

# USD BSBY Cleared Swap Conversion

June 2024

# Subject to Discussion and Regulatory Review

The contents of this document are for informational purposes only and provide an overview of CME's plan to facilitate the conversion of Bloomberg Short-Term Bank Yield Index ("BSBY") cleared swaps to reference the Secured Overnight Financing Rate ("SOFR") ahead of the BSBY cessation date announced by Bloomberg Index Services Limited ("BISL"), the administrator of BSBY. The plan is subject to change at any time without prior notice. Any implementation of any final conversion plan is subject to regulatory review and to any necessary internal and external approvals.

# Agenda

## 1 Introduction to Conversion Plan

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## 2 Primary Conversion Methodology

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## 3 Operational Processing

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# Background on Conversion Plan

## USD BSBY Phase-out

On November 15, 2023, following a consultation period that was subject to the oversight of the BSBY Oversight Committee (“BSBY OC”), Bloomberg Index Services Limited (“BISL”) [announced](#) the future permanent cessation of the Bloomberg Short-Term Bank Yield Index (“BSBY”) index and the publication of rates for all BSBY tenors. The cessation of BSBY will take effect on Friday, November 15, 2024, immediately following the publication of the rate for each BSBY tenor.

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## CME Plan

For background, at the time of the BSBY cessation announcement, BISL confirmed that it will not be calculating or recommending a fallback replacement rate for BSBY. This is unlike recent prior IBOR cessation events, where replacement risk-free-rates (“RFRs”) were defined and the ISDA IBOR Fallback protocols were leveraged to help facilitate conversions of cleared swaps indexed to the legacy benchmark rates. As such, CME consulted with the marketplace and the pool of participants holding CME-cleared BSBY swaps in order to define the best path forward.

Based on the positive outcomes achieved from other recent index cessation events, including for USD LIBOR cleared swaps, CME plans to leverage a similar playbook whereby any legacy in-scope BSBY swaps will be converted into corresponding SOFR overnight index swaps (“OIS”) prior to the November 15, 2024 cessation event. This conversion of USD BSBY swaps benefits the marketplace by:

- ✓ Transitioning exposures to the liquid pool of SOFR overnight index swaps (“OIS”); ensuring that the swaps are eligible to remain in clearing
- ✓ Providing participants certainty that “legacy” and “new” contracts would be fungible with one another upon transition to SOFR OIS

# CME Fallback Methodology and CME-Calculated Fallback Spreads

- Absent a formalized industry fallback protocol to follow, CME has consulted with market participants and received support for running a conversion process that utilizes the ISDA IBOR fallback methodology applied for prior RFR transitions
- In connection with this plan, CME has calculated fallback spreads to daily compounded SOFR for each of the 1M and 3M BSBY tenors, using methodology consistent with the approach used by BISL during prior fallback spread calculations for IBOR rates
  - CME has considered November 15, 2023, as the “spread adjustment fixing date” for BSBY for the purposes of this calculation
- The below spreads are calculated as the median between BSBY and daily compounded SOFR over the preceding five-year period. This spread will be used in conversion pricing for BSBY trades (based on ISDA IBOR fallback methodology) and will be applied as a spread on the floating leg of the SOFR OIS replacement that results from the conversion process:

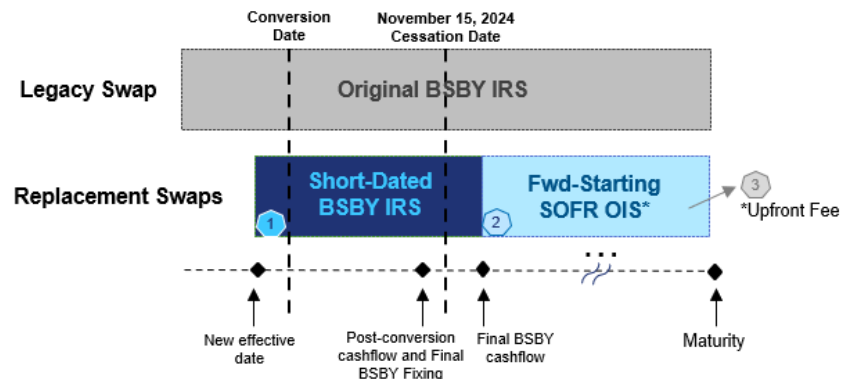
BSBY Tenor	CME-Calculated Spread (bps)
1M	3.403
3M	12.878

