Index Cessation Effective Date.

CME proposes to amend Current Rule 45236.B. such that, except in the event of a subsequent announcement by the FCA that supersedes the FCA Announcement, Proposed Rule 45236.B. will provide that, on or shortly after close of business on the Proposed Eurodollar Fallback Effective Date of April 14, 2023:

- (i) Trading in CME Three-Month Eurodollar Futures that expire after the Scheduled Final Representative LIBOR Publication Date (the “Affected Futures Contracts”), will terminate; and
- (ii) Open positions in the Affected Futures Contracts will be converted into positions in the corresponding CME Three-Month SOFR Futures contract, according to a methodology and procedure set out in this submission,

subject to the terms of the Contracts as amended by the Rule Amendments.<sup>29</sup>

Following the Proposed Eurodollar Fallback Effective Date, trading in CME Three-Month Eurodollar Futures that are not Affected Futures Contracts (i.e. that expire before the Scheduled Final Representative LIBOR Publication Date) will continue to be available for trading until expiration.

As noted above, CME’s revised approach to the effective time of implementation of contractual fallbacks for the Contracts (to be implemented by the Rule Amendments) is driven by market participant feedback.<sup>30</sup> While the change to the proposed timing of the Proposed Eurodollar Fallback Effective Date is a material change to the equivalent date under the Current Eurodollar Fallback Provisions, CME’s approach and methodology to effect the conversion process set out in the Rule Amendments is otherwise materially the same as the Current Eurodollar Fallback Provisions, which approach and methodology was and continues to be supported by market participants. As with the Current Eurodollar Fallback provisions, the proposed revised contractual fallbacks for the Contracts are intended to align with CME’s approach to fallbacks for USD LIBOR-referencing OTC IRS contracts<sup>31</sup>, which is, in turn, broadly aligned with initiatives in the wider OTC cleared and uncleared derivatives market, coordinated with ISDA, and endorsed by global regulatory authorities.

While it is considered extremely unlikely, it remains theoretically possible that a fallback event with respect to USD LIBOR could take place that supersedes the FCA Announcement; for example, the FCA determines that the rate is no longer representative or fit for purpose, triggering a subsequent fallback announcement by the FCA. Similarly, there may be exceptional circumstances where CME, in its sole and absolute discretion, determines that it is necessary to amend the Eurodollar Fallback Effective Date.<sup>32</sup> CME proposes to amend Current Rule 45236.B. such that, in the event of a subsequent announcement by the FCA that supersedes the FCA Announcement, or in the event that CME determines in its absolute and sole discretion that the conversion should not take place on April 14, 2023, Proposed Rule 45236.B. will require CME to determine an alternative Eurodollar Fallback Effective Date and Scheduled Final Representative LIBOR

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<sup>29</sup> The Rule Amendments provide for certain limited circumstances where the Eurodollar Fallback Effective Date may be amended: (i) in the unlikely event of a “fallback event” in respect of USD LIBOR that supersedes the FCA Announcement, or (ii) in the event that CME determines in its sole and absolute discretion that the Eurodollar Fallback Effective Date must be amended, for example and without limitation, in response to operational, market disruption or financial stability issues that could threaten the orderly transition of the Contracts.

<sup>30</sup> The Proposed Eurodollar Fallback Effective Date was selected by CME in response to market participant requests that the conversion of Eurodollar futures and options contracts should not occur at the same time as the implementation of the contractual fallbacks in uncleared bilateral derivative contracts in order to limit the amount of operational risk and processing throughput challenges faced by market participants subject to the bilateral market conversions scheduled to take place shortly after June 30, 2023. Similarly, market participants expressed a preference that the conversion of Eurodollar futures and options should occur as close as possible in terms of timing to the primary cleared USD LIBOR OTC IRS transitions scheduled by major CCPs.

<sup>31</sup> See CME Clearing rule filing dated December 8, 2020 regarding modifications to OTC interest rate swaps contracts to implement ISDA IBOR fallback provisions: <https://www.cmegroup.com/content/dam/cmegroup/market-regulation/rule-filings/2020/12/20-517.pdf>. As noted above, following discussions with market participants, and to ensure alignment with the broader cleared derivatives industry approach to effecting transition from USD LIBOR to SOFR in IRS contracts, CME proposes to effect a conversion of USD LIBOR referencing IRS contracts into corresponding cleared contracts referencing SOFR, on or around April 21, 2023. See <https://www.cmegroup.com/content/dam/cmegroup/trading/interest-rates/files/cme-conversion-for-usd-libor-cleared-swaps.pdf>. CME Group will be filing appropriate modifications to the applicable CME Clearing rules to implement these changes, amending those set out in Submission 20-517.

<sup>32</sup> For example, where the Exchange determines at any time in its sole and absolute discretion that implementation of the fallback procedure on such date could result in an unacceptable level of operational or market disruption or where financial stability issues could threaten the orderly transition of the Contracts.

Publication Date which will apply in the place of April 14, 2023 for the purposes of Chapter 452 and Chapter 452A.

#### *CME Actions on the Eurodollar Fallback Effective Date*

CME proposes minor amendments to the Fallback Procedure set out in Current Rule 45236.C. to reflect the fact that the ISDA Spread Adjustment was fixed and published by Bloomberg following the FCA Announcement on March 5, 2021. Under Current Rule 45236.C., this procedure would have taken place on the Index Cessation Effective Date. However, as noted above, CME proposes that, following the FCA Announcement and in the absence of a subsequent FCA Announcement that supersedes it or where CME exercises its discretion to act under Proposed Rule 45236.B., the conversion procedure will take place on April 14, 2023 (the “Eurodollar Fallback Effective Date”).

As proposed in the Rule Amendments at Proposed New Rule 45236.C. (“Fallback Procedure”), on the Eurodollar Fallback Effective Date the Exchange shall:

- terminate trading in the Affected Futures Contracts; and
- convert open positions in the Affected Futures Contracts into positions in the corresponding CME Three-Month SOFR Futures contract, by terminating each such open position at the most recent daily settlement price for the contract on the Eurodollar Fallback Effective Date and replacing it with a position in the corresponding CME Three-Month SOFR Futures contract according to a methodology and procedure set out in this submission (a “Replacement Futures Position”).

The Replacement Futures Position shall be assigned to a position holder by the Exchange in accordance with the following procedure:

- the Replacement Futures Position in the relevant CME Three-Month SOFR Futures contract shall be equal in trading unit size and direction to the position in the relevant terminated CME Three-Month Eurodollar Futures contract and with the same contract month; and
- the price at which the Replacement Futures Position is assigned to the position holder (the “Assignment Price”) shall be determined by the Exchange and shall be equal to:
  - the most recent daily settlement price for CME Three-Month Eurodollar Futures on the Eurodollar Fallback Effective Date<sup>33</sup>,plus
  - a value adjustment amount which shall be equal to the fixed Spread Adjustment for Three-Month USD LIBOR published by Bloomberg (0.26161% or 26.161 basis points).

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<sup>33</sup> The daily settlement price for Eurodollar futures is determined by the Exchange based on the market activity on CME Globex in accordance with the Settlement Procedures available at <https://www.cmegroup.com/confluence/display/EPICSANDBOX/Eurodollar>. See also CME Submission 22-391 available at <https://www.cmegroup.com/content/dam/cmegroup/market-regulation/rule-filings/2022/10/22-391.pdf>. The Exchange Eurodollar daily settlement price determination process takes into account the bid/ask activity of both outright and spread markets on CME Globex between 13:59:00 and 14:00:00 Central Time (CT). Spreads to be considered in this manner are 3 month calendars, 6 month calendars, 9 month calendars, 12 month calendars, 3 month butterflies, 12 month butterflies and the inter-commodity 3-Month SOFR vs Eurodollar spreads. Bids and asks in calendar spreads, butterfly instruments and inter-commodity 3-Month SOFR vs Eurodollar spreads will be used in conjunction with settlements from any months where a settlement price has been determined to form an implied market in the contract to be settled. These implied markets, along with the outright bid/ask market for the contract, will be used to derive the best possible bid and the best possible ask. If there are multiple prices that are eligible between this best possible bid and the best possible ask, the price will be chosen that sets the net change as close to the net change of the contract that precedes it in the settlement order.

$$\begin{array}{l} \text{Assignment Price for CME} \\ \text{Three-Month SOFR Futures} \end{array} = \begin{array}{l} \text{CME Three-Month Eurodollar} \\ \text{Futures Settlement Price} \end{array} + \begin{array}{l} \text{ISDA Spread} \\ \text{Adjustment} \\ (0.26161\%) \end{array}$$

Given the alignment in the underlying interest rate periods of Three-Month Eurodollar Futures and Three-Month SOFR Futures<sup>34</sup>, CME proposes to determine the “corresponding” CME Three-Month SOFR Futures contract month as the contract adjacent to the relevant terminated Eurodollar Futures contract month. For example, on the Eurodollar Fallback Effective Date a September 2023 Three-Month Eurodollar Futures contract would be terminated and the position holder would be assigned a position in the September 2023 CME Three-Month SOFR Futures contract.

The CME Three-Month Eurodollar Futures Settlement Price is determined by the Exchange to four (4) decimal places. As a result, the Assignment Price will also be calculated by the Exchange to four (4) decimal places to conform with existing client infrastructure. Therefore, in order to account for the additional (0.00001) component of the ISDA Spread Adjustment not reflected in the Assignment Price due to this rounding, the Exchange will apply a balancing cash adjustment amount between long and short positions in the Replacement Futures Positions (each, a “Cash Residual Amount”).

The Assignment Price determination methodology is intended to replicate industry agreed conventions for determination of fallback rates for OTC IRS and therefore to minimize disruption to hedging relationships between OTC IRS and Eurodollar Futures positions. It is necessary to incorporate a spread adjustment into the methodology for the determination of the Assignment Price to ensure that the Assignment Price determination process is aligned with the ISDA IBOR Fallback methodology, which incorporates the Spread Adjustment published by Bloomberg on the basis that this is considered necessary to account for the differences between USD LIBOR and SOFR, including that USD LIBOR is an unsecured rate whereas SOFR constitutes a secured rate. Therefore, the spread adjustment seeks to incorporate bank credit premiums and other factors that are not applicable to SOFR as an overnight RFR. CME does not propose any material change to the spread adjustment component under Current Rule 45236.C. Proposed Rule 45236.C. simply confirms the Spread Adjustment rate of 0.26161% (26.161 basis points)<sup>35</sup> which has been fixed and published by Bloomberg in accordance with the prescribed industry agreed ISDA methodology. The purpose of incorporation of the Spread Adjustment in Current Rule 45236.C. and Proposed Rule 45236.C. is to align the price at which the Replacement Futures Position is assigned to a Eurodollar Futures position holder to reflect the spread between USD LIBOR and SOFR and to ensure alignment of the Assignment Price determination process with the ISDA IBOR Fallback procedure for determination of a Fallback Rate for OTC IRS.

