

TO: Clearing Member Firms
Back Office Managers

DATE: 13 October 2020

FROM: CME Clearing

NOTICE #: 20-391

SUBJECT: Transition to SOFR Price Alignment and Discounting for U.S. Dollar OTC IRS Products

Background

In 2017 the Alternative Reference Rates Committee (“ARRC”), convened by the Federal Reserve Board and the Federal Reserve Bank of New York, selected the Secured Overnight Financing Rate (“SOFR”) to serve as a robust and transaction-based alternative reference rate to the U.S. dollar (“USD”) London Interbank Offered Rate benchmark rate (“LIBOR”).¹ SOFR is administered by the Federal Reserve Bank of New York and provides a broad measure of the cost of borrowing USD cash overnight collateralized by Treasury securities, based on observable transactions in the active and liquid USD Treasury repo market.

The ARRC’s Paced Transition Plan for the phasing-in of SOFR as the alternative reference rate to LIBOR anticipates that by Q2 2021 central counterparties should cease to accept for clearing new swap contracts utilizing the Effective Federal Funds Rate (“EFFR”) for calculating price alignment (the adjustment used to reflect the overnight cost of funding collateral for a bilateral swap contract to mitigate the basis risk between cleared and uncleared swaps) and for the applicable discounting rate (used for the discount curve to calculate swap value) (together, “PA/discounting”).

In order to support the market adoption of SOFR ahead of the relevant milestone set out in the ARRC Paced Transition Plan and consistent with the wider industry initiatives for transition to switch to SOFR PA/discounting for USD interest rate swaps, Chicago Mercantile Exchange Inc. (“CME” or “CME Clearing”), will update the PA/discounting protocol for certain CME cleared USD interest rate swap products from EFFR to SOFR (the “Transition”) on October 16, 2020 (the “Transition Date”). In accordance with the wider industry initiatives, the Transition will follow a “single-day” approach and from the Transition Date all existing and new positions in such products will be subject to SOFR PA/discounting.²

On October 13, 2020 the Commodity Futures Trading Commission (“CFTC”) approved CME’s rules and procedure for transitioning to SOFR PA/discounting set out in this Advisory Notice pursuant to section

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

² The Transition will cover USD interest rate swap products only. CME will continue to engage with market participants to evaluate a future date for transitioning additional IRS currencies that contain a USD funding component.

5c(c)(5) of the Commodity Exchange Act and Commission Regulation 40.5. The rules set out in this Advisory Notice will be effective from October 16, 2020.

CME has engaged with the ARRC Paced Transition Working Group and has consulted with a diverse cross-section of market participants to obtain feedback on the process for the Transition. A summary of CME's Transition plan was provided to market participants and made publicly available on December 3, 2019 on the CME website, with a further update provided in June 2020.³ Feedback from market participants has encouraged CME to align its approach with the wider industry initiatives to transition to SOFR PA/discounting for USD interest rate swaps, both in terms of scope and timing. CME believes that its methodology and timing for the Transition of CME cleared USD interest rate swaps is consistent and coordinated to an appropriate extent with the wider industry approach, such that a single day orderly transition to SOFR PA/discounting for cleared USD interest rate swaps by CME can be achieved while mitigating any ensuing valuation changes for market participants, thereby minimizing the risk of market disruption.

The single-day Transition to SOFR as the benchmark to value cleared USD interest rate swaps and to calculate price alignment is designed to achieve the goals of the ARRC Paced Transition Plan by encouraging and accelerating the further development of SOFR markets through the promotion of SOFR swaps, which is expected in turn to build associated liquidity in SOFR products. The Transition has also been designed to ensure a coordinated approach with wider industry initiatives for transition to SOFR PA/discounting for USD interest rate swaps to minimize potential market disruption. Based on feedback from market participants, the Transition includes a mechanism designed to mitigate any potential risks and valuation changes for market participants arising from the transition to SOFR PA/discounting by way of:

- (i) a cash adjustment process designed to neutralize value transfers attributable to the change in the discounting basis from EFFR to SOFR;⁴
- (ii) a re-hedging process designed to mitigate the potential participant hedging costs associated with the change in PA/discounting protocol from EFFR to SOFR for each cleared trade in affected CME cleared contracts and the sensitivity of valuations to closing curve marks on the Transition Date through the allocation of compensating SOFR vs EFFR basis swaps to participants; and
- (iii) a voluntary, centralized auction process to provide participants that do not wish to hold the compensating SOFR vs EFFR basis swaps with an efficient mechanism to liquidate such positions shortly after the Transition (the "SOFR Basis Swap Auction"),

further details of which are set out in this Advisory Notice.

