

CME SOFR Basis Swap Auction Protocol

This document (the “Protocol”) provides a detailed description of the procedure for CME’s SOFR Basis Swap Auction. It is intended for use primarily for firms who are interested in participating and bidding in the CME SOFR Basis Swap Auction. CME reserves the right to make changes to this Protocol without notice. The latest version of this Protocol shall be maintained on the CME [website](#).

Introduction

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 In accordance with the ARRC’s Paced Transition Plan and the wider cash and derivative market initiatives, CME Group has worked with market participants and industry groups to develop a plan for transitioning the discounting and Price Alignment (“PA”) for cleared USD interest rate swap products from the daily Effective Federal Funds Rate (“EFFR”) to SOFR (the “Transition”).

Pending regulatory review / approvals, the Transition is targeted to occur at close of business (“COB”) on **October 16, 2020** (the “Transition Date”). As part of the Transition, to mitigate both the potential re-hedging costs for market participants resulting for the discounting change and to reduce the valuation sensitivity to the closing curve marks on the Transition Date, Chicago Mercantile Exchange Inc. (“CME” or the “Clearing House”) will book a series of mandatory re-hedging CME cleared EFFR/SOFR basis swaps (“Basis Swaps”) at the position account level for cleared trades subject to the Transition, at closing prices as at COB on the Transition Date and with a cleared date of October 19, 2020. Further details on the Transition are available on the CME Group [website](#).

All participants allocated Basis Swaps under the Transition process will have the opportunity to elect to unwind these re-hedging Basis Swaps via a CME-facilitated auction (the “SOFR Basis Swap Auction”), which will be held on Monday, **October 19, 2020** (the “Auction Date”), subject to regulatory review/approvals. Each Basis Swap holder that wishes to participate in the SOFR Basis Swap Auction (a “Participant”) shall be subject to the applicable rules, policies and procedures of CME, as such rules are established and modified from time to time (the “Rulebook”) and any additional requirements for participation determined by CME.

During the SOFR Basis Swap Auction process, CME will net down gross payer and receiver Basis Swap discounting risks across Participant firms and will facilitate the auction of the residual risk exposures (the “Auction Portfolio”) by soliciting bids from a range of auction bidding participants (“Auction Bidders”) to close out the Basis Swaps comprising the Auction Portfolio at a single fill price for each of the relevant Swap Tenors of Basis Swaps within the Auction Portfolio (2Y, 5Y, 10Y, 15Y, 20Y and 30Y) (the “Auction Clearing Price”). CME will determine the Auction Clearing Price for the Auction Portfolio from the bids submitted by the Auction Bidders in accordance with the terms of this Protocol. If the auction process is successful, CME will close out the Basis Swaps of each Participant at the Auction Clearing Price and allocate new basis swap cleared trades to the successful Auction Bidder(s) in the form specified in Section 1 of the Appendix (“New Basis Swap Cleared Trades”).

The SOFR Basis Swap Auction process will include a price protection limit to determine a limit for the Auction Clearing Price, representing a maximum USD amount that a Participant could incur with respect to

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.

the close out of any Basis Swap within the SOFR Basis Swap Auction (the “Maximum Loss Limit”). Where bids received from Auction Bidders for the Auction Portfolio would result in an Auction Clearing Price where the cost of liquidation of Basis Swaps would exceed the Maximum Loss Limit, the results of the SOFR Basis Swap Auction will not be executed and Basis Swaps submitted to the SOFR Basis Swap Auction will not be closed out by CME.

The SOFR Basis Swap Auction Service is an optional service. Any market participant holding a Basis Swap shall be entitled to participate in the SOFR Basis Swap Auction, subject to satisfaction of the conditions set out in this document and execution of any legal and operational documentation required by CME.

About the CME SOFR Basis Swap Auction Protocol

This Protocol provides operational level detail supplementing the relevant provisions of the Rulebook and the legal terms and conditions for the SOFR Basis Swap Auction set out in:

- the CME SOFR Basis Swap Auction Participation Agreement (the “Participation Agreement”) which must be put in place between CME and each Participant; and
- the CME SOFR Basis Swap Auction Bidder Terms (the “Auction Bidder Terms”) which must be put in place between CME and each firm wishing to bid in the SOFR Basis Swap Auction (an “Auction Bidder”).

This Protocol also provides information for prospective Participants, Auction Bidders and their IRS Clearing Members (“Participant Clearing Members”), including registration/onboarding requirements.

This Protocol forms part of (i) the Participation Agreement between CME and each Participant and (ii) the Auction Bidder Terms between CME and each Auction Bidder, and shall apply to participation in any SOFR Basis Swap Auction performed by or on behalf of CME in relation to the Transition.

Capitalized terms used in this document and not otherwise defined herein shall have the meaning set out in the Participation Agreement / the Auction Bidder Terms, as applicable. In the event of any conflict between this Protocol and the Participation Agreement, the Participation Agreement shall prevail. In the event of any conflict between this Protocol and the Auction Bidder Terms, the Auction Bidder Terms shall prevail.