The Spread Adjustment figure was calculated by Bloomberg based on the median of the historical differences between USD LIBOR for each tenor and the compounded SOFR for that tenor over a five-year

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<sup>34</sup> In the 10-year period from June 2023 the three-month reference periods for CME Three-Month SOFR Futures and CME Three-Month Eurodollar Futures are the same. CME analysis conducted over 40 relevant observations, spanning 10 years (40 Mar/Jun/Sep/Dec Quarterly months) forward from June 2023 has determined that in most cases (39 out of 40), reference periods (in terms of number of days) for corresponding SOFR Futures and Eurodollar Futures contracts are either identical or different by +/- 1 day. In one instance (March 2029 contract) there is a six day difference in the day count of the three-month reference period implying a 0.25bp difference in pricing (based on calculations utilizing data at close of business on 10/12/2020). CME Three-Month Eurodollar Futures come to final settlement by reference to Three Month USD LIBOR for start on IMM dates, using Modified Following day-count conventions, with tenors ranging from 90-92 days. CME Three-Month SOFR Futures reference periods span from one quarterly IMM date to the next, and therefore are generally 13 weeks (91 days) or, in some cases, 12 weeks or 14 weeks. An expiring Three-Month Eurodollar Futures contract cash-settles to Three-Month USD LIBOR on the contract expiration date. An expiring Three-Month SOFR Futures contract cash-settles in arrears to daily compounded SOFR during its contract reference period, spanning from one Mar/Jun/Sep/Dec Quarterly IMM Wednesday to the next.

<sup>35</sup> One basis point is equivalent to 0.01% (1/100 of a percent) or 0.0001 in decimal form. For further details please see <https://www.cmegroup.com/education/courses/introduction-to-eurodollars/the-importance-of-basis-point-value.html>.

lookback period.<sup>36</sup> The Spread Adjustment was fixed following the FCA Announcement and has been publicly known in advance of the Eurodollar Fallback Effective Date since March 2021, therefore providing transparency to market participants holding positions in CME Three-Month Eurodollar Futures and Options ahead of the Eurodollar Fallback Effective Date.

### Cash Residual Amount

As noted above, given that the Spread Adjustment is expressed to five (5) decimal places, and CME Three-Month Eurodollar Futures Settlement Prices are calculated to four (4) decimal places, in order to conform with existing client infrastructure, the residual component of the Spread Adjustment not reflected in the relevant Assignment Price for the relevant replacement CME Three-Month SOFR Futures position (0.00001) is accounted for by the Cash Residual Amount balancing cash adjustment between the long and short position holders of Replacement Futures Positions. The addition of the balancing cash adjustment in the form of the Cash Residual Amount represents a minor change to the procedure set out in the Current Eurodollar Fallback Provisions and, accordingly the Rule Amendments include an amendment to Current Rule 45236.C. to incorporate the calculation and payment of the Cash Residual Amount between long and short position holders at the first settlement cycle following the conversion.

The Cash Residual Amount in respect of each Replacement Futures Position shall be equal to:

$$0.00001 \times \text{contract quantity} \times \$2,500 \text{ contract unit multiplier}^{37}$$

For example, for a long position of quantity 50, where the Eurodollar Futures Settlement Price on the Eurodollar Fallback Effective Date is 99.4500, the Cash Residual Amount for such position would be calculated as:

$$-0.00001 \times 50 \times \$2,500 = \$-1.25$$

This represents a payment from the relevant long position holder to the corresponding short position holder of \$1.25. The Cash Residual Amount will be applied and accounted for as a fee on the resulting replacement CME Three-Month SOFR Futures position, which amount shall be applied by the Clearing House at the first settlement cycle following the Eurodollar Fallback Effective Date, during which cycle settlement variation for positions in the Affected Futures Contracts 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 positive Cash Residual Amount in respect of any single position is exactly offset by the negative Cash Residual Amount on the other side of the position, the net cash flow in respect of the Cash Residual Amount is zero on an overall basis for the Clearing House.

| Position Type                          | Long Qty | Short Qty | Settlement Price | Offset/Onset Price | Cash Residual Amount |
|--|----------|-----------|------------------|--------------------|----------------------|
| SOD position – Eurodollar (ED) Futures | 50       | 0         | 99.4500          |                    |                      |

<sup>36</sup> The purpose of the Spread Adjustment in both USD OTC IRS and Eurodollar Futures and Options Fallbacks is to establish the necessary economic equivalency between USD LIBOR and SOFR; the spread adjustment seeks to incorporate bank credit premiums and other factors that are not applicable to SOFR as an overnight RFR. Further information on the calculations and rates performed by Bloomberg are available on the Bloomberg website at: <https://data.bloomberglp.com/professional/sites/10/IBOR-Fallbacks-Fact-Sheet.pdf>.

<sup>37</sup> Depending on the direction of the position, the value will be positive or negative, i.e. -0.00001 for a long position and 0.00001 for a short position.



|   |    |    |       |           |          |
|---|----|----|-------|-----------|----------|
| Offset position – Eurodollar (ED) Futures | 0  | 50 |       | 99.4500   |          |
| EOD position – Eurodollar (ED) Futures    | 0  | 0  |       |           |          |
| SOD position – SOFR (SR3) Futures         | 0  | 0  | 99.71 |           |          |
| Onset position – SOFR (SR3) Futures       | 50 | 0  |       | 99.7116** | -1.25*** |
| EOD position – SOFR (SR3) Futures         | 50 | 0  |       |           |          |

\*\* The SOFR Replacement Futures Position onset price (Assignment Price) will be calculated from the CME Three-Month Eurodollar Futures Settlement Price. Note that the onset price of the SOFR Replacement Futures Position will be rounded to 0.0001.

\*\*\* The Cash Residual Amount will be calculated as  $-0.00001 \times 50 \times \$2,500$  multiplier =  $-\$1.25$  (multiply by -1 for a short position).

#### *Termination of Trading of CME Three-Month Eurodollar Futures*

CME proposes to amend Current Rule 45236.B. such that:

- (i) on the Eurodollar Fallback Effective Date Trading in CME Three-Month Eurodollar Futures that expire after the Scheduled Final Representative LIBOR Publication Date (Affected Futures Contracts), will terminate; and
- (ii) trading in CME Three-Month Eurodollar Futures that are not Affected Futures Contracts (i.e. that expire before the Scheduled Final Representative LIBOR Publication Date) will continue to be available for trading until expiration.

As a result of the termination of trading in relevant CME Three-Month Eurodollar Futures, the relevant contract expiries shall no longer be available for trading on the Exchange with immediate effect from the Eurodollar Fallback Effective Date. CME will cease to accept bids or offers in respect of such Affected Futures Contracts and the relevant contracts will be removed from trading on the Exchange.

Those CME Three-Month Eurodollar Futures that are not Affected Futures Contracts will expire (and trading in respect of such contracts will terminate under Rule 45202.G. and Rule 45236.E.) prior to the Scheduled Final Representative LIBOR Publication Date. Therefore, it is not necessary to convert such contracts as they will continue to reference a representative USD LIBOR rate to the point of expiry / termination of trading. Given that the Proposed Eurodollar Fallback Effective Date is a number of months prior to the Scheduled Final Representative LIBOR Publication Date, it is anticipated that, following the conversion, trading will continue only in the following Eurodollar futures and associated options contract months: April 2023 (serial), May 2023 (serial) and June 2023.

#### *Rationale for Conversion of Open Interest into Positions in CME Three-Month SOFR Futures*

The Current Eurodollar Fallback Provisions were originally designed to address market participant and regulatory authority objectives to convert Eurodollar positions to corresponding SOFR Contracts in the event of a “fallback event” with respect to USD LIBOR. The Rule Amendments do not affect this goal. Given

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the general alignment between the contractual periods of interest rate risk between CME Three-Month Eurodollar Futures and CME Three-Month SOFR Futures contracts, and guided by the principles of maintaining market stability and promoting effective risk management, CME's approach to convert Eurodollar Futures open interest into positions in corresponding SOFR Futures meets the needs of market participants, promotes market stability and an orderly transition away from USD LIBOR. Also, CME believes that its approach appropriately aligns with the approach to fallbacks that will be followed by ISDA and CME Clearing for OTC IRS, whilst noting that the revised timing of the Eurodollar conversion process has been informed by market participant feedback, taking into account the relative scheduled timings of both the ISDA bilateral fallbacks and the cleared OTC IRS conversions.

The conversion of open interest in CME Three-Month Eurodollar Futures into the corresponding CME SOFR Futures ensures that there will be a single pool of liquidity in CME exchange traded futures directly referencing SOFR following the conversion process. CME's conversion of Eurodollar open interest ahead of the Scheduled Final Representative LIBOR Publication Date supports the operational implementation schedules of the majority of market participants, is in the interests of financial stability and promotes an orderly transition from USD LIBOR ahead of the Scheduled Final Representative LIBOR Publication Date. CME's proposed approach to the conversion is widely supported by market participants, as detailed further below.

CME Three-Month SOFR Futures are highly liquid and widely traded and provide the marketplace with a leading source of SOFR price discovery. As of the end of November 2022, CME SOFR Futures and Options average daily volume ("ADV") was consistently higher than CME Eurodollar Futures and Options. As a result, and based on market participant feedback, the significant majority of market participants actively trading Eurodollar Futures and Options are well positioned to accept an assigned position in CME SOFR Futures and Options under the conversion process. Moreover, the proposed Rule Amendments would be expected to come into force a number of months before the Proposed Eurodollar Fallback Effective Date, so that any market participants that would not wish to be subject to the amended conversion process prescribed by the Rule Amendments would be able to close out any open positions ahead of the Proposed Eurodollar Fallback Effective Date.

#### Operation of USD LIBOR Fallbacks for CME Options on Three-Month Eurodollar Futures

The CME Options on Three-Month Eurodollar Futures contract is a deliverable options contract on underlying futures that directly reference Three-Month USD LIBOR. In the event of the Exchange taking steps to effect a conversion of Three-Month Eurodollar Futures contracts on a Eurodollar Fallback Effective Date resulting in the termination of trading of the underlying CME Three-Month Eurodollar Futures contracts, corresponding CME Options on Three-Month Eurodollar Futures must also cease to trade. Accordingly, the Current Eurodollar Fallback Provisions provide for contractual fallbacks for such option open interest at that date.