This Advisory Notice sets out the binding rules and operational processes under which CME Clearing will implement the transition of the price alignment and discounting protocols from EFFR to SOFR with respect to open cleared trades in affected CME cleared products at the Transition Date, and for the calculation of price alignment and discounting in relation to such products following the Transition. This Advisory Notice also sets out the basis for the operation of the SOFR Basis Swap Auction by CME.

Terms used but not defined in this Advisory Notice shall have the meaning set out in the rules of CME (the "Rulebook").

³ <https://www.cmegroup.com/trading/interest-rates/files/discounting-transition-proposal-jun-2020.pdf>

⁴ Valuation changes will be determined by the USD discounting risk for the portfolio and the relative levels of the EFFR and SOFR forward curves at the time of the Transition Calculation.

CME cleared contracts subject to this Advisory Notice

The Transition will apply to the following CME cleared USD interest rate swap products (the “Affected Contracts”):

- Fixed / Float IRS
- Zero Coupon Swaps
- Overnight Index Swaps
- Basis Swaps
- Forward Rate Agreements
- Swaptions

Uncleared swaptions contracts that exercise into CME cleared swaps in Affected Contracts prior to the Transition Date will be subject to the Transition with respect to those Affected Contracts. Any Affected Contract accepted for clearing by CME after the Transition will be subject to SOFR PA/discounting from acceptance by the Clearing House and will not be subject to the cash adjustment or re-hedging process.⁵

Terms and Operation of Transition Process

1. From close of business (“COB”) on the Transition Date, CME Clearing will subject each open cleared trade in an Affected Contract to the following Transition process to update the EFFR PA/discounting protocol of such contract to SOFR PA/discounting:
 - (a) CME Clearing will calculate the net present value (“NPV”) utilizing EFFR (at closing curve levels on the Transition Date) for valuation and calculation of discounting and price alignment amount for each cleared trade in an Affected Contract. CME Clearing will then conduct an additional calculation to calculate the NPV utilizing SOFR (at closing curve levels on the Transition Date) for valuation and calculation of discounting and price alignment amount for each cleared trade in an Affected Contract (the “Transition Calculation”).
 - (b) CME Clearing will determine settlement variation for each cleared trade in an Affected Contract on the Transition Date utilizing EFFR (at closing curve levels on the Transition Date) for valuation and calculation of discounting and price alignment amount for the end of day clearing cycle on the Transition Date.
2. At the next end of day clearing cycle following the Transition Date, for each cleared trade in an Affected Contract, CME Clearing will:
 - (a) determine settlement variation utilizing SOFR for valuation and calculation of discounting and price alignment amount; and
 - (b) apply to each position in a cleared trade in an Affected Contract an offsetting cash adjustment that is equal and opposite to the change in such position’s NPV resulting

⁵ CME recognizes that the Transition for Affected Contracts may create ambiguities with respect to the exercise of legacy uncleared swaption contracts that expire after the date of the Transition and which anticipate EFFR PA/discounting for the resulting cleared interest rate swap on exercise. While this remains an issue for market participants and cannot be resolved directly by central counterparties (“CCPs”), which are not counterparties to the uncleared swaptions, we encourage the industry to resolve these ambiguities by agreeing to a set of industry protocols and practices to address the issue, in line with the recommendations of the ARRC published in May 2020, and subsequently updated in September 2020. See ARRC Recommendations for Swaptions Impacted by the CCP Discounting Transition to SOFR, available at <https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2020/ARRC-swaptions-recommendations.pdf>

from the change from EFFR to SOFR discounting as determined by CME Clearing during the Transition Calculation ("Cash Adjustment").