# Conversion Plan for CME Cleared USD BSBY Swaps

Based on feedback from market participants, CME is implementing a similar conversion approach that was deployed for USD LIBOR cleared swaps in Q2 2023:

For each cleared BSBY swap, CME plans to convert the original BSBY Swap to the following:

1. **A short-dated BSBY swap** that is designed to capture any BSBY fixings scheduled to occur prior to the cessation date (economics from the legacy swap would carry over);
2. **A forward starting SOFR overnight index swap (“OIS”)** that will maintain the legacy swap’s fixed rate, replace the BSBY floating rate with daily compounding SOFR plus the CME-calculated fallback spread, and will apply a 2D payment offset to both the fixed and floating legs. This swap will become effective once the short-dated BSBY replacement swap expires, and its maturity will match the original legacy swap
3. **A cash adjustment in the form of an upfront fee** will be included on the forward starting SOFR OIS to account for any differences between the legacy BSBY swap valued under conversion pricing and the corresponding replacement swaps booked by CME at the time of conversion



# Conversion Plan for CME Cleared USD BSBY Swaps

## Summary

**Scope:** All cleared USD BSBY swaps that contain fixings beyond the Index Cessation Effective Date (“ICED”) of November 15, 2024

**Conversion Timing:** **July 12, 2024**

### Conversion Process Considerations:

#### Maintains BSBY fixings that occur between Conversion Date and the ICED:

- ✓ Allows for all in-scope BSBY swaps to be converted on single conversion date and settles all representative BSBY payments

#### FRAs:

- ✓ CME **does not support** USD BSBY FRAs

#### Post-Conversion Clearing Support for BSBY:

- ✓ CME will continue to support the clearing of short-dated BSBY Swaps containing only representative BSBY fixings; in other words, BSBY Swaps with all fixings known on and before November 15th, 2024, will still be eligible for clearing

# Conversion Fees

CME will charge the following per line-item fees on any SOFR OIS replacements resulting from the conversion:

Account Type	Conversion Fee (USD)
House	\$10
Customer*	\$50

*\*Applies to both standard and alternate fee schedule customers*

- Conversion fees do not apply to the BSBY replacement swaps or the terminated BSBY swaps



# Agenda

1 Introduction to Conversion Plan

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**2 Conversion Methodology**

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3 Operational Processing

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# Conversion Plan for CME Cleared USD BSBY Swaps

**Conversion event** converts all in-scope USD BSBY swaps to short-dated BSBY and SOFR OIS replacement swaps where:

- ✓ Each BSBY swap is converted into corresponding **Short-dated BSBY and SOFR replacement swaps**;

*Resultant swap(s) will differ slightly by economic terms. Operational process will be a close-out (termination) of the original swap and establishment of new replacement contracts – however, legal characterization will be as an amendment of the original contract. The following sections will provide further details.*

- ✓ Key economics are copied over to both the Short-dated BSBY and SOFR replacement swaps;
- ✓ Applicable CME-calculated fallback spread is added to the floating leg of the SOFR replacement swap;
- ✓ A cash compensation is applied as an upfront fee to the SOFR replacement swap;
- ✓ CME will maintain the representative BSBY coupons through the conversion process, restating these accrual periods as short-dated BSBY replacement swaps

## **BSBY swaps that are fully fixed prior to the November 15, 2024 cessation date (“ICED”):**

- Any BSBY swaps that do not contain fixings beyond the ICED will be left to mature and will not undergo conversion

# Conversion Plan for CME Cleared USD BSBY Swaps

## Seasoned BSBY Swaps

CME will book two replacement swaps for each **seasoned** BSBY swap where:

- The original BSBY swap is converted (operational termination, legal amendment)
- A **Short-dated BSBY replacement swap** settles all fixings published prior to the ICED
- A **Forward starting SOFR replacement swap** settles all remaining cash flows and the cash compensation fee

## Forward Starting BSBY Swaps

- One-to-one conversion, SOFR replacement swaps will maintain the effective dates, maturity dates and fixed leg economic terms (excluding payment offset).
- A single cash compensation fee is included and paid the following New York business day.
- 2-day payment offset is added to both legs of the SOFR replacement swap, consistent with market standard OIS conventions.