CME may amend this Protocol at any time and without notice. Each Participant, Auction Bidder and each Participant Clearing Member agrees that it shall be bound by and shall comply with the requirements of the Protocol in effect from time to time.

CME may from time to time issue additional requirements for any SOFR Basis Swap Auction. CME shall notify Participants, Participant Clearing Members and Auction Bidders of these requirements which shall supplement this Protocol with respect to such SOFR Basis Swap Auction.

All inquiries regarding the CME SOFR Basis Swap Auction process should be sent to Onboarding_Clearing@cmegroup.com.

Transition and Auction Election Process Overview

As part of the Transition process to be established under the Rulebook, following close-of-business on October 16th, 2020, pending regulatory review/approval, CME will book a series of **mandatory** EFR/SOFR Basis Swaps at key maturity tenors (2Y, 5Y, 10Y, 15Y, 20Y, 30Y²) to each qualifying position account. Adding such swaps will (approximately) restore participants’ original discounting risk profiles and will be

² Please refer to Section 1 of the Appendix for the details on the re-hedging Basis Swap attributes.

booked at closing prices (\$0 NPV) on the Transition Date. All active position accounts with US Dollar swap exposure³ will receive these Basis Swaps.

Registration by Participants: Market participants wishing to liquidate their re-hedging Basis Swaps via the CME SOFR Basis Swap Auction should register for participation by the following process:

- Participants must:
 - notify their respective IRS Clearing Members of the Participant position accounts that will participate in the SOFR Basis Swap Auction (each, a “Participating Account”); and
 - return a signed copy of the Participation Agreement back to CME by **October 2nd, 2020**.
- Participant Clearing Members must:
 - agree the Participating Accounts with the Participant; and
 - confirm the Participating Accounts to CME and the participation of the Participant in the SOFR Basis Swap Auction by providing confirmation to CME of the Participating Accounts listed in the Client Election File by no later than **October 9th, 2020**.

Execution of the Participation Agreement constitutes a binding commitment of the Participant to participate in the SOFR Basis Swap Auction and to be bound by the result of any SOFR Basis Swap Auction.

Where the Participant Clearing Member has provided confirmation of the Client Election File, such Clearing Member shall be deemed to agree and accept: (i) the participation by Participant in the SOFR Basis Swap Auction with respect to the relevant Participating Accounts, (ii) the results of the SOFR Basis Swap Auction; and (iii) the close out of the Basis Swaps in each Participating Account by CME at the Auction Clearing Price and costs allocated in accordance with the Participation Agreement, in each case on the terms set out in the Participation Agreement.

Where any of the registration steps are not completed to the satisfaction of CME, the Participant shall not be permitted to participate in the SOFR Basis Swap Auction.

Maximum Loss Limit: As part of the Participation Agreement, CME will set the Maximum Loss Limit (as defined in the Participation Agreement in terms of basis points of gross discounting risk) which specifies the maximum possible loss the individual position account may incur as a result of participating in the auction. This loss, in dollar terms, is the greatest acceptable difference in value between the NPV of all re-hedging Basis Swaps as of the close of business on Friday, October 16th 2020 (i.e. \$0 NPV) and the Auction Clearing Price determined by the auction process on the morning of Monday, October 19th 2020.

CME’s Maximum Loss Limit mechanism is designed to protect customers from liquidating their basis swaps under adverse market conditions.⁴ The Maximum Loss Limit is determined by CME in its sole and absolute discretion, based on prevailing liquidity in the EFRR/SOFR basis swap market. The Maximum Loss Limit represents a limit to the Auction Clearing Price and shall be applied equally across all Participants.

Where the Auction Bids received by CME would result in an Auction Clearing Price where the cost of liquidation of Participant Basis Swaps for Participants would exceed the Maximum Loss Limit, as determined by CME in its absolute and sole discretion, CME will not execute the SOFR Basis Swap Auction and will take no further action.

Auction Bidders

³ The discounting risk need to be such that a corresponding re-hedging swap notional amount is no less than \$1.

⁴ Additional details regarding the re-hedging process can be found in our Discounting Transition Methodologies Whitepaper available at [].

Eligible Bidders: CME will invite CME IRS Clearing Members and/or other active market participants in the SOFR/Fed Funds market to bid in the auction. Bidding in the auction is voluntary. All invited Auction Bidders will be required to accept the Auction Bidder Terms and participate in a dry run for operational testing purposes, described in more detail below. It is permissible for a single corporate parent to have entities bid in the auction and liquidate positions so long as the entities maintain a separate Legal Entity Identifiers (LEI) and manage positions within separate operational and legal structures (e.g. Firewall).