- (c) settle outstanding exposures and payments from the end of day clearing cycle (including for the avoidance of doubt, settlement variation and the Cash Adjustment) in accordance with CME Rule 814. The relevant Cash Adjustment will offset the change in NPV for each position arising from the discounting change such that the net cash flow with respect to the discounting change will be zero for each cleared trade in an Affected Contract per account.
3. After COB on the Transition Date CME Clearing will execute and book to each affected participant's account at no cost a series of CME cleared SOFR vs EFFR basis swaps or equivalent contracts at closing curve levels as of the Transition Date with a cleared date of October 19, 2020 (each a "Basis Swap") (the "Re-hedging Process") as follows:
- (a) each Basis Swap shall be on either a 2 year, 5 year, 10 year, 15 year, 20 year or 30 year tenor point (or such other tenor point determined by CME Clearing in its sole discretion);
 - (b) subject to the adjustment in sub-paragraph (c), the size and direction of each series of Basis Swaps will be determined by CME Clearing in its sole discretion to replicate approximately, to the extent practicable, the original discounting risk profile of the relevant participant's position at the point immediately prior to the Transition, based on the pre-defined tenor points in sub-paragraph (a), provided that each Basis Swap shall be subject to a minimum notional threshold amount which shall be USD 10,000 or such other amount notified by CME Clearing (the "Minimum Notional Threshold Amount"). In the event that a Basis Swap with respect to any tenor point relating to a participant's account would have a notional amount of less than the Minimum Notional Threshold Amount, CME Clearing shall not execute or book a Basis Swap for such tenor point with respect to such account;⁶
 - (c) CME Clearing will round to the nearest integer the notional value of each Basis Swap where such notional is calculated by CME pursuant to sub-paragraph (b) to be above the Minimum Notional Threshold Amount and CME Clearing will compute for such Basis Swaps across all position accounts and for each tenor point, (i) the total notional receiving EFFR leg and paying SOFR leg ("Total Notional Pay") and (ii) the total notional of all Basis Swaps receiving SOFR leg and paying EFFR leg ("Total Notional Receive") and:
 - (A) if Total Notional Pay is equal to or greater than Total Notional Receive, with respect to each position account that contains Basis Swaps at the relevant tenor paying EFFR leg and receiving SOFR leg, CME Clearing will increase the notional of each such Basis Swap on a pro-rata share basis to ensure a balanced book for each tenor point; or
 - (B) if Total Notional Pay is less than Total Notional Receive, with respect to each position account that contains Basis Swaps at the relevant tenor receiving EFFR leg and paying SOFR leg, CME Clearing will increase the notional of each such Basis Swap on a pro-rata share basis to ensure a balanced book for each tenor point; and

⁶ Given the limitations of granularity of the pre-defined tenor points or tenor "buckets", the Basis Swaps cannot exactly replicate the discounting risk value transfer in all cases and it follows that any Basis Swap allocated by CME in respect of an Affected Contract is necessarily an approximation of the original discounting risk profile of the relevant cleared trade.

- (d) CME Clearing will be the counterparty to and clearing house for each Basis Swap booked to a participant's account.
4. A position holder may propose by provision of prior written notice to CME Clearing prior to the Transition Date in the format and manner required by CME Clearing that CME Clearing should book to its account relevant Basis Swaps pursuant to paragraph 3 in the form of either:
 - (a) float-versus-float SOFR vs EFR basis swaps;
 - (b) combination of pairs of fixed-versus-float EFR and SOFR interest rate swaps with equal and opposite fixed cash flows at par.
 5. While CME Clearing will make reasonable efforts to implement an election made by a position holder with respect to Basis Swaps under paragraph 4, CME Clearing reserves the sole discretion not to implement such election. In the absence of an election made by a position holder under paragraph 4, CME Clearing will book Basis Swaps to such position holder's account in the form of float-versus-float SOFR vs EFR basis swaps.
 6. Following the Transition Date CME Clearing will apply SOFR PA/discounting to cleared trades in all Affected Contracts. The Cash Adjustment process and Re-hedging Process will apply only to open cleared trades in Affected Contracts at COB on the Transition Date. Any trade in an Affected Contract accepted for clearing by CME after the Transition Date will be subject to SOFR PA/discounting.
 7. Coupon payments on Affected Contracts are not affected by the Transition and will remain linked to the relevant original interest rate index, e.g. LIBOR in the case of a USD Fixed/Float IRS.
 8. The terms of this Advisory Notice and the Transition process are binding on Clearing Members and position holders in all Affected Contracts from October 16, 2020. To the extent that there is any conflict between the Rulebook and the terms of this Advisory Notice with respect to the Transition process, this Advisory Notice shall prevail.

The Cash Adjustment process and Re-hedging Process are mandatory processes. The Transition, the Cash Adjustment and the Re-hedging Process will therefore apply to all positions in cleared trades in Affected Contracts on the Transition Date. Market participants should consider the terms and impact of the Transition as set out in this Advisory Notice and take appropriate action prior to the Transition Date.⁷ Position holders that do not wish to participate in the Transition must close out any positions in Affected Contracts prior to the Transition Date.