## Stub Periods:

- Short-dated BSBY swaps: Stub period start and end dates will remain unchanged if the stub will be paid out after the conversion date and has a representative fixing
- SOFR OIS: Forward starting stub periods will maintain the period start and end dates with a daily compounded overnight rate

# Conversion Plan for CME Cleared USD BSBY Swaps

## Process for Determining Cash Compensation

$$\text{Cash Compensation} = \text{Adj NPV}^* \text{ of BSBY Swap} - \text{Adj NPV of all Replacement Swaps}$$

### Pricing USD BSBY Swaps on Conversion Date

*Considerations:* Ensure pricing of the BSBY swaps is fair and is not subject to manipulation to USD BSBY marks

*Plan:* CME's conversion pricing approach will be based on the ISDA Fallback Pricing Protocol

### Convert USD BSBY Swaps to corresponding Short-dated BSBY and SOFR Replacement Swaps

*Considerations:* Reduce the differences in cash flow amounts for the projected cash flows

Ensure the converted swaps are maintaining the representative BSBY coupons that are unpaid

*Plan:* Account for the CME-calculated fallback spread adj on the SOFR Leg to ensure minimal difference in future cash flows

Based on the swap effective date, book a **Short-dated BSBY replacement swap** to account for all representative fixings.

### Pricing Short-dated BSBY and SOFR Replacement Swaps on the Conversion Date

Price the replacement swaps on the conversion date consistent with Conversion Pricing Approach above

\* *Adjusted NPV = NPV of Swap – Present Value of any fees or coupons due to bank the following business day*

# Conversion Pricing Approach for CME Cleared USD BSBY Swaps

## Using ISDA Fallback Pricing Protocol: *Computing all-in Fallback BSBY Rate*

*This mechanism will be used for computing the projected BSBY Forward Rate on conversion date*

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

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

where  $ARR_{f,t}$  is the Adjusted Risk-Free Rate,  $SA_{f,t}$  is the CME Calculated Fallback spread for BSBY tenor

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

where:

$DayCount_I$  is day-count convention for BSBY index

$DayCount_{RR}$  is day-count convention for Reference Rate index (SOFR)

$S_{f,t}$  is the accrual start date for BSBY tenor

$E_{f,t}$  is the accrual end date for BSBY tenor

$\delta_{A,B}$  is the day count fraction for the Reference Rate (SOFR)

$AP_{f,t}$  is the Accrue Period for SOFR compounding;

$u$  is the business day within Accrue Period defined by Reference Rate(SOFR)

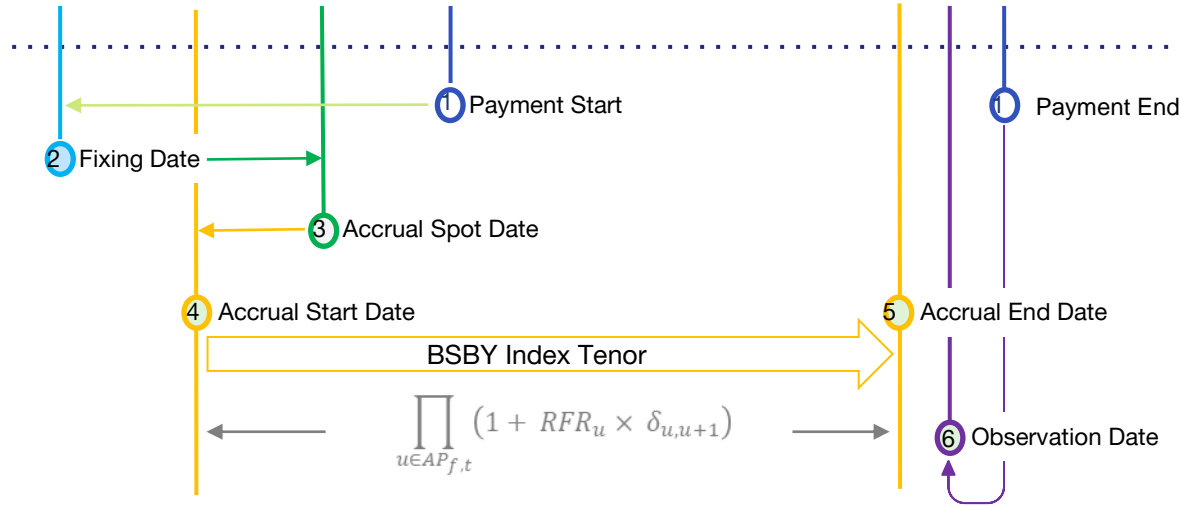
holiday calendar

$RFR_u$  is the daily risk-free rate (SOFR)