Registration by Auction Bidders: Market participants wishing to submit bids for the Auction Portfolio in the CME SOFR Basis Swap Auction should register for participation as an Auction Bidder by the following process:

- Auction Bidders must:
 - notify CME of their intention to participate as an Auction Bidder by September 4th, 2020;
 - notify their respective IRS Clearing Members, where the Auction Bidder is not an IRS Clearing Member, of the intention to submit auction bids for the Auction Portfolio in the SOFR Basis Swap Auction; and
 - return a signed copy of the Auction Bidder Terms back to CME by **October 2nd, 2020**.
- Where the Auction Bidder is not an IRS Clearing Member, the IRS Clearing Member must, as applicable:
 - agree the participation of the Auction Bidder; and
 - confirm the participation of the Auction Bidder to CME by no later than **October 9th, 2020**.

Only market participants that have entered into the Auction Bidder Terms and meet all relevant eligibility criteria required by CME shall be permitted to participate in the SOFR Basis Swap Auction in the capacity as an Auction Bidder.

Execution of the Auction Bidder Terms constitutes a binding commitment of the Auction Bidder to participate in the SOFR Basis Swap Auction and to be bound by the result of any SOFR Basis Swap Auction. The IRS Clearing Member of the Auction Bidder shall be responsible and liable to CME for any obligations of the Auction Bidder arising in connection with the submission of any Auction Bid by the Auction Bidder.

Auction Specification

Eligible Basis Swaps for inclusion in the Auction: The SOFR Basis Swap Auction will operate exclusively with respect to Basis Swaps arising from the Transition and allocated to the account of a Participant by the Clearing House during the Transition. Basis Swaps may comprise any of the following CME cleared swaps:

- Swap Tenors: 2Y, 5Y, 10Y, 15Y, 20Y, 30Y
- Swap types:
 - Float-versus-float basis swaps (EFFR/SOFR)
 - Pairs of fixed versus float swaps (EFFR and SOFR) with equal and opposite cash flows at par
- Cleared date of the Auction Date in each case.

By executing the Participation Agreement and registering for the SOFR Basis Swap Auction, each Participant acknowledges and agrees that all Basis Swaps held in the relevant Participating Account will be submitted to the SOFR Basis Swap Auction.

No other CME cleared swaps, including in those products listed above shall be eligible for participation in the SOFR Basis Swap Auction.

New Basis Swap Cleared Trades awarded to Auction Winner(s): Auction Winners will be awarded EFFR/SOFR basis swaps, specified in Section 1 of the Appendix, at each relevant Swap Tenor in the account of each Auction Winner with the relevant IRS Clearing Member (with the Clearing House as counterparty), representing the relevant part of the Auction Portfolio satisfied by the Auction Winner's successful Auction Bid.

Portfolio to Auction: CME will first net down payer and receiver re-hedging Basis Swaps for the six tenor points (2Y, 5Y, 10Y, 15Y, 20Y and 30Y) across all position accounts of Participants electing to participate in the auction, thus determining the aggregate portfolio of Participant Basis Swaps to be auctioned off (the "Auction Portfolio"). In addition, to hide the portfolio's direction, CME will create a mirror image portfolio, containing the same positions but in the opposite direction (together, the "Auction Portfolios"). The bidders will be asked to bid on both Auction Portfolios, although only bids for the actual Auction Portfolio will determine the Auction Clearing Price for the Basis Swaps. Masking of the direction of the Auction Portfolio is necessary to protect the Auction Winner(s) and the participating customers in case the auction is not executed. The total portfolio size will be communicated to Auction Bidders at the onset of the auction irrespective of the auction style.

The following reports and messaging will be made available to eligible Auction Bidders shortly before the commencement of the auction:

- IRS Trade Register (2): One for each portfolio
- IRS Cash Flow Report (2): Projected cash flows for each Basis Swap within the two portfolios
- Clearing Confirmed Messages (12): Full Basis Swap economics in FpML that may be used to load trades directly into Auction Bidder firm's risk applications
- Market Data files as of COB 10/16 settlement run.

Auction Style: The auction style will be determined by CME based on the size of the Basis Swap positions within the Auction Portfolio. For risk exposures that may comfortably be consumed by a single Auction Bidder in the sole and absolute discretion of CME, CME may utilize a "Winner-takes-all" auction style, otherwise CME may elect to run a "Dutch-style" auction. Below is a brief description of each auction style:

- **Winner-takes-all:** Auction Bidders are asked to bid on the entire Auction Portfolio. At the end of the auction, all bids are sorted from "best" to "worst" (as determined by CME, from its perspective), and the portfolio is awarded to the "best" bid, which determines the Auction Clearing Price. In case of a tie, the portfolio will be split equally among the Auction Winners.
- **Dutch-style⁵:** The Auction Portfolio is divided into a defined number of slices and the Auction Bidders are asked to bid on one or more of these slices. The portfolio slices are awarded to multiple winners at the same execution price.
 - Portfolio divided into "vertical slices", smallest of which represents the minimum bidding size, e.g. 10% of the entire portfolio
 - Each Auction Bidder submits a bid for either the minimum bidding size, and/or any other size, as provided by CME. An Auction Bidder may choose to bid on multiple sizes and can be awarded up to the largest size for which it submitted a bid
 - The Auction Clearing Price is determined by CME, based on the last accepted bid (i.e. worst from the CME perspective) that clears the entire portfolio, thus if the auction is executed, all winning bidders get filled at the same (clearing) price.