The Current Eurodollar Fallback Provisions in Rule 452A04. incorporate robust ex ante contractual fallbacks into the relevant contract rules governing the trading and clearing of CME Options on Three-Month Eurodollar Futures to ensure market clarity and to promote an orderly transition for open positions in CME Options on Three-Month Eurodollar Futures in the event of a fallback event in relation to Three-Month Eurodollar Futures.

However, in light of the proposed Rule Amendments affecting CME Three-Month Eurodollar Futures and to reflect market participant feedback, the Exchange proposes, as part of the Proposed Rule Amendments, to amend Rule 452A04. in order to align it with the proposed changes to the fallback provisions for Three-Month Eurodollar Futures.

In the event of a fallback event in relation to Three-Month USD LIBOR and the termination of trading in CME Three-Month Eurodollar Futures, the Current Eurodollar Fallback Provisions require that on the

Eurodollar Fallback Effective Date trading in CME Options on Three-Month Eurodollar Futures will terminate and open positions in CME Options on Three-Month Eurodollar Futures contracts would be converted into positions in the corresponding CME Options on Three-Month SOFR Futures contract.

CME proposes a non-substantive change to Rule 452A04.A. to align with the proposed changes to Rule 45236. such that, on the relevant Eurodollar Fallback Effective Date where the Exchange implements the Fallback Procedure in Rule 45236.C., upon which trading in Three-Month Eurodollar futures contracts expiring after the Scheduled Final Representative LIBOR Publication Date (“Affected Futures Contracts”) will be terminated in accordance with Proposed Rule 45236.E., the Exchange will also terminate trading in any CME Options on Three-Month Eurodollar Futures contracts that reference Affected Futures Contracts with immediate effect (“Affected Options Contracts”).

Any Affected Options Contract that has not been liquidated or exercised prior to the termination of trading shall be subject to the conversion procedure in Proposed Rule 452A04.B., which provides that such open positions in Affected Options Contracts would be converted into positions in the corresponding CME Options on Three-Month SOFR Futures contract. The proposed conversion process under Proposed Rule 452A04.B is substantively the same as that in the Current Eurodollar Fallback Provisions. However, the Proposed Rule Amendments include additional provisions specifying the methodology that will be utilized by the Exchange to effect the conversion, explained in more detail below.

CME proposes to amend the Current Eurodollar Fallback Provisions by adding Proposed Rule 452A04.C., which provides that open positions in CME Options on Three-Month Eurodollar Futures that are not Affected Options Contracts shall continue to be eligible for trading from the Eurodollar Fallback Effective Date and trading in such contracts may continue until the date of termination of trading in the relevant Affected Options Contract under Rule 452A01.J. Termination of Trading. Given that the Proposed Eurodollar Fallback Effective Date is a number of months prior to the Scheduled Final Representative LIBOR Publication Date, it is anticipated that following the conversion, trading will continue only in the following Eurodollar futures and associated options contract months: April 2023 (serial), May 2023 (serial) and June 2023.

Further details of the fallback triggers, mechanism and conversion process are summarized below:

#### *Fallback Events*

The Current Eurodollar Fallback Provisions relating to CME Options on Three-Month Eurodollar Futures incorporate a contractual fallback for CME Options on Three-Month Eurodollar Futures that will be triggered on the occurrence of a “Eurodollar Fallback Effective Date” with respect to CME Three-Month Eurodollar Futures (see Current Rule 452A04.A.). This ensures that the contractual trigger for fallbacks for CME Three-Month Eurodollar Futures and Options are aligned and that any contractual fallback in respect of CME Options on Three-Month Eurodollar Futures is coordinated with a contractual fallback under the corresponding CME Three-Month Eurodollar Futures. The Rule Amendments do not make any substantive change to this process.

#### *CME Actions on the Eurodollar Fallback Effective Date for Three Month Eurodollar Futures*

As noted above, it is proposed in the Rule Amendments at Proposed Rules 452A04.A. and 452A04.B. that, on the Eurodollar Fallback Effective Date in relation to Affected Futures Contracts, the Exchange shall at the same time:

- terminate trading in Affected Options Contracts; and
- convert open positions in Affected Options Contracts into positions in the corresponding CME Options on Three-Month SOFR Futures contract (a “Replacement Options Position”), according to

a methodology and procedure set out in this submission, which is based on standard options valuation models determined by the Exchange.

The Replacement Options Position shall be assigned to a position holder by the Exchange in standardized strikes and like contract months to the relevant terminated position in accordance with the following simultaneous two-step conversion procedure:

- Step 1: CME Options on Three-Month Eurodollar Futures inventories would be mapped to a corresponding non-standard CME Options on Three-Month SOFR Futures strike calculated by adding the Spread Adjustment to the original Eurodollar Option strike price for the terminated position.
- Step 2: CME lists CME Three-Month Eurodollar Options and CME Three-Month SOFR Options at specific standard strike intervals (6.25, 12.50 or 25bps). These strikes are not listed at intervals matching the exact 26.161bps Spread Adjustment added in Step 1 so it is not possible for standard strike allocations to incorporate the entirety of the Spread Adjustment. As a result, given that the resultant strike prices would very likely not align with the standard strike price arrays for CME Options on Three-Month SOFR Futures, as a second step in the conversion process, the positions assigned in Step 1 would be allocated by the Exchange to the nearest standard strike(s) for CME Options on Three-Month SOFR Futures which, given the Spread Adjustment is now fixed as 26.161bps, will be 25bps higher than the original Three-Month Eurodollar Options strike price.

The resulting Replacement Options Position will be fixed at a standard strike for CME Options on Three-Month SOFR Futures, and CME will determine the premium adjustment (Premium Differential) using a transparent option pricing methodology for end of day settlement for Eurodollar options and SOFR options, as set out below, to reflect the difference in value between the original and resulting positions:

*CME Methodology for Conversion of Affected Options Contracts*

The methodology to be utilized by CME to determine the pricing of the Replacement Options Position is summarized as, for a given SOFR Option Strike K:

|  |   |   |   |                                    |
|--|---|---|---|------------------------------------|
| <p><i>CME Options on<br/>Three-Month SOFR<br/>Futures price<br/>(Replacement Options<br/>Position)</i></p> | = | <p><i>CME Options on<br/>Three-Month<br/>Eurodollar Futures<br/>price (for SOFR Option<br/>Strike K - 25 bps)</i></p> | + | <p><i>Premium Differential</i></p> |
|--|---|---|---|------------------------------------|

Premium Differential

The purpose of the Premium Differential component is to reflect the difference in value between the Replacement Options Positions and the original Affected Options Positions. The Premium Differential is an adjustment between resulting position holders to compensate for this difference in value.

Premium Differential represents the difference in CME Three-Month Eurodollar Options option premium corresponding to CME Three-Month SOFR Options Strike K – 26.161bps and CME Three-Month SOFR Options Strike K – 25bps.

Option Premium on any option is equal to the intrinsic value of the option plus the time value, where:

- Intrinsic value = an option’s “in-the-money” amount, if any, i.e. the amount by which the underlying futures price exceeds or is below the strike price, and
- Time value = any premium in excess of intrinsic value, given the amount of time left to expiration

Replacement Options Positions and their equivalent corresponding Affected Options Positions options will have different option premium values due to differences in intrinsic value and time value. This is because Replacement Options Positions will be at strikes that are 25 bps above the original Affected Options Positions. As noted above, the difference between the Fallback Spread Adjustment of 26.161bps and this 25 bps strike price will be accounted for by the Exchange, as set out below following close of business on the Eurodollar Fallback Effective Date as part of the settlement cycle resulting from the conversion process.

While mid curve options expiration dates between CME Three-Month Eurodollar Options and CME Three-Month SOFR Options are aligned, Quarterly CME Three-Month SOFR Options have expiry dates that are not perfectly aligned with the corresponding Quarterly CME Three-Month Eurodollar Option:

- Quarterly CME Three-Month SOFR Options expire at 2.00pm on the Friday before the third Wednesday of the month, and
- the corresponding Quarterly CME Three-Month Eurodollar Option expires at 5.00am on the Monday before the third Wednesday of the month.

Given the small difference in time to expiry and based on market participant feedback on this issue, CME will not account for this technical variation in time value in determining the Premium Differential calculation.

The Premium Differential will be determined as follows:

- a long Call Affected Option Contract position holder will pay the Premium Differential to the corresponding short Affected Option Contract position holder if the Option Premium of the converted position in CME Options on Three-Month SOFR Futures is higher than that of the corresponding Affected Option Contract; and
- a short Put Affected Option Contract position holder will pay the Premium Differential to the corresponding long Affected Option Contract position holder if the Option Premium of the converted position in CME Options on Three-Month SOFR Futures is lower than that of the corresponding Affected Option Contract.

This compensating payment adjustment of the Premium Differential between resulting position holders represents the difference in value between the Replacement Options Positions and the original Affected Options Positions. This approach is designed to avoid creating “winners” or “losers” as a result of the conversion process.

#### Methodology for determination of Options Premium by the Exchange

CME Three-Month SOFR options are expected to be the primary source of market data at the Eurodollar Fallback Effective Date. On this basis, CME Three-Month SOFR Options premiums will be used as input prices in order to determine the premium of Eurodollar options for the purposes of conversion:

- Option premium for the SOFR option would be observed and determined by CME from end of day SOFR settlement prices; and
- The equivalent option premium for the Eurodollar option would be calculated by CME using the prices of the SOFR option.

Consistent with the daily settlement process, CME will use out of the money (OTM) / at the money (ATM) options to derive a single volatility surface which will be used in the pricing adjustments of both OTM/ATM and in the money (ITM) options.

CME will utilize the following process to determine prices for standard strikes from non-standard strikes:

- Use settlement price of OTM/ATM SOFR options with strike K as the price for OTM/ATM Eurodollar options with strike K – 26.161bps for the next steps.
- Imply lognormal volatility under the Whaley options pricing model for the non-standard adjusted strikes (OTM/ATM\*) of the Eurodollar Option (SOFR Strike K – 26.161bps).
- Determine the implied lognormal volatility of the listed standard strikes for Eurodollar Options (SOFR strike K – 25bps) by interpolating the implied lognormal volatility of the non-standard strikes from above.
- Price the standard strikes of the Eurodollar Option under the Whaley options pricing methodology model using the interpolated volatility from above. Additionally, if SOFR options with Strike K have CAB (cabinet transaction) settlement price, then the converted standard strike Eurodollar Option will be priced as CAB.

\*In the scenario when ATM strikes are listed, ATM implied volatility is calculated as an average of ATM implied volatility from Call and Put options.