As noted on [slide 31](#), this conversion is following a CME methodology and fallback spread calculation that is based on the equivalent ISDA IBOR methodology used by BISL for prior IBOR conversions. Additional details of the Fallback Rate adjustments for IBORs are found here: <https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf>

# Fallback Pricing Approach for CME Cleared USD BSBY Swaps

Using ISDA Fallback Pricing Protocol: *Determining Accrual period for RFR compounding*



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

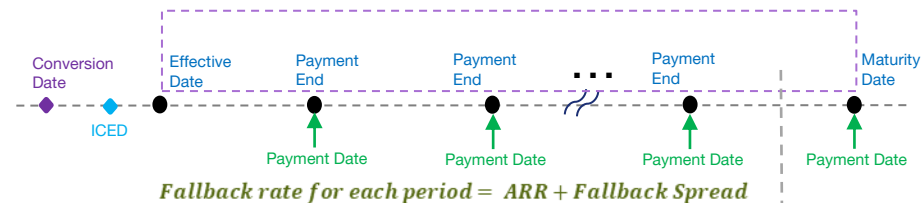
Conversion Pricing is based on ISDA Fallback Pricing. Details of the Fallback Rate adjustment:  
<https://data.bloomberglp.com/professional/sites/10/IBOR-Fallback-Rate-Adjustments-Rule-Book.pdf>

# Methodology for Converting USD BSBY Swaps to SOFR OIS

**Vanilla Forward Starting Swap:** Effective Date of the Swap is after T+2 of the Index Cessation Effective Date (ICED)

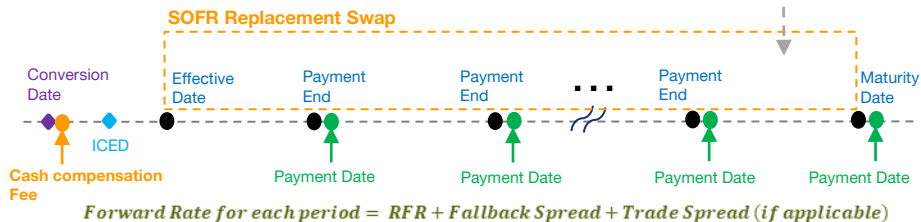
## Pricing and Termination of BSBY Swap

Compute payment period start/end date, payment date and fixing date using trade attributes



## Converted Trade Attributes

Compute payment period start/end date using the same trade attributes as the original BSBY Swap



## Conversion Methodology

- ✓ Apply ISDA Fallback pricing to each of the fixing dates. Imply compounded ARR from the bootstrapped SOFR curve.
- ✓ Price the BSBY leg as priced currently using the Fallback rate implied for each reset
- ✓ Effective date, maturity date, notional, payment frequency, and direction are preserved from BSBY swap
- ✓ Override the Payment Offset to standard SOFR convention on both fixed and floating legs
- ✓ Override the below attributes to market standard SOFR OIS conventions on floating leg:
  - Index Name and Tenor
  - Fixing Offset, fixing calendar, and adjustments
- ✓ CME-calculated fallback spread added to compounded SOFR leg as simple interest amount
- ✓ Upfront fee is added to SOFR OIS to move the cash compensation

# Methodology for Converting USD BSBY Swaps to SOFR OIS

**Vanilla Forward Starting Swap:** Effective Date of the Swap is after T+2 of the Index Cessation Effective Date (ICED)

Conversion date:07/12/2024

USD 1M-BSBY IRS	
Currency	USD
Notional	50,000,000
Trade Date	03/15/2024
Effective Date	11/20/2024
Maturity Date	11/20/2025
Fixed Direction	Payer
Fixed Rate	4.55%
Fixed Leg Payment Freq.	1M
Fixed Leg Payment Offset	n/a
Floating Rate Index	USD-BSBY
Float Leg Index Tenor	1M
Float Leg Payment Freq.	1M
Float Leg Pay Adj Calendar	USNY
Float Leg Payment Offset	n/a
Reset Relative To	Period Begin
Float Leg Fixing Adj Calendar	USGS
Date Roll	20
Status	Terminated