Terms and Operation of CME SOFR Basis Swap Auction

1. On October 19, 2020 (the "Auction Date"), CME will operate a centralized auction process which shall be made available to market participants holding Basis Swaps allocated under the Re-hedging Process (the "SOFR Basis Swap Auction"). The SOFR Basis Swap Auction will provide market participants who do not wish to hold the Basis Swaps allocated as a result of the Re-hedging Process with a mechanism designed to liquidate such Basis Swaps.

⁷ While there is broad industry alignment on the timing and approach to the transition to SOFR PA/discounting, CME's approach to specific elements of the transition as set out in this Advisory Notice may not be the same as that adopted by other central counterparties.

2. Participation in the SOFR Basis Swap Auction is voluntary and is subject to such eligibility criteria and requirements as determined by CME in its absolute and sole discretion. Participants in the SOFR Basis Swap Auction ("Auction Participants") shall be subject to the CME SOFR Basis Swap Auction Participation Agreement (the "Auction Participation Agreement") and the CME SOFR Basis Swap Auction Protocol⁸, which shall govern the participation of Auction Participants in, and the operation of, the SOFR Basis Swap Auction.
3. The SOFR Basis Swap Auction process will be subject to a maximum loss limit determined by CME which shall be equal to the maximum dollar amount each Auction Participant could incur as a result of the SOFR Basis Swap Auction to liquidate the Basis Swaps in the account of the Auction Participant, stated in terms of basis points of discounting DV01 across all swap tenors within an Auction Participant account (the "Maximum Loss Limit"). The Maximum Loss Limit shall apply equally to each Auction Participant account. In the event CME determines in its absolute and sole discretion that execution of the SOFR Basis Swap Auction would exceed the Maximum Loss Limit, CME will not execute the SOFR Basis Swap Auction.
4. On the Auction Date, CME will:
 - (a) net down the gross payer and receiver discounting risk represented by the Basis Swaps in the accounts of Auction Participants to determine a residual exposure that will be subject to the auction (the "Auction Portfolio");
 - (b) determine the auction type and requirements for submission of a bid for the Auction Portfolio;
 - (c) provide details of and invite bids in relation to such Auction Portfolio from market participants registered to participate in the SOFR Basis Swap Auction as auction bidders (each, an "Auction Bidder"); and
 - (d) review valid bids for the Auction Portfolio received from Auction Bidders and determine the winning auction bid for the Auction Portfolio in its absolute and sole discretion,in each case in accordance with the CME SOFR Basis Swap Auction Protocol.
5. CME will not execute the SOFR Basis Swap Auction where CME determines that the winning auction bid for the Auction Portfolio would result in a loss to any Auction Participant in excess of the Maximum Loss Limit.
6. Where CME determines in its absolute and sole discretion to execute the SOFR Basis Swap Auction, CME will:
 - (a) execute and book CME cleared trades offsetting the Basis Swaps in the account of each Auction Participant at the end-of-day clearing cycle on the Auction Date;
 - (b) execute and book CME cleared trades in SOFR vs EFRF basis swaps to the account of each successful Auction Bidder at the end-of-day clearing cycle on the Auction Date; and
 - (c) allocate costs in respect of such actions,

⁸ The CME SOFR Basis Swap Auction Protocol is available at: <https://www.cmegroup.com/trading/interest-rates/files/sofr-basis-swap-auction-protocol.pdf>.

in each case in accordance with the CME SOFR Basis Swap Auction Protocol.

The CME SOFR Basis Swap Auction is a voluntary process. Firms wishing to participate in the SOFR Basis Swap Auction as an Auction Participant or as an Auction Bidder should register with CME and complete all required documentation. Further details are available in the CME SOFR Basis Swap Auction Protocol. CME cannot guarantee that the SOFR Basis Swap Auction will be successful or that the allocated costs of a successful auction would provide a better result for Auction Participants than close out of Basis Swaps by Auction Participants in a bilateral or other market.

Operational information

CME Clearing will update the relevant information on the applicable PA/discounting rate applicable to Affected Contracts in each case in:

- the end of day operational report (PAA Report and Trade Register report) made available by CME Clearing only to IRS clearing members via an sFTP site; and
- the CME OTC IRS Bookkeeping document, made available to IRS Clearing Members and their customers on request.

Inquiries regarding the aforementioned may be directed to:

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