#### *Clearing of the Replacement Options Position*

CME does not propose to make any change to Rule 452A04.C. The Replacement Options Position will be a position in the corresponding Options on CME Three-Month SOFR Futures contract. The contract terms for CME Options on Three-Month SOFR Futures are set out in the CME Rulebook at Chapter 460A and clearing of the Replacement Options Position shall be subject to these Rules, from the Eurodollar Fallback Effective Date including for the avoidance of doubt the process for exercise into CME Three-Month SOFR Futures contracts.

#### *Termination of Trading of CME Options on Three-Month Eurodollar Futures*

As a result of the termination of trading in Affected Futures Contracts from the Eurodollar Fallback Effective Date, Affected Options shall no longer be available for trading on the Exchange with immediate effect from the Eurodollar Fallback Effective Date. As a result, CME will cease to accept bids or offers in respect of Affected Options Contracts from close of business on the Eurodollar Fallback Effective Date and the contracts will be removed from trading on the Exchange, together with the underlying futures contracts.

Proposed Rule 452A04.D. provides that open positions in CME Options on Three-Month Eurodollar Futures that are not Affected Options Contracts shall continue to be eligible for trading from the Eurodollar Fallback Effective Date and trading in such contracts may continue until the date of termination of trading in the relevant Affected Options Contract under Rule 452A01.J. Termination of Trading.

#### *Rationale for Conversion of Open Interest into Positions in CME Options on Three-Month SOFR Futures*

As a result of the termination of trading in Affected Futures Contracts on the Eurodollar Fallback Effective Date, it follows that the contract terms of open positions in Affected Options Contracts must be amended as delivery of the underlying future would not be possible from the date of fallback.

The Proposed Amendments do not represent a significant change from the Current Eurodollar Fallback provisions as they relate to CME Options on Three-Month Eurodollar Futures. CME's proposed conversion approach outlined above meets the needs of market participants, promotes market stability and an orderly transition away from Eurodollar futures. The minor change to CME's proposed approach to Eurodollar options conversion represented by the Proposed Amendments has been discussed with and is widely supported by market participants, as detailed further below.

Based on market participant feedback, the significant majority of market participants actively trading Eurodollar Options are well positioned to accept an assigned position in Options on SOFR Futures on a

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Eurodollar Fallback Effective Date. As noted above, as of the end of November 2022, CME SOFR options average daily volume was consistently higher than Eurodollar options. The proposed Rule Amendments would be expected to come into force a number of months before the Proposed Eurodollar Fallback Effective Date, ensuring that any market participants that would not wish to be subject to the amended conversion process prescribed by the Rule Amendments would be able to close out any open positions ahead of the Proposed Eurodollar Fallback Effective Date.

#### Operational Processing of Eurodollar Futures and Options Conversion

CME will provide market participants with detailed operational information on the timelines for processing of the conversion in due course ahead of the Proposed Eurodollar Fallback Effective Date. CME Clearing will publish a detailed, publicly available Clearing Advisory notifying Clearing Members and market participants of the operational processing details of the conversion.

CME proposes to provide support to market participants in due course prior to the Proposed Eurodollar Fallback Effective Date in order to promote operational readiness by all market participants and their systems.

CME is publishing a daily Indicative Cash Flow Report for all CME Eurodollar Futures and Options contracts. The report will be provided to Clearing Members on a daily basis within the Clearing Member sFTP folders in the Clearing System and shall be based on their open house and customer positions. The daily Indicative Cash Flow Report will reference entered positions and shall utilize the fallback spread adjustment and multiplier to compute all relevant cash flows and prices for the positions covered by the report:

- For futures, this includes the Cash Residual Amount on the Replacement Futures Position/ onset position;
- For options, this includes the Eurodollar and SOFR option premium amounts, the SOFR option precise strike and the Premium Differential.

The daily Indicative Cash Flow Report function will also be made available on the cmegroup.com interest rates web page, as well as through public sFTP folders.

#### **4. Governance, Industry Consultation, Comments/Opposing Views:**

There were no substantive opposing views raised by market participants during CME's extensive engagement with industry market participants in relation to the approach represented by the Rule Amendments.

As noted in Submission 21-082, CME engaged in extensive public consultation with market participants in designing and implementing the Current Eurodollar Fallback Provisions, leveraging the widespread market participant and regulatory authority support<sup>38</sup> for the ISDA IBOR Fallbacks in respect of fallback trigger events and the term and spread adjustment methodologies for covered IBORs.<sup>39</sup> In relation to the Current Eurodollar Fallback Provisions, CME carried out specific engagement with leading market participants on

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<sup>38</sup> The FSB's Global Transition Roadmap for LIBOR confirmed that the FSB expects that providers of cleared and exchange traded products linked to LIBOR should also ensure that they incorporate fallback provisions equivalent to the ISDA IBOR Fallbacks, as appropriate. FSB Global Transition Roadmap for LIBOR, 16 October 2020, see <https://www.fsb.org/wp-content/uploads/P161020-1.pdf>.

<sup>39</sup> CME Group first outlined our proposed approach to transition for USD LIBOR for Eurodollar futures and options in a [webinar](#) in November 2019. The Current Eurodollar Fallback Provisions built upon the foundations explained in the November 2019 webinar, with certain minor amendments that reflect market participant feedback and market developments during 2020. CME held a further webinar to provide an update to market participants on 26 January 2021, including details of the proposed fallback approach to Eurodollar futures and options, see <https://www.cmegroup.com/education/videos/sofr-based-fallbacks-for-eurodollar-futures-and-options.html>. CME Group also participated in CFTC Market Risk Advisory Committee ("MRAC") meetings in which IBOR fallback matters were discussed, along with industry bodies, market participants and other CCPs, for example, see [https://www.cftc.gov/sites/default/files/2020/06/1592422053/mrac\\_121119\\_transcript.pdf](https://www.cftc.gov/sites/default/files/2020/06/1592422053/mrac_121119_transcript.pdf)

the proposed mechanics for the conversion process for the Contracts, building on the initial engagement following a webinar hosted by CME in November 2019. During the course of 2020, CME discussed conversion mechanics with market participants, completing a final round of engagement with Eurodollar Options market participants in December 2020. CME conducted a further webinar for clients on final proposals in January 2021 ahead of implementation of the Current Eurodollar Fallback Provisions into the CME Rulebook in March 2021.

The Proposed Eurodollar Fallback Effective Date has been chosen to ensure the conversion process is effected in good time ahead of the scheduled implementation of the ISDA USD LIBOR fallbacks on the Index Cessation Effective Date, in order to be more closely aligned with the timing of the proposed cleared OTC IRS transitions<sup>40</sup>. CME's methodology for contractual fallbacks proposed in the Rule Amendments for the Contracts is designed to be consistent with the industry approach in cleared and uncleared OTC derivatives contracts markets and in line with the goals of global regulatory authorities. Notwithstanding the fact that the Rule Amendments do not constitute a substantive change to the methodology and procedures in the Current Eurodollar Fallback Provisions, CME Group has nonetheless taken steps to ensure the same approach to and level of transparency and engagement with market participants should be applied to the consultation and publication processes in relation to the proposals represented by the Rule Amendments.

During 2022, CME Group has undertaken extensive engagement with leading market participants and CME Clearing Members regarding proposals to bring forward the effective date of the Eurodollar conversion to align more closely with the proposed cleared USD LIBOR OTC IRS conversion timelines of major CCPs, and on the related options conversion methodology summarized in this submission.

In addition to direct communication with market participants through the first three quarters of 2022, CME Group has also made a number of public communications regarding the proposals represented by the Rule Amendments. Most recently, on September 6, 2022 CME Group published a Press Release and separate public proposal on the CME Group website proposing the April 14, 2023 date for the conversion process.<sup>41</sup> Following a further period of market participant consultation during which CME Group continued discussions with interested parties, on October 11, 2022 CME Group confirmed the final Eurodollar Futures and Options fallbacks implementation process and the Proposed Eurodollar Fallback Effective Date of April 14, 2023.<sup>42</sup>

In addition to the extensive public outreach and firm-level bilateral engagement with market participants summarized above, CME Group also presented the proposals at the September 8, 2022 Meeting of the ARRC, at which meeting Exchange staff explained the proposed transition process and the rationale behind the proposed revisions to the Current Eurodollar Fallback Provisions and further encouraged ARRC members to engage with the proposals.<sup>43</sup>

The October 11, 2022 confirmation announcement and publication of the final proposal for the CME Eurodollar Futures and Options conversion included a summary of operational processing steps for the conversion process, a summary of which has been reproduced in this submission.<sup>44</sup> As noted above, CME proposes to provide further operational testing and additional support to Clearing Members and market participants in due course prior to the Proposed Eurodollar Fallback Effective Date in order to promote

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<sup>40</sup> As noted above, CME proposes to effect a conversion of USD LIBOR referencing IRS contracts into corresponding cleared contracts referencing SOFR, on or around April 21, 2023. See <https://www.cmegroup.com/content/dam/cmegroup/trading/interest-rates/files/cme-conversion-for-usd-libor-cleared-swaps.pdf>. CME will be filing appropriate modifications to the applicable CME Clearing rules to implement these changes, amending those set out in Submission 20-517.

<sup>41</sup> For further details, please see [https://www.cmegroup.com/media-room/press-releases/2022/9/06/cme\\_group\\_proposesapril142023forfallbacksconversionofeurodollarf.html](https://www.cmegroup.com/media-room/press-releases/2022/9/06/cme_group_proposesapril142023forfallbacksconversionofeurodollarf.html)

<sup>42</sup> Public communications are available on the CME website at <https://www.cmegroup.com/articles/files/2022/eurodollar-fallbacks-implementation-plan.pdf> and <https://www.cmegroup.com/articles/2022/eurodollar-fallbacks-implementation-plan.html>

<sup>43</sup> See [https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2022/ARRC\\_Readout\\_September\\_2022.pdf](https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2022/ARRC_Readout_September_2022.pdf)

<sup>44</sup> Public communications are available on the CME website at <https://www.cmegroup.com/articles/files/2022/eurodollar-fallbacks-implementation-plan.pdf> and <https://www.cmegroup.com/articles/2022/eurodollar-fallbacks-implementation-plan.html>



operational readiness. Furthermore, CME is publishing a daily Indicative Cash Flow Report for all CME Eurodollar Futures and Options contracts within the Clearing Member sFTP folders in the Clearing System (and also to be made available through the [cmegroup.com](http://cmegroup.com) interest rates web page) allowing Clearing Members to compute indicative relevant cash flows and prices for CME Eurodollar Futures and Options positions.

Based on the extensive market participant engagement conducted by CME Group, Exchange staff understands that CME's revised approach to implementation of fallbacks in relation to the Contracts is in line with the expectations of market participants, industry groups and also global regulatory authorities.

The Clearing House Risk Committee and the Clearing House Oversight Committee ("CHOC") reviewed the proposals for the conversion process in the November 2022 and December 2022 meetings of the committees.<sup>45</sup> No objections to the implementation of the conversion process were raised in the meetings.