⁵ A numerical example of a Dutch-style auction awarding can be found in Section 2 of the Appendix.

Irrespective of the auction style, if the Auction Clearing Price of the portfolio results in a cost of liquidation greater than the Maximum Loss Limit for any of the Participant position accounts, the entire auction will not be executed.

To help facilitate Auction Bidders obtaining necessary credit lines with IRS Clearing Members, CME will communicate the auction style during the week of October 12th. This information will be provided and should be kept confidential by Auction Bidders in accordance with the Auction Bidder Terms/NDA. However, CME does not intend to disclose the size or direction of the portfolio in advance of the auction.

Auction Venue: The bidding in the SOFR Basis Swap Auction (including the distribution of the details of the Auction Portfolio and market data reports, and auction-related communications) will be facilitated on the CME Auction Platform⁶ (<https://cme.auctionplatformservices.com>). Auction Bidders must ensure they have all required credentials and operational capability to use the CME Auction Platform prior to the Auction. In the event of experiencing any operational issues with the CME Auction Platform, an Auction Bidder must contact CME immediately.

Bidding Convention: Auction Bidders will be asked to provide NPV-based Auction Bid submissions in USD terms for the Auction Portfolios. Such submissions should reflect the relevant portfolio's NPV as of the time of bidding (i.e. incorporate mark-to-market gains or losses of the portfolio from the previous settlement cycle, COB October 16th), plus any hedging and other costs. A negative bid means CME pays the Auction Bidder, and a positive bid means CME receives from the Auction Bidder.

Submission of an Auction Bid is voluntary and an Auction Bidder may choose not to submit an Auction Bid. Each Auction Bid shall contain a price for each of the Auction Portfolios in accordance with the bidding requirement for the relevant Auction Type. Each Auction Bid must remain open shortly after the relevant auction deadline until the Clearing House has awarded the Auction. CME reserves the right to reject any Auction Bid in its sole and absolute discretion.

Auction Timeline: CME plans to commence the auction on CME Auction Platform between 9-10am ET on Monday, October 19th, 2020, giving bidders access to download portfolio reports, market data and to begin the bidding process on both Auction Portfolios. The precise timeline will be communicated to the bidders a few weeks prior to the Auction Date, which shall include a commencement time and deadline for bid submission. Auction Bidders will be allowed to update their bids at any point during the auction prior to the deadline for bid submission communicated by CME. CME will monitor the bidding and may contact bidders if there is an issue with their submissions.

CME shall be entitled to amend any auction date or time in its absolute and sole discretion and at any time with immediate effect, and CME shall notify Auction Bidders, Participants and IRS Clearing Members of any such amended dates and times by notice / by email to participating firms.

Following the deadline for bid submission, CME shall review all valid Auction Bids and shall determine, based on the Auction Type and the "best" Valid Auction Bids, in the sole and absolute discretion of the Clearing House:

- i. the winning Auction Bidder(s) and relevant Auction Clearing Price for the Auction Portfolio; and
- ii. whether the Auction Clearing Price determined by the Auction Bids and Auction Type would exceed the Maximum Loss Limit.

Where CME determines that insufficient Auction Bids have been received by CME or where the Auction Clearing Price exceeds the Maximum Loss Limit, CME will as soon as reasonably practicable notify all

⁶ Additional information about the CME Auction Platform can be found in Section 3 of the Appendix.

Auction Bidders, Participants and IRS Clearing Members that the SOFR Basis Swap Auction has not been successful with respect to all Basis Swaps and Swap Tenors. In such circumstances CME will take no action with respect to Basis Swaps in Participating Accounts. Participants that wish to liquidate their Basis Swaps must seek alternative means of liquidation, for example, taking action to close out their Basis Swaps in the bilateral market.

Where CME determines that the Auction Clearing Price does not exceed the Maximum Loss Limit, CME will proceed to execute the auction.

Auction Results, Reporting and Cost Allocation: If the auction is executed, CME intends to notify the Auction Winner(s) of the Auction Clearing Price as soon as reasonably practicable of the auction's closing. Participants, and their respective Clearing Members will be notified of the results as soon as practicable. CME will also publish a Clearing Advisory to communicate to the broader marketplace whether the auction was executed, and if executed, the fill level of the auction in basis points of the gross discounting DV01.

Following the communication of the successful auction, CME will book the following trades resulting from the SOFR Basis Swap Auction:

- i. offsetting trades with respect to the Basis Swaps in each Participating Account to close out the relevant Basis Swaps; and
- ii. EFR/SOFR basis swaps at each relevant Swap Tenor with a cleared date of October 19th, 2020 ("New Basis Swap Cleared Trades") in the account of each Auction Winner with the relevant IRS Clearing Member (with the Clearing House as counterparty) representing the relevant part of the Auction Portfolio satisfied by the Auction Winner's successful Auction Bid.