## **5. Analysis of the Rule Amendments under DCM Core Principles**

CME reviewed the designated contract market core principles ("DCM Core Principles") as set forth in the Commodity Exchange Act (the "CEA"). During the review, CME identified the following DCM Core Principles as potentially being impacted:

### **DCM Core Principle 3 – Contracts Not Readily Subject to Manipulation**

CME expects that the Contracts will continue to meet the risk management needs of market participants and will continue to promote price discovery up to the Proposed Eurodollar Fallback Effective Date. CME Three-Month SOFR Futures are expected to continue to provide an actively traded and liquid market to support trading by participants subject to any conversion from the Proposed Eurodollar Fallback Effective Date. While CME will continue to monitor the market, CME does not have any concerns regarding liquidity, manipulation or the ability of CME Clearing to default manage a defaulter's portfolio containing these products.

### **DCM Core Principle 4 – Prevention of Market Disruption**

The Rule Amendments are designed to address the needs of market participants as they prepare for an orderly transition away from USD LIBOR. The objective of the amendment to the timing of the conversion set out in the Rule Amendments is to promote alignment of the fallback process between OTC cleared and exchange traded derivative contract markets. CME considers that these revised contractual fallbacks for CME Three-Month Eurodollar Futures and Options will operate to prevent market disruption that could otherwise result from the transition away from USD LIBOR.

### **DCM Core Principle 7 – Availability of General Information:**

The Rule Amendments will be binding on all position holders and Clearing Members and applicable to new positions and open positions in the affected Contracts from the effective date, subject to regulatory approval.

The implementation of the Rule Amendments will take place through changes to the relevant contract chapters within the CME Rulebook, which will be made publicly available and will also be distributed to Clearing Members and market participants through publication in a market notice / Special Executive Report ("SER"), available to recipients of CME advisory notices and also publicly available on the CME Group

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<sup>45</sup> 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". The Rule Amendments have been approved in accordance with CME's Commitment and Signing Authority Policy and were provided to the CHOC for review.

website. Market participants will be reminded in the advisory notices that position holders that do not wish to hold open cleared trades in affected Contracts that would be subject to the conversion processes set out in the Rule Amendments must close out any open position in any Affected Contract prior to the Eurodollar Fallback Effective Date. CME has taken appropriate steps to provide market participants with sufficient information to enable those market participants to identify and evaluate the changes to the CME Rulebook and the effect of the implementation of the Rule Amendments in respect of affected Contracts. The Rule Amendments will be made available on the CME Group website on the effective date of this submission.

The relevant USD LIBOR fallback trigger events applicable to the Contracts are consistent with those applicable to CME cleared USD OTC IRS and to bilateral uncleared USD OTC IRS in the ISDA IBOR Fallback Supplement. The fallback to CME SOFR Futures and Options ensures a fallback of open positions in CME Three-Month Eurodollar Futures to a futures contract referencing the industry determined SOFR rate, which is publicly available, with the assignment price being determined according to a publicly available methodology, which includes as an input the Spread Adjustment published by Bloomberg (calculated by Bloomberg according to the industry agreed ISDA methodology) and made publicly available on the Bloomberg website.<sup>46</sup>

The legal basis for the implementation of the relevant changes to the CME Rulebook is set out in this filing.

#### DCM Core Principle 9 – Execution of Transactions:

The proposed Rule Amendments amend the fallback conversion procedure, through which procedure open positions in the Contracts will be terminated and replaced with positions in the corresponding CME Three-Month SOFR Futures and Options, without trade execution on the Exchange. Subsequently, the termination or offsetting of these positions and the establishment of new positions (and their offset) in SOFR Futures and Options will be carried out in accordance with the terms of the relevant contract Chapters, as amended by the Rule Amendments.

Core Principle 9 requires a DCM to provide “a competitive, open and efficient market and mechanism for executing transactions that protects the price discovery process of trading in the centralized market of the board of trade.” Core Principle 9 also permits a board of trade to authorize, under its rules, certain non-competitive trades for bona fide business purposes.

The USD LIBOR fallbacks for the Contracts set out in the Rule Amendments are not inconsistent with the responsibility of a DCM to provide for meaningful price discovery. The Assignment Price for a Replacement Futures Position will be determined based on the most recent settlement price for the relevant CME Three-Month Eurodollar Futures contract and the relevant Spread Adjustment, both of which are publicly available. The Replacement Position in CME SOFR Futures or Options will be marked-to-market along with other open positions in those contracts.

The Rule Amendments implementing the relevant USD LIBOR fallbacks will serve a bona fide business purpose, and furthers the important policy objective of implementing robust contractual fallbacks for contracts referencing USD LIBOR, as endorsed and promoted by global regulatory authorities as part of LIBOR transition planning for market participants. The Rule Amendments will ensure that all existing and new positions in the Contracts will incorporate robust contractual fallbacks that will take effect prior to the Scheduled Final Representative LIBOR Publication Date. This will ensure that market participants will not be required to take further action in respect of open positions in the Contracts as part of their USD LIBOR cessation planning and that the timing of such conversion will be closely aligned with the corresponding proposed OTC IRS transition in cleared derivatives markets.

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<sup>46</sup> See [https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation\\_Announcement\\_20210305.pdf](https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf). Further information on the calculations and rates calculated by Bloomberg (in accordance with the industry agreed ISDA methodology) are available on the Bloomberg website at: <https://data.bloomberglp.com/professional/sites/10/IBOR-Fallbacks-Fact-Sheet.pdf> together with the Bloomberg IBOR Fallback Rate Adjustments Rulebook available at <https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf>.

DCM Core Principle 19 – Antitrust Considerations:

CME previously engaged with regulatory authorities, market participants and industry groups regarding its approach for the implementation of fallbacks for the Contracts, set out in the Current Eurodollar Fallback Provisions, including as part of wider discussions regarding implementation of ISDA IBOR Fallbacks for CME cleared OTC IRS. CME has engaged further with market participants regarding the Rule Amendments during 2022. During those discussions, CME did not receive any comments regarding any antitrust/fair competition concerns. The absence of such concerns is expected given that it is well-established that the transition away from IBORs to alternative reference rates that are supported by a sufficiently liquid market was initiated and strongly encouraged by government authorities in the United States, including the Financial Stability Oversight Council, and across the globe, including the FSB and the UK FCA. The pervasive government role in this initiative, and the transparent process that CME and other stakeholders have followed to address international regulators' concerns and objectives, make clear that the approach to implementation of fallbacks for IBORs, including USD LIBOR, is designed to mitigate risks to financial stability identified by regulators and not to harm competition.

Given the general alignment between the contractual periods of interest rate risk between CME Three-Month Eurodollar Futures and CME Three-Month SOFR futures, and guided by the principles of maintaining market stability and promoting effective risk management, CME believes that its approach to conversion of Eurodollar Futures and Options open interest will meet the needs of market participants, promote market stability and an orderly transition away from USD LIBOR whilst ensuring appropriate alignment with the timing of contractual fallback implementation that will be followed by CME Clearing and other major CCPs for OTC USD LIBOR IRS.

The Rule Amendments are provided in Exhibit 1 with additions underscored and deletions struck through.

Pursuant to Section 5c(c) of the CEA and CFTC Regulation 40.5(a), CME certifies that the Rule Amendments in the form of Exhibit A comply 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](mailto:CMEGSubmissionInquiry@cmegroup.com).

Sincerely,

/s/ Christopher Bowen  
Managing Director & Chief Regulatory Counsel

Attachment: Exhibit 1 – Amendments to CME Chapters 452 and 452A (blackline format)

**Exhibit 1**  
**CME Rulebook**  
(additions underscoring, deletions ~~overstruck~~)

**Chapter 452**  
**Three-Month Eurodollar Futures**

**45200. SCOPE OF CHAPTER**

This chapter is limited in application to Three-Month Eurodollar futures (“futures” or “contract”). In addition to this chapter, futures shall be subject to the general rules and regulations of the Exchange insofar as applicable.

Unless otherwise specified, times referenced herein shall indicate Chicago time.

**45201. CONTRACT SPECIFICATIONS**

Each contract is valued at \$2,500 times the contract-grade IMM Index (Rule 45202.C.).

**45202. TRADING SPECIFICATIONS**

**45202.A. Trading Schedule**

Contracts shall be scheduled for trading during such hours and for delivery in such months as may be determined by the Exchange.

**45202.B. Trading Unit**

For a contract for a given delivery month, the unit of trading shall be interest on an unsecured U.S. dollar-denominated wholesale bank funding transaction, with term to maturity of three months (“three-month term”), for spot settlement on the third Wednesday of such delivery month, expressed as an interest rate per annum for which (i) such interest rate shall accrue on the basis of the actual number of days spanned by such three-month term, divided by a 360-day year, and (ii) each basis point per annum of such interest rate shall be worth \$25 per futures contract.

**45202.C. Price Increments**

Contract prices shall be quoted in terms of the IMM Index (“Index”), 100.0000 minus the interest rate per annum corresponding to the three-month unsecured U.S. dollar-denominated wholesale bank funding transaction specified in Rule 45202.B. (For example, an interest rate of 2.055 percent per annum shall be quoted as an Index value of 97.9450.)

**1. The Nearest Expiring Contract Month**

The minimum price fluctuation shall be 0.0025 Index points, equal to \$6.25 per contract.

**2. All Contract Months Excluding the Nearest Expiring Contract Month**

The minimum price fluctuation shall be 0.005 Index points, equal to \$12.50 per contract.

**45202.D. Position Limits, Exemptions, Position Accountability and Reportable Levels**

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5.

A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion.

Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

**45202.E. Special Price Fluctuation Limits**

At the commencement of each trading day, the contract shall be subject to special price fluctuation limits as set forth in Rule 589 and in the Special Price Fluctuation Limits Table in the Interpretations & Special Notices Section of Chapter 5.

**45202.F. [Reserved]**

**45202.G. Termination of Trading**

Trading in an expiring contract shall terminate at 11:00 a.m. London time on the second London bank business day immediately preceding the third Wednesday of the contract's named month of delivery.

**45202.H. [Reserved]**

**45203. SETTLEMENT PROCEDURES**

Delivery shall be by cash settlement.

**45203.A. Final Settlement Price**

Subject to Rule 45236, the final settlement price of an expiring contract shall be 100.0000 minus the three-month U.S. dollar ICE LIBOR wholesale funding rate ("rate") for the second London bank business day immediately preceding the third Wednesday of the contract's named month of delivery. Such rate shall be as determined, and as first published, by ICE Benchmark Administration Limited. The value of such rate, so published, shall be rounded to the nearest 0.0001 percentage points per annum. Tie values, i.e., any such values ending in 0.00005, shall be rounded up. (For example, a rate of 8.65625 percent would be rounded up to 8.6563 percent, and then subtracted from 100.0000 to determine a contract final settlement price of 91.3437.)

**45203.B. Final Settlement**

Clearing members holding open positions in a contract at the time of termination of trading in that contract shall make payment to or receive payment from the Clearing House in accordance with normal variation performance bond procedures based on a settlement price equal to the final settlement price.

**45204.-35. [RESERVED]**

**45236. REFERENCE RATE FALLBACK EVENT PROCEDURE**

**45236.A. Fallback Announcement**

With respect to the rate in Rule 45203.A, on March 5, 2021, the U.K. Financial Conduct Authority, the regulatory supervisor for the administrator of the rate, made a public statement and publication of information to the effect that:

(i) it had determined that immediately following publication on June 30, 2023 (the "Scheduled Final Representative LIBOR Publication Date"), such rate will no longer be representative of the underlying market and economic reality that such rate is intended to measure and that representativeness will not be restored, and

(ii) such public statement and publication of information was made in the awareness that the statement or publication will engage certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts,

(the "USD 3M LIBOR Fallback Announcement").

in the event of any of:

(i) a public statement or publication of information by or on behalf of the administrator of the rate announcing that it has ceased or will cease to provide the rate permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the rate;

(ii) a public statement or publication of information by the regulatory supervisor for the administrator of the rate, the central bank for the currency of the rate, an insolvency official with jurisdiction over the administrator for the rate, a resolution authority with jurisdiction over the administrator for the rate or a court or an entity with similar insolvency or resolution authority over the administrator for the rate, which states that the administrator of the rate has ceased or will cease to provide the rate permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the rate; or

(iii) a public statement or publication of information by the regulatory supervisor for the administrator of the rate announcing that:

~~(A) the regulatory supervisor has determined that such rate is no longer, or as of a specified future date will no longer be, representative of the underlying market and economic reality that such rate is intended to measure and that representativeness will not be restored, and~~  
~~(B) it is being made in the awareness that the statement or publication will engage certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts,~~

~~(a “USD 3M LIBOR Fallback Announcement”), the Exchange shall utilize the process in Rule 45236.B. Following the USD 3M LIBOR Fallback Announcement the Exchange shall utilize the process in Rule 45236.C.~~

#### **45236.B. Eurodollar Fallback Effective Date**

~~The Exchange shall determine the date on which it will implement the fallback procedure in Rule 45236.C (the “Eurodollar Fallback Effective Date”) in accordance with this Rule 45236.B.~~

~~The Eurodollar Fallback Effective Date shall be April 14, 2023, except:~~

- ~~(i) where the Exchange determines at any time in its sole and absolute discretion that implementation of the fallback procedure on such date could result in an unacceptable level of operational or market disruption or where financial stability issues could threaten the orderly transition of the contract; or~~
- ~~(ii) following a Successor USD 3M LIBOR Fallback Announcement (as defined in Rule 45236.F),~~

~~upon which the Exchange shall determine in its sole and absolute discretion:~~

- ~~(A) an alternative date which shall be the Eurodollar Fallback Effective Date for the purposes of this Rule 45236; and~~
- ~~(B) an alternative date which shall be the Scheduled Final Representative LIBOR Publication Date for the purposes of this Rule 45236.~~

~~having regard to any Successor USD 3M LIBOR Fallback Announcement, as applicable, and the Exchange shall provide notification of such amended Eurodollar Fallback Effective Date to market participants as soon as reasonably practicable following such determination.~~

~~In the event of a USD 3M LIBOR Fallback Announcement, with effect from the date of:~~

- ~~(i) the first date on which the rate is no longer provided; or~~
- ~~(ii) the first date on which the rate is non-representative by reference to the most recent statement or publication referred to in Rule 45236.A(iii) and even if the rate continues to be provided on such date,~~

~~(the “Eurodollar Fallback Effective Date”), the Exchange shall convert open positions in the contract on the Eurodollar Fallback Effective Date into corresponding positions in another Exchange contract in accordance with the process in Rule 45236.C.~~

#### **45236.C. Fallback Procedure**

~~Following close of business on the Eurodollar Fallback Effective Date, the Exchange shall convert all open positions in the contract that expire after the Scheduled Final Representative LIBOR Publication Date (each, a “Conversion Position”) as follows:~~

- ~~(i) each open position in the contract that is a Conversion Position shall be terminated at the most recent daily settlement price for the contract on the Eurodollar Fallback Effective Date; and~~
- ~~(ii) such position shall be replaced with a corresponding open position in CME Three-Month SOFR Futures (Chapter 460) (a “Replacement Position”).~~

~~The Replacement Position shall be assigned to a position holder by the Exchange in accordance with the following procedure:~~

- ~~(i) the Replacement Position in CME Three-Month SOFR Futures shall be equal in trading unit size and direction to the position in the contract and with the same delivery month; and~~

(ii) the price at which the Replacement Position is assigned to the position holder (the "Assignment Price") shall be determined by the Exchange and shall be equal to:

(A) the most recent daily settlement price for the contract on the Eurodollar Fallback Effective Date,

plus

(B) a value adjustment amount which shall be equal to the fixed Spread Adjustment for the rate in Rule 45203.A published by Bloomberg Index Services Limited (0.26161%).

rounded to four (4) decimal places and calculated in accordance with industry agreed conventions for fallback events for over the counter swaps referencing the rate in Rule 45203.A.;

(iii) to account for the rounding of the Assignment Price to four (4) decimal places, the Exchange shall apply to each Replacement Position a cash adjustment amount which shall be due from or payable to the position holder [at the next end of day settlement cycle following close of business on the Eurodollar Fallback Effective Date] according to the direction of the position and shall be equal to:

0.00001 x the contract quantity x \$2,500 contract unit multiplier,

as determined by the Exchange utilizing the methodology published by the Exchange.

#### **45236.D. Clearing of the Replacement Position**

Clearing of the Replacement Position shall be subject to the Rules for CME Three-Month SOFR Futures (Chapter 460), including for the avoidance of doubt the determination of daily and final settlement prices in respect of each Replacement Position, ~~from the Eurodollar Fallback Effective Date.~~

#### **45236.E. Termination of Trading**

(1) On the Eurodollar Fallback Effective Date, trading in the ~~contract~~ contracts expiring after the Scheduled Final Representative LIBOR Publication Date shall be terminated and ~~the such~~ contracts shall no longer be available for trading on the Exchange with immediate effect.

(2) Trading in the contracts expiring before the Scheduled Final Representative LIBOR Publication Date shall continue after the Eurodollar Fallback Effective Date until the date of termination of trading of such contracts under Rule 45202.G.

#### **45236.F. Successor USD 3M LIBOR Fallback Announcement**

With respect to the rate in Rule 45203.A, in the event of any of:

(i) a public statement or publication of information by or on behalf of the administrator of the rate announcing that it has ceased or will cease to provide the rate permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the rate;

(ii) a public statement or publication of information by the regulatory supervisor for the administrator of the rate, the central bank for the currency of the rate, an insolvency official with jurisdiction over the administrator for the rate, a resolution authority with jurisdiction over the administrator for the rate or a court or an entity with similar insolvency or resolution authority over the administrator for the rate, which states that the administrator of the rate has ceased or will cease to provide the rate permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the rate; or

(iii) a public statement or publication of information by the regulatory supervisor for the administrator of the rate announcing that:

(A) the regulatory supervisor has determined that such rate is no longer, or as of a specified future date will no longer be, representative of the underlying market and economic reality that such rate is intended to measure and that representativeness will not be restored, and

(B) it is being made in the awareness that the statement or publication will engage certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts.

issued subsequent to the USD 3M LIBOR Fallback Announcement and prior to the Eurodollar Fallback Effective Date (a "Successor USD 3M LIBOR Fallback Announcement"), the Exchange shall utilize the process in Rule 45236.B.

(End Chapter 452)

**INTERPRETATIONS AND SPECIAL NOTICES  
RELATING TO CHAPTER 452**

The Exchange has entered into an agreement with ICE Benchmark Administration Limited which permits the Exchange to use ICE LIBOR as the basis for settling Three-Month Eurodollar futures contracts and to refer to ICE LIBOR in connection with creating, marketing, trading, clearing, settling and promoting Three-Month Eurodollar futures contracts.

Three-Month Eurodollar futures contracts are not in any way sponsored, endorsed, sold or promoted by ICE Benchmark Administration Limited, and ICE Benchmark Administration Limited, has no obligation or liability in connection with the trading of any such contracts. ICE LIBOR is compiled and calculated solely by ICE Benchmark Administration Limited. However, ICE Benchmark Administration Limited, shall not be liable (whether in negligence or otherwise) to any person for any error in ICE LIBOR, and ICE Benchmark Administration Limited, shall not be under any obligation to advise any person of any error therein.

ICE BENCHMARK ADMINISTRATION LIMITED MAKES NO WARRANTY, EXPRESS OR IMPLIED, EITHER AS TO THE RESULTS TO BE OBTAINED FROM THE USE OF ICE LIBOR AND/OR THE FIGURE AT WHICH ICE LIBOR STANDS AT ANY PARTICULAR TIME ON ANY PARTICULAR DAY OR OTHERWISE. ICE BENCHMARK ADMINISTRATION LIMITED MAKES NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE FOR USE WITH RESPECT TO THREE-MONTH EURODOLLAR FUTURES CONTRACTS.



## Chapter 452A

### Options on Three-Month Eurodollar Futures

#### 452A00. SCOPE OF CHAPTER

This chapter is limited in application to options on Three-Month Eurodollar futures (“options”). In addition to this chapter, options shall be subject to the general rules and regulations of the Exchange insofar as applicable.

Unless otherwise specified, times referenced herein shall refer to and indicate Chicago time.

#### 452A01. OPTION CHARACTERISTICS

##### 452A01.A. Contract Months and Trading Hours

Options shall be listed for expiration on such dates and shall be scheduled for trading during such hours as may be determined by the Exchange

##### 452A01.B. Trading Unit

The trading unit shall be an option to buy in the case of the call, or to sell in the case of the put, one Three-Month Eurodollar futures contract (Chapter 452).

##### 452A01.C. Minimum Fluctuations

The price of an option shall be quoted in IMM Index points corresponding to such option’s underlying futures contract (Rule 452A01.D). Pursuant to Rules 45202.C., each 0.01 IMM Index point signifies one (1) basis point per annum of interest rate exposure in such underlying futures contract’s Trading Unit (Rule 45202.B.), and is equal to \$25 per option contract. For example, an option contract price of 0.35 IMM Index points represents \$875 (equal to 35 basis points x \$25 per basis point per option contract).