For the Participating Accounts, CME will allocate the auction charge to each Participating Account based on its pro-rata share of the auctioned portfolio's gross discounting DV01 and book offsetting trades as set out above.⁷ This will be done in the form of an upfront fee on the Basis Swap with the shortest tenor in the Participating Account that will settle the morning of Tuesday, October 20th.

Auction Winner(s) will see their New Basis Swap Cleared Trades posted to their nominated accounts as part of the October 19th clearing cycle. The associated bid value will also settle the morning of Tuesday, October 20th, in the form of an upfront fee on the New Basis Swap Cleared Trades.

The New Basis Swap Cleared Trades resulting from the SOFR Basis Swap Auction shall be binding on the Auction Winner and the relevant IRS Clearing Member, absent manifest error. New Basis Swap Cleared Trades shall comprise cleared contracts subject to the Rulebook and shall be cleared at the Clearing House.

The offsetting Basis Swap trades in Participating Accounts and the New Basis Swap Cleared Trades awarded to each Auction Winner will be reported to relevant IRS Clearing Members as follows:

- Clearing Confirmed (FpML) messages will be provided to IRS Clearing Members following the completion of the auction;
- End of day reporting via existing IRS Trade Register to IRS Clearing Members.

Auction Dry-run(s): CME will hold up to two "dry-runs" of the auction procedure for the purposes of operational testing. The first, which is mandatory for all Auction Bidders, will be held on September 21st. If CME elects to hold a second dry-run for additional testing, this will be held on September 28th. During these dry-runs, CME and the Auction Bidders will go through the entire bidding process:

⁷ Additional details about the cost allocation and booking of the offsetting trades can be found in Section 4 of the Appendix.

- CME will upload hypothetical portfolio reports and market data to the CME Auction Platform,
- the Auction Bidders will be asked to bid on the two (mirror) portfolios, and
- the auction would be “mock” awarded.

The dry-runs will be used to test operational aspects of the auction and ensure that the Auction Bidders have proper access to the CME Auction Platform and are familiar with the bidding process.

SDR Reporting: CME Clearing will report (i) the original Basis Swaps, booked as part of the re-hedging process within the Transition at close-of-business on October 16th 2020, and (ii) the offsetting basis swaps, resulting from the CME SOFR Basis Swap Auction, to CME Swap Data Repository via CFTC’s Part 45 (End of Day) swap reporting.

Auction Specification Summary

Auction Date	October 19th, between 9am and 10am ET
Auction Venue	CME Auction Platform (https://cme.auctionplatformservices.com)
Auction Participation	Voluntary
Auction Styles (one of the two)	1) Winner-takes-all, or 2) Dutch-style, as determined by CME in its sole and absolute discretion
Number of Auction Portfolios	Two. One represents real exposures, the other represents a mirror image
Number of Swap Trades in each Auction Portfolio	Six SOFR basis trades in the following tenors: 2Y, 5Y, 10Y, 15Y, 20Y, 30Y
Total Portfolio Size	Revealed during auction
Bidders	Select CME IRS Clearing Members and non-members
Bidding Convention	NPV-based submission
Bidding Format	2-way bidding (i.e. the real direction not known)
Execution	Entire Portfolio or None
Awarded Amount	Up to the largest size for which an Auction Bidder submitted a bid
Tie Procedure	Equally among Auction Winners with the same bid

Participant Protections and Auction Risks

CME has designed the Transition and the SOFR Basis Swap Auction process to promote efficient market functionality and reduce the risk of market dislocations for Participants. This will be accomplished by:

- Not disclosing the size of the Auction Portfolio before the commencement of the auction on the Auction Date.
- Not disclosing the direction of the Auction Portfolio, requiring Auction Bidders to submit two-way bids.

- Protecting Participants from liquidating their Basis Swaps under adverse market conditions by use of the Maximum Loss Limit. Where market dynamics cause the Auction Clearing Price to exceed this limit, the SOFR Basis Swap Auction would not execute, providing Participants the opportunity to re-evaluate their approach.

Participants should read and understand the following risks associated with the SOFR Basis Swap Auction:

- On signing the Participation Agreement, the outcome of the SOFR Basis Swap Auction and the Auction Clearing Price as determined by CME in accordance with the Protocol shall be binding on each Auction Bidder, Participant and Participant Clearing Member;
- The outcome of the SOFR Basis Swap Auction and the Auction Clearing Price is determined by the Auction Bids received by CME. The Auction Clearing Price may be different to the cost of liquidation of the Basis Swaps by the Participant in the bilateral market.
- A large move in the SOFR/Fed funds basis price from the Transition Date to the Auction Date may jeopardize CME's ability to execute an auction as the resultant mark-to-market may exceed the Maximum Loss Limit.
- Where bids received from Auction Bidders would result in an Auction Clearing Price that would result in a cost of liquidation that exceeds the Maximum Loss Limit, the results of the SOFR Basis Swap Auction will not be executed and Basis Swaps submitted to the SOFR Basis Swap Auction will not be closed out by CME.
- In certain circumstances outlined in the Protocol and the Participation Agreement, the SOFR Basis Swap Auction may fail to determine a valid Auction Clearing Price such that the SOFR Basis Swap Auction will not be executed by CME. In such cases CME will not take any action to close out Basis Swaps of Participants submitted to the SOFR Basis Swap Auction.
- If there is no, or limited, position netting within the Basis Swaps making up the Auction Portfolio, i.e. all or a significant majority of Participants' Basis Swaps are in the same direction, this may materially diminish the auction benefits and increase the cost of the auction relative to the cost of close out of Basis Swaps in the bilateral market due to the large concentrated risk being auctioned off at the same time (when compared with bilateral trading which may be spread over longer period of time).
- A partial fill is not possible under CME's SOFR Basis Swap Auction methodology for either Auction Type.
- In certain circumstances CME may be required in its sole and absolute discretion to delay, suspend or cancel the Transition, including the SOFR Basis Swap Auction.

Testing and Operational and Technical Support

Participants that encounter operational issues should contact Onboarding_Clearing@cmegroup.com for assistance.

Legal Disclaimer

Participants, Auction Bidders and Clearing Members should review the relevant Rulebook provisions, Participation Agreement and Auction Bidder Terms, as applicable, in addition to this Protocol. Current rules, policies, procedures, guidelines and governing documents should be consulted in all cases including matters relevant to contract specifications. The examples provided in this document are hypothetical and provided for informational purposes only. While CME Group strives to provide accurate and timely information, there may be inadvertent inaccuracies, errors and omissions. We reserve the right to make changes and corrections to this Protocol at any time, without notice. The content is provided on an "AS IS," "AS AVAILABLE" Basis. CME Group does not warrant the accuracy or completeness of the information provided herein, and CME Group expressly disclaims liability for errors or omissions in these materials. CME Group makes no commitment to update the information contained in this document. No representations or warranties are made, and nothing herein shall be construed to amount to an opinion.

Appendix

1. New Basis Swap Cleared Trades Attributes

Index: USD-SOFR-OIS-COMPOUND vs USD-Federal Funds-H.15-OIS-COMPOUND	
Start Date: October 21, 2020	Maturity Date: + {2yr, 5yr, 10yr, 15yr, 20yr, 30yr}
Roll Convention: 21	Day Count: Act/360
Cal Period Frequency: 3M	Cal Period Adj Calendar: USNY
Payment Frequency: 3M	Payment Calendar: USNY
Payment Offset: 2D	Payment Related to: End Period
Spread: On SOFR Leg	Comp Method: Spread Exclusive
Fixing Date Calendar: SOFR Leg - USGS; EFR Leg – USNY	
Fixing Index Tenor: 1D	Fixing Date Offset: 0D
Fixing Date Type: Business	Fixing Date Business Date Convention: Preceding

2. Example of Dutch-style auction awarding:

Assume that the Auction Portfolio has \$2M Net DV01, and that there are 5 Auction Bidders, each having an option to bid on three sizes: 20%, 30%, and 50% of the portfolio. Hypothetical bids and ranking/awarding results are shown below:

Bidder 1

% of Portfolio	Bid	Normalized Bid
20	(250,000)	(1,250,000)
30	(450,000)	(1,500,000)
50	(800,000)	(1,600,000)

Bidder 2

% of Portfolio	Bid	Normalized Bid
20		
30	(400,000)	(1,333,333)
50		

Bidder 3

% of Portfolio	Bid	Normalized Bid
20		
30	(600,000)	(2,000,000)
50	(1,400,000)	(2,800,000)

Bidder 4

% of Portfolio	Bid	Normalized Bid
20	(450,000)	(2,250,000)
30	(800,000)	(2,666,667)
50	(1,550,000)	(3,100,000)

Bidder 5

% of Portfolio	Bid	Normalized Bid
20		
30	(600,000)	(2,000,000)
50	(1,550,000)	(3,100,000)

Ranking and Awarding

Bidder	% of Portfolio	Bid	Normalized Bid	Award Status	Portfolio % Awarded	Awarded Value (CME Pays)
1	20	(250,000)	(1,250,000)			
2	30	(400,000)	(1,333,333)	AWARDED	30	(600,000)
1	30	(450,000)	(1,500,000)			
1	50	(800,000)	(1,600,000)	AWARDED	50	(1,000,000)
3	30	(600,000)	(2,000,000)	AWARDED	10	(200,000)
5	30	(600,000)	(2,000,000)	AWARDED	10	(200,000)
4	20	(450,000)	(2,250,000)			
4	30	(800,000)	(2,666,667)			
3	50	(1,400,000)	(2,800,000)			
4	50	(1,550,000)	(3,100,000)			
5	50	(1,550,000)	(3,100,000)			

Awarded Bid	Excluded Bid	Clearing Price

Notes:

1. Normalized Bid = Bid / % of Portfolio
2. Awarded Value = Clearing Price * Portfolio Slice Awarded
3. Bids are considered tied if different bidders give the same Normalized Bids for the same size of the portfolio. In the example, there is a tie between Bidder 3 and Bidder 5 for bids on 30% of the Portfolio. The remaining 20% of the portfolio (i.e. 20% = 100% - 30% awarded to Bidder 2 - 50% awarded to Bidder 3) will be split between these 2 bidders and each winner will be awarded 10%.