Minimum price fluctuations shall be as follows –

##### 1. Quarterly Standard Options (Rule 452A01.D.1.) Expiring in the Nearest March Quarterly Month

Where such options are for the next nearest monthly option expiration date, the minimum price fluctuation shall be 0.0025 IMM Index points (equal to \$6.25 per option contract).

Where such options are not for the next nearest monthly option expiration date, then:

Where any such option trades outright at a premium not greater than 0.05 IMM Index points, the minimum price fluctuation shall be 0.0025 IMM Index points (equal to \$6.25 per option contract).

Where any such option trades outright at a premium greater than 0.05 IMM Index points, the minimum price fluctuation shall be 0.005 IMM Index points (equal to \$12.50 per option contract).

##### 2. Quarterly Standard Options (Rule 452A01.D.1.) Expiring in the Second-Nearest March Quarterly Month, Serial Options (Rule 452A01.D.2.), and Three-Month Mid-Curve Options (Rule 452A01.D.8.)

Where any such option trades outright at a premium not greater than 0.05 IMM Index points, the minimum price fluctuation shall be 0.0025 IMM Index points (equal to \$6.25 per option contract).

Where any such option trades outright at a premium greater than 0.05 IMM Index points, the minimum price fluctuation shall be 0.005 IMM Index points (equal to \$12.50 per option contract).

##### 3. All Other Quarterly Standard Options (Rule 452A01.D.1.) and All Other Mid-Curve Options (Rules 452A01.D.3. through 452A01.D.7., 452A01.D.9., and 452A01.D.10.)

For all Quarterly Standard options other than those that expire in the nearest March Quarterly month or the second-nearest March Quarterly month, and for all Mid-Curve options other than Three-Month Mid-Curve options, the minimum price fluctuation shall be 0.005 IMM Index points (equal to \$12.50 per option contract), provided that trade may occur at a price level of 0.0025 IMM Index point (equal to \$6.25 per option contract), whether or not such trade results in liquidation of positions for both parties to such trade.

#### **4. Option Spreads and Combinations**

All option spreads and combinations shall trade in minimum price increments of 0.005 IMM Index points, subject to the following exceptions:

- (a) An option spread or combination may trade in minimum price increments of 0.0025 IMM Index points if (i) such option spread or combination comprises only Quarterly Standard Options Expiring in the Nearest March Quarterly Month (Rule 452A01.C.1.), and (ii) all such options are for the nearest monthly option expiration date.
- (b) An option spread or combination may trade in minimum price increments of 0.0025 IMM Index points if such option spread or combination (i) trades at a net premium not greater than 0.05 IMM Index points and not less than -0.05 IMM Index points and (ii) comprises only such options as are specified in Rule 452A01.C.1. and/or 452A01.C.2.

For the avoidance of doubt, any option spread or combination that comprises one or more options specified in Rule 452A01.C.3. shall trade in minimum price increments of 0.005 IMM Index points.

For the purpose of Rule 813 for Settlement Prices, the minimum price fluctuation for all options shall be 0.0025 IMM Index point (equal to \$6.25 per option contract).

Where the price of an option is quoted in volatility terms, the minimum fluctuation shall be 0.05 percent.

#### **452A01.D. Underlying Futures Contracts**

##### **1. Options in the March Quarterly Cycle (“Quarterly Standard Options”)**

For options that expire in any month in the March quarterly cycle (i.e., March, June, September, and December), except for those Mid-Curve options specified in Paragraphs 3, 4, 5, 6, 7, 8, 9, or 10 of this Rule, the underlying futures contract is for the month in which such options expire. For example, for a given year, the underlying futures contract for an option that expires in March is the March futures contract.

##### **2. Options Not in the March Quarterly Cycle (“Serial Options”)**

For options that expire in any month other than those in the March quarterly cycle, (i.e., January, February, April, May, July, August, October, and November), except for those Mid-Curve options specified in Paragraphs 3, 4, 5, 6, 7, 8, 9, or 10 of this Rule, the underlying futures contract is for the next month in the March quarterly cycle that is nearest the expiration of such options. For example, for a given year, the underlying futures contract for such options that expire in January or February is the March futures contract.

##### **3. One-Year Mid-Curve Options**

###### One-Year Mid-Curve Options in the March Quarterly Cycle (“Quarterly One-Year Mid-Curve Options”)

For One-Year Mid-Curve options that expire in any month in the March quarterly cycle, the underlying futures contract is the futures contract that expires 12 calendar months after the month in which such options expire.

###### One-Year Mid-Curve Options Not in the March Quarterly Cycle (“Serial One-Year Mid-Curve Options”)

For Serial One-Year Mid-Curve Options that expire in any month other than those in the March quarterly cycle, the underlying futures contract is the futures contract that expires 12 calendar months from the next March quarterly month that is nearest to the expiration of such options. For example, the underlying futures contract for the Serial One-Year Mid-Curve options that expire in January or February of a given year is the March futures contract that expires one year hence.

###### Weekly One-Year Mid-Curve Options

For Weekly One-Year Mid-Curve Options, the underlying futures contract is the futures contract that expires 12 calendar months from the next March quarterly month that is nearest to the expiration of such options.

##### **4. Two-Year Mid-Curve Options**

###### Two-Year Mid-Curve Options in the March Quarterly Cycle (“Quarterly Two-Year Mid-Curve Options”)

For Two-Year Mid-Curve options that expire in any month in the March quarterly cycle, the underlying futures contract is the futures contract that expires 24 calendar months after the month in which such options expire.

###### Two-Year Mid-Curve Options Not in the March Quarterly Cycle (“Serial Two-Year Mid-Curve Options”)

For Serial Two-Year Mid-Curve Options that expire in any month other than those in the March quarterly cycle, the underlying futures contract is the futures contract that expires 24 calendar months from the next March

quarterly month that is nearest to the expiration of such options. For example, the underlying futures contract for the Serial Two-Year Mid-Curve options that expire in January or February of a given year is the March futures contract that expires two years hence.

#### Weekly Two-Year Mid-Curve Options

For Weekly Two-Year Mid-Curve Options, the underlying futures contract is the futures contract that expires 24 calendar months from the next March quarterly month that is nearest to the expiration of such options.

### **5. Three-Year Mid-Curve Options**

#### Three-Year Mid-Curve Options in the March Quarterly Cycle (“Quarterly Three-Year Mid-Curve Options”)

For Three-Year Mid-Curve options that expire in any month in the March quarterly cycle, the underlying futures contract is the futures contract that expires 36 calendar months after the month in which such options expire.

#### Three-Year Mid-Curve Options Not in the March Quarterly Cycle (“Serial Three-Year Mid-Curve Options”)

For Serial Three-Year Mid-Curve Options that expire in any month other than those in the March quarterly cycle, the underlying futures contract is the futures contract that expires 36 calendar months from the next March quarterly month that is nearest to the expiration of such options. For example, the underlying futures contract for the Serial Three-Year Mid-Curve options that expire in January or February of a given year is the March futures contract that expires three years hence.

#### Weekly Three-Year Mid-Curve Options

For Weekly Three-Year Mid-Curve Options, the underlying futures contract is the futures contract that expires 36 calendar months from the next March quarterly month that is nearest to the expiration of such options.

### **6. Four-Year Mid-Curve Options**

#### Four-Year Mid-Curve Options in the March Quarterly Cycle (“Quarterly Four-Year Mid-Curve Options”)

For Four-Year Mid-Curve options that expire in any month in the March quarterly cycle, the underlying futures contract is the futures contract that expires 48 calendar months after the month in which such options expire.

#### Four-Year Mid-Curve Options Not in the March Quarterly Cycle (“Serial Four-Year Mid-Curve Options”)

For Serial Four-Year Mid-Curve Options that expire in any month other than those in the March quarterly cycle, the underlying futures contract is the futures contract that expires 48 calendar months from the next March quarterly month that is nearest to the expiration of such options. For example, the underlying futures contract for the Serial Four-Year Mid-Curve options that expire in January or February of a given year is the March futures contract that expires four years hence.

#### Weekly Four-Year Mid-Curve Options

For Weekly Four-Year Mid-Curve Options, the underlying futures contract is the futures contract that expires 48 calendar months from the next March quarterly month that is nearest to the expiration of such options.

### **7. Five-Year Mid-Curve Options**

#### Five-Year Mid-Curve Options in the March Quarterly Cycle (“Quarterly Five-Year Mid-Curve Options”)

For Five-Year Mid-Curve options that expire in any month in the March quarterly cycle, the underlying futures contract is the futures contract that expires 60 calendar months after the month in which such options expire.

#### Five-Year Mid-Curve Options Not in the March Quarterly Cycle (“Serial Five-Year Mid-Curve Options”)

For Serial Five-Year Mid-Curve Options that expire in any month other than those in the March quarterly cycle, the underlying futures contract is the futures contract that expires 60 calendar months from the next March quarterly month that is nearest to the expiration of such options. For example, the underlying futures contract for the Serial Five-Year Mid-Curve options that expire in January or February of a given year is the March futures contract that expires five years hence.

#### Weekly Five-Year Mid-Curve Options

For Weekly Five-Year Mid-Curve Options, the underlying futures contract is the futures contract that expires 60 calendar months from the next March quarterly month that is nearest to the expiration of such options.

### **8. Three-Month Mid-Curve Options**

#### Three-Month Mid-Curve Options in the March Quarterly Cycle (“Quarterly Three-Month Mid-Curve Options”)

For Three-Month Mid-Curve options that expire in any month in the March quarterly cycle, the underlying futures contract is the futures contract that expires 3 calendar months after the month in which such options expire.

Three-Month Mid-Curve Options Not in the March Quarterly Cycle (“Serial Three-Month Mid-Curve Options”)

For Serial Three-Month Mid-Curve Options that expire in any month other than those in the March quarterly cycle, the underlying futures contract is the futures contract that expires 3 calendar months from the next March quarterly month that is nearest to the expiration of such options. For example, for a given year, the underlying futures contract for the Serial Three-Month Mid-Curve options that expire in January or February is the June futures contract.

**9. Six-Month Mid-Curve Options**

Six-Month Mid-Curve Options in the March Quarterly Cycle (“Quarterly Six-Month Mid-Curve Options”)

For Six-Month Mid-Curve options that expire in any month in the March quarterly cycle, the underlying futures contract is the futures contract that expires 6 calendar months after the month in which such options expire.