3. Auction Platform Details

User Setup: There are three user types (CME call them “Roles”) that can be assigned to an individual representing an Auction Bidder. Each individual can be assigned one, two, or all three roles at once as necessary and as relevant:

- a) **Member Firm Admin:** The first type is a Member Firm Admin (“Admin”). They are CME’s main points of contact at the firm in case CME needs to disseminate any information or have a request for your firm. The Admin roles are usually assigned to people whose task is to coordinate the relationship with CME and who also have the capacity to mobilize and coordinate internal resources. The Admins make sure the right roles are assigned to the right individuals, and make changes, as necessary.
The “Member Firm Admin” user can be created in the Platform by CME staff only. Once created, the Admin is able to change his or her own or other User’s roles, create new users (except other Member Firm Admins), etc. within his/her firm. If CME urgently need to reach out to one of your traders, we fully expect to find most updated information in the Platform, including names and contact details, for all of your Firm’s traders currently involved in the CME auction process.
- b) **AIC:** The second type of a user is AIC (“Auction Information Center”). This role is usually assigned to Back- and Middle office staff, as well as to Legal and Compliance, to allow them to download any Auction related documentation, such as various portfolio reports, market data, etc. provided by CME.
Please note that the AIC users cannot create or change other users or submit bids for the auctions.
- c) **Bidder:** The third type of user is “Bidder” – these are usually the traders participating in the auctions. Only the users with the “bidder” permission can enter legally binding bids on behalf of their firms.

One individual can be assigned multiple roles – for example, a trader can also be assigned an AIC role, such that he or she can download and read portfolio reports ahead of an auction. We expect that most people within your Firm will have either AIC or a Bidder role, or both.

Please note that CME does not have permission to set up any type of users other than Member Firm Admins. This ensures that all additional roles are added at your end by your existing Member Firm Admins. The list of existing Member Firm Admins for each Firm is available upon request. If you need any assistance

Bidding Screens: Below are the sample bidding screens for Winner-takes-all and Dutch-style auctions

Winner-takes-all sample screen:

Bidding Screens: Below are the sample bidding screens for Winner-takes-all and Dutch-style auctions

Winner-Takes-All Auction Sample Bidding Screen

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Home | Manager | Auction Info | **Bidding** | Reporting

Bidding : Edit/Enter Bids Mock Auction
IRS/SEALED BID
Bid Center closes in: 0 0 : 18 : 53
Date: 16 Mar '20

SAVE/SUBMIT ►►
UPLOAD BIDS
DOWNLOAD BIDS

Please make sure that all swaps are priced as if they were to be cleared at CME.

PORTFOLIO	PORTFOLIO MARGIN	POSITION	PREVIOUS DAY SETTLEMENT	SWAPS		FUTURES			DECLINE TO BID	BID STATUS
				BID (Actual Value)	MID	BID	OFFER	MID		
(1) SOFR Portfolio 1	15,000,000 USD		NPV=0 USD a/o: 07/28/2020 18:00	<input type="text"/> USD	<input type="text"/> USD	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	NONE
(2) SOFR Portfolio 2	15,000,000 USD		NPV=0 USD a/o: 07/28/2020 18:00	<input type="text"/> USD	<input type="text"/> USD	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	NONE

Home | Select Auction | Manager | Manage Auction | Award Auction | Create Auction | Edit Auction | Create Portfolio | Edit Portfolio | Manage AIC | AIC Summary | Auction | Documents | Portfolio | Documents | Auction Updates | Invites | Companies | Users | **Bidding** | Enter Bids | View Bids

Dutch Style Auction Sample Bidding Screen

CME Group | How the world advances Logout

Home | Manager | Auction Info | **Bidding** | Reporting

Bidding : Edit/Enter Bids IRS Dutch
IRS/ LIQUIDATION/ DUTCH
Bid Center closes in: 0 1 : 43 : 17
Date: 16 Mar '20

SAVE/SUBMIT ►►

PORTFOLIO NAME & DESCRIPTION	% OF PORTFOLIO	BID (Actual Value)	100% BIDDER MID	PROPORTIONAL BIDDER MID	BID STATUS
(1) SOFR Portfolio 1 100% Portfolio NPV = 0 USD 100% Portfolio Margin = 15,000,000 USD a/o: 07/28/2020 18:00	20	<input type="text"/> USD	<input type="text"/> USD	0 USD	NONE
	30	<input type="text"/> USD		0 USD	NONE
	50	<input type="text"/> USD		0 USD	NONE
(2) SOFR Portfolio 2 100% Portfolio NPV = 0 USD 100% Portfolio Margin = 15,000,000 USD a/o: 07/28/2020 18:00	20	<input type="text"/> USD	<input type="text"/> USD	0 USD	NONE
	30	<input type="text"/> USD		0 USD	NONE
	50	<input type="text"/> USD		0 USD	NONE

Home | Select Auction | Manager | Manage Auction | Award Auction | Create Auction | Edit Auction | Create Portfolio | Edit Portfolio | Manage AIC | AIC Summary | Auction | Documents | Portfolio | Documents | Auction Updates | Invites | Companies | Users | **Bidding** | Enter Bids | View Bids

4. Details on Cost Allocation and Booking Trades

If the SOFR Basis Swap Auction is executed, CME will allocate the auction charge to individual participating position accounts (Participating Accounts) (based on pro-rata share of Gross Discounting DV01) and book offsetting trades to such accounts. Auction cost for a position account is calculated as:

$$Auction\ Cost_{Position\ Account} = -Auction\ Charge \times \frac{Gross\ Discounting\ DV01_{Position\ Account}}{\sum_i Gross\ Discounting\ DV01_i}$$

where $i \in$ {all position accounts participating in the auction}.

The auction cost for each Participant will be assigned to the offsetting swap with the shortest tenor in the form of an upfront fee. This upfront fee will bank the morning of Tuesday, October 20th.

Offsetting swaps will be booked into each Participant Account and auto-netted against the original re-hedging Basis Swaps. The original and offsetting Basis Swaps will be Terminated as part of the EOD clearing cycle on October 19th.

Hypothetical example

Assume that the CME-defined Maximum Loss Limit is 3 bps. There are 5 Participating Accounts, and their respective exposures are presented in Table 1 below. Gross DV01 is calculated as a sum of the absolute DV01 amounts for each tenor. The Maximum Loss Limit (\$) is then calculated as a Gross DV01 multiplied by 3 (i.e. the number of bps in this example).

Table 2 shows the net risk of the Auction Portfolio broken down by tenor. Total auction cost is assumed to be \$3mm.

Table 3 shows the cost allocation to each of the Participating Accounts in accordance with the formula above. The proportional Gross DV01 for each account is calculated as a Gross DV01 for that account divided by the Total Gross DV01.

Table 1: Bucketed Delta Ladder for the 5 Position Accounts Elected to Participate in Auction

Bucketized Delta Ladder	EFFR - SOFR Basis: 2Y	EFFR - SOFR Basis: 5Y	EFFR - SOFR Basis: 10Y	EFFR - SOFR Basis: 15Y	EFFR - SOFR Basis: 20Y	EFFR - SOFR Basis: 30Y	Gross DV01	Maximum Loss Limit (\$)
Position Account 1	(\$79,000)	\$293,000	\$32,000	\$668,000	(\$286,000)	(\$642,000)	\$2,000,000	\$2,000,000 * 3bps = \$6,000,000
Position Account 2	(\$551,000)	(\$510,000)	\$389,000	\$1,148,000	\$158,000	(\$244,000)	\$3,000,000	\$3,000,000 * 3bps = \$9,000,000
Position Account 3	\$45,000	(\$85,000)	(\$30,000)	(\$840,000)	\$ -	\$ -	\$1,000,000	\$1,000,000 * 3bps = \$3,000,000
Position Account 4	(\$39,000)	\$205,000	\$377,000	(\$245,000)	(\$117,000)	(\$17,000)	\$1,000,000	\$1,000,000 * 3bps = \$3,000,000
Position Account 5	\$667,000	(\$184,000)	(\$741,000)	(\$597,000)	\$1,622,000	\$1,189,000	\$5,000,000	\$5,000,000 * 3bps = \$15,000,000
Total Gross DV01							\$12,000,000	

Table 2: Bucketed Delta ladder of the Auction Portfolio

Bucketized Delta Ladder	EFFR - SOFR Basis: 2Y	EFFR - SOFR Basis: 5Y	EFFR - SOFR Basis: 10Y	EFFR - SOFR Basis: 15Y	EFFR - SOFR Basis: 20Y	EFFR - SOFR Basis: 30Y	Net DV01	Auction Premium (\$)
Auction Portfolio	\$43,000	(\$281,000)	\$27,000	\$134,000	\$1,377,000	\$286,000	\$1,586,000	\$3,000,000

Table 3: Auction Cost Allocation

Account	Proportional Gross DV01	Auction Cost Allocation
Position Account 1	2/12	2/12 * \$3,000,000 = \$500,000
Position Account 2	3/12	3/12 * \$3,000,000 = \$750,000
Position Account 3	1/12	1/12 * \$3,000,000 = \$250,000
Position Account 4	1/12	1/12 * \$3,000,000 = \$250,000
Position Account 5	5/12	5/12 * \$3,000,000 = \$1,250,000

Revision History for CME SOFR Auction Protocol

Version	Date	Author(s)	Revision(s)
1.0	8/4/2020	CME Risk / Legal Teams	Initial Document