Six-Month Mid-Curve Options Not in the March Quarterly Cycle (“Serial Six-Month Mid-Curve Options”)

For Serial Six-Month Mid-Curve Options that expire in any month other than those in the March quarterly cycle, the underlying futures contract is the futures contract that expires 6 calendar months from the next March quarterly month that is nearest to the expiration of such options. For example, for a given year, the underlying futures contract for the Serial Six-Month Mid-Curve options that expire in January or February is the September futures contract.

**10. Nine-Month Mid-Curve Options**

Nine-Month Mid-Curve Options in the March Quarterly Cycle (“Quarterly Nine-Month Mid-Curve Options”)

For Nine-Month Mid-Curve options that expire in any month in the March quarterly cycle, the underlying futures contract is the futures contract that expires 9 calendar months after the month in which such options expire.

Nine-Month Mid-Curve Options Not in the March Quarterly Cycle (“Serial Nine-Month Mid-Curve Options”)

For Serial Nine-Month Mid-Curve Options that expire in any month other than those in the March quarterly cycle, the underlying futures contract is the futures contract that expires 9 calendar months from the next March quarterly month that is nearest to the expiration of such options. For example, for a given year, the underlying futures contract for the Serial Nine-Month Mid-Curve options that expire in January or February is the December futures contract.

**452A01.E. Exercise Prices**

**1. Twenty-Five Point Exercise Prices**

For options for a given expiration date that are exercisable into a given underlying futures contract, exercise prices shall be stated in terms of the IMM Index for such underlying futures contract and shall be stated in intervals whose last two digits are 00, 25, 50, or 75 (“twenty-five point exercise prices”) for all IMM Index levels, e.g., 88.00, 88.25, 88.50, 88.75.

The Exchange shall list put and call options for trading at the exercise price that is nearest the previous day’s settlement price of such underlying futures contract (“at-the-money exercise price”) and at all eligible exercise prices in a range from 5.50 IMM Index points above to 5.50 IMM Index points below such at-the-money exercise price. Thereafter until termination of trading in such options, the Exchange shall ensure that put and call options are listed for trading on each day at all eligible exercise prices in a range from 5.50 IMM Index points above to 5.50 IMM Index points below the at-the-money exercise price for such underlying futures contract. New options may be listed for trading up to and including the termination of trading.

**2. Special Listings of 12.5 Point Exercise Prices**

For options for a given expiration date that are exercisable into a given underlying futures contract, with the exception of certain option expiries with 6.25 Point Exercise Prices (Rule 452A01.E.3.), additional exercise prices shall be stated in intervals whose last three digits are 12.5, 37.5, 62.5, or 87.5 (“12.5 point exercise prices”) for all IMM Index levels, e.g., 93.125, 93.375, 93.625, 93.875.

The Exchange shall ensure that put and call options are listed for trading on each day at all such 12.5 point exercise prices in a range from 1.50 IMM Index points above to 1.50 IMM Index points below the at-the-money exercise price for such underlying futures contract.

### **3. Special Listings of 6.25 Point Exercise Prices**

From time to time as determined by the Exchange, additional exercise prices for selected expiries will be made available in intervals whose last four digits are 06.25, 12.50, 18.75, 31.25, 37.50, 43.75, 56.25, 62.50, 68.75, 81.25, 87.50, or 93.75 ("6.25 point exercise prices") for all IMM Index levels, e.g., 93.0625, 93.1250, 93.1875, 93.3125, 93.3750, 93.4375, 93.5625, 93.6250, 93.6875, 93.8125, 93.8750, 93.9375.

Until termination of trading in such options, the Exchange shall ensure that put and call options are listed for trading on each day at all such 6.25 point exercise prices in a range from 1.50 IMM Index points above to 1.50 IMM Index points below the at-the-money exercise price for such underlying futures contract.

### **4. Dynamically-Listed Exercise Prices**

Upon demand and at the discretion of the Exchange, a new option contract with an out-of-current-range exercise price may be added, on an as-soon-as-possible basis, provided that the last two digits of the exercise price of such newly added option contract must be 00, 25, 50, or 75 (e.g., 88.00, 88.25, 88.50, 88.75).

The Exchange may modify the provisions governing the establishment of exercise prices as it deems appropriate.

#### **452A01.F. Position Limits, Exemptions, Position Accountability and Reportable Levels**

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5.

A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion. Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

#### **452A01.G. Special Price Fluctuation Limits**

At the commencement of each trading day, the contract shall be subject to special price fluctuation limits as set forth in Rule 589 and in the Special Price Fluctuation Limits Table in the Interpretations & Special Notices Section of Chapter 5.

#### **452A01.H-I. [Reserved]**

#### **452A01.J. Termination of Trading**

##### **1. Quarterly Standard Options**

Trading in any Quarterly Standard Option shall terminate at the same date and time as the underlying futures contract for such Quarterly Standard Option.

##### **2. Serial Options**

Trading in any Serial Option shall terminate at the close of trading on the Friday preceding the third Wednesday of the month in which such option expires. If such Friday is a scheduled Exchange holiday, then trading shall terminate on the immediately preceding Business Day. In the event that the underlying futures market for such Serial Option does not open on the day scheduled for termination of trading in such option, then trading in such option shall be extended to the next day on which the underlying futures market is open for trading.

##### **3. Mid-Curve Options**

Trading in any Quarterly Mid-Curve Option or any Serial Mid-Curve option shall terminate at the close of trading on the Friday preceding the third Wednesday of the calendar month in which such option expires. If such Friday is a scheduled Exchange holiday, then trading shall terminate on the immediately preceding Business Day. In the event that the underlying futures market for such Mid-Curve option does not open on the day scheduled for termination of trading in such option, then trading in such option shall be extended to the next day on which the underlying futures market is open for trading.

Trading in Weekly Mid-Curve options shall terminate at the close of trading on those Fridays that are not also scheduled for termination of trading in Quarterly Mid-Curve Options or Serial Mid-Curve

Options. If such Friday is a scheduled Exchange holiday, then trading in Weekly Mid-Curve options shall terminate on the immediately preceding Business Day. In the event that the underlying futures market for any such Weekly Mid-Curve option does not open on the day scheduled for termination of trading in such option, then trading in such option shall be extended to the next day on which the underlying futures market is open for trading.

#### **452A01.K. [Reserved]**

### **452A02. EXERCISE AND ASSIGNMENT**

In addition to the applicable procedures and requirements of Chapter 7, the following shall apply to the exercise of Eurodollar options.

#### **452A02.A. Exercise of Option by Buyer**

An option may be exercised by the buyer on any Business Day that the option is traded. To exercise an option, the clearing member representing the buyer shall present an exercise notice to the Clearing House by 5:30 p.m. on the day of exercise.

An option that is in-the-money and has not been liquidated or exercised prior to the termination of trading in such option shall be exercised automatically, in the absence of contrary instructions delivered to the Clearing House no later than 5:30 p.m. on the last day of trading by the clearing member representing the option buyer. An option is in the money if the settlement price of the underlying futures contract at the termination of trading lies above the exercise price in the case of a call, or lies below the exercise price in the case of a put.

Corrections to option exercises may be accepted by the Clearing House after the 5:30 p.m. deadline and up to the beginning of final option expiration processing, provided that such corrections are necessary due to: (1) a bona fide clerical error, (2) an unreconciled Exchange option transaction(s), or (3) an extraordinary circumstance where the clearing firm and customer are unable to communicate final option exercise instructions prior to the deadline. The decision whether a correction is acceptable will be made by the President of the Clearing House, or the President's designee, and such decision will be final.

#### **452A02.B. Assignment**

Exercise notices accepted by the Clearing House shall be assigned through a process of random selection to clearing members with open short positions in the same series. A clearing member to which an exercise notice is assigned shall be notified thereof as soon as practicable after such notice is assigned by the Clearing House, but not later than 45 minutes before the opening of Regular Trading Hours in the underlying futures contract on the following Business Day.

The clearing member assigned an exercise notice shall be assigned a short position in the underlying futures contract if a call is exercised or a long position if a put is exercised. The clearing member representing the option buyer shall be assigned a long position in the underlying futures contract if a call is exercised and a short position if a put is exercised.

All such futures positions shall be assigned at a price equal to the exercise price of the option and shall be marked to market in accordance with Rule 814 on the Trading Day of acceptance by the Clearing House of the exercise notice.

### **452A03. [RESERVED]**

### **452A04. FALLBACK EVENT WITH RESPECT TO THREE-MONTH EURODOLLAR FUTURES**

#### **452A04.A Fallback Event with Respect to Three-Month Eurodollar Futures**

In the event of a fallback event with respect to Three-Month Eurodollar futures contracts where the Exchange implements the Fallback Procedure in Rule 45236.C, on the Eurodollar Fallback Effective Date (as defined in Rule 45236-B) trading in Three-Month Eurodollar futures contracts expiring after the Scheduled Final Representative LIBOR Publication Date (as defined in Rule 45236.) ("Conversion Futures") will terminate in accordance with Rule 45236.E and trading in the option contracts referencing such Conversion Futures shall accordingly also terminate with immediate effect notwithstanding any other provision of this Chapter 452A. Any option contract referencing such Conversion Futures that has not been liquidated or exercised prior to the termination of trading shall be subject to the rules in Rule 452A04.B from the Eurodollar Fallback Effective Date.

#### **452A04.B Fallback Procedure**

On the Eurodollar Fallback Effective Date, the Exchange shall convert open positions in the option referencing such Conversion Futures into corresponding open positions in CME Options on Three-Month SOFR Futures (Chapter 460A) (a "Replacement Position") in accordance with the following procedure:

- (i) the open position in the option shall be terminated by the Exchange;
- ~~(ii)~~ the Exchange shall assign to the position holder a Replacement Position in standardized strikes and like contract months in CME Options on Three-Month SOFR Futures according to a methodology which will employ, among other things, standard options valuation models, and this methodology shall be determined by the Exchange in its absolute discretion and shall be published by the Exchange; and
- ~~(ii)~~(iii) the Exchange shall apply a Premium Differential to each Replacement Position (as defined in Rule 45236.) to reflect the difference in option premium between the corresponding terminated position and the Replacement Position, which shall be determined by the Exchange in its absolute discretion utilizing the methodology in the preceding paragraph, and such Premium Differential shall be due to or payable by the position holder (as applicable) at the next end of day settlement cycle following close of business on the Eurodollar Fallback Effective Date.

#### **452A04.C Clearing of the Replacement Position**

Clearing of the Replacement Position shall be subject to the Rules for CME Options on Three-Month SOFR Futures (Chapter 460A) from the Eurodollar Fallback Effective Date.

#### **452A04.D Termination of Trading**

Trading in the options contracts referencing Three-Month Eurodollar Futures that are not Conversion Futures shall continue after the Eurodollar Fallback Effective Date until the date of termination of trading of such contracts under 452A01.J. Termination of Trading.

(End Chapter 452A)