SOFR OIS Replacement	
Currency	USD
Notional	50,000,000
Trade Date	07/12/2024
Effective Date	11/20/2024
Maturity Date	11/20/2025
Fixed Direction	Payer
Fixed Rate	4.55%
Fixed Leg Payment Freq.	1M
Fixed Leg Payment Offset	2 Days
Floating Rate Index	USD-SOFR-OIS Compound
Float Leg Index Tenor	1D
Float Leg Payment Freq.	1M
Float Leg Pay Adj Calendar	USNY
Float Leg Payment Offset	2 Days
Float Leg Compounding Method	ISDA OIS Compounding
Reset Relative To	End of Period
Float Leg Fixing Adj Calendar	USGS
Date Roll	20
Status	Cleared
Upfront Fee	Cash compensation
Upfront Fee Payment Date	07/15/2024
Float Leg Spread	CME-calculated spread adjustment (0.03403%)

- = Economic preserved
- = Economic changed/added

→Effective and Maturity dates are unadjusted for illustration purpose

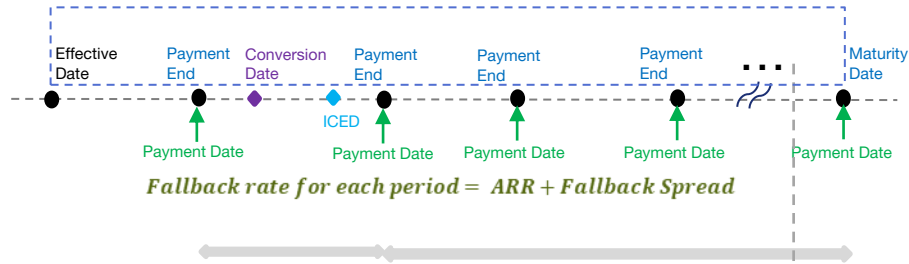


# Methodology for Converting USD BSBY Swaps to SOFR Swaps

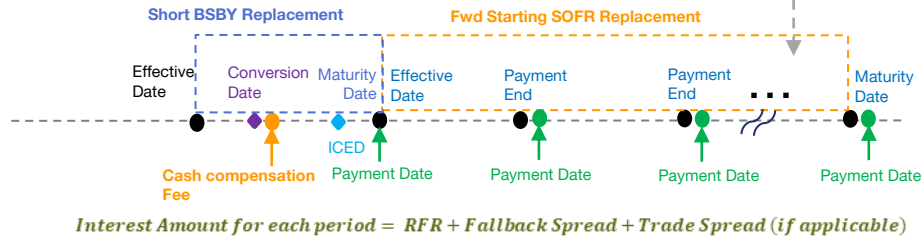
**Vanilla Seasoned Swap:** Effective Date of the Swap is before the Index Cessation Effective Date (ICED)

## Pricing and Termination of BSBY Swap

Pricing and other calculation same as previous slides



## Converted Trade Attributes



## Conversion Methodology

- ✓ Book a forward starting SOFR swap with Effective date set as the next compound period start date immediately following ICED. Note the payment accruals are preserved. SOFR by default compounds every 1D.
- ✓ SOFR trade attributes are preserved in the same manner as in the scenario of Forward Starting BSBY Swap conversion
- ✓ Change floating spread to CME-calculated fallback spread + Trade spread (if applicable)
- ✓ Any representative but not paid BSBY or fixed coupon payments are booked into a short-dated BSBY replacement swap. Each payments are settled at the end of its payment period.
  - The BSBY replacement swap will accrue all representative BSBY fixings inclusive of any trade spread using the compounding convention on the original BSBY swap
  - CME-calculated fallback spread will NOT be added to the BSBY replacement swap

# Methodology for Converting USD BSBY Swaps to SOFR Swaps

**Vanilla Seasoned Swap:** Effective Date of the Swap is before the Index Cessation Effective Date (ICED)

Conversion date: 07/12/2024

USD 1M BSBY IRS	
Currency	USD
Notional	200,000,000
Trade Date	01/22/2024
Effective Date	01/24/2024
Maturity Date	01/24/2027
Fixed Direction	Payer
Fixed Rate	5.00%
Fixed Leg Payment Freq.	1M
Fixed Leg Payment Offset	n/a
Floating Rate Index	USD-BSBY
Float Leg Index Tenor	1M
Float Leg Payment Freq.	1M
Float Leg Pay Adj Calendar	USNY
Float Leg Pay Offset	n/a
Reset Relative To	Begin Period
Float Leg Fixing Adj Calendar	USGS
Date Roll	24
Status	Terminated



USD 1M BSBY IRS – Short Replacement 1	
Product Type	IRS
Notional	200,000,000
Effective Date	06/24/2024
Maturity Date	11/24/2024
Upfront Fee	None
Fixed Leg Payment Freq.	1M
Float/Fixed Leg	Other economics carried over

SOFR OIS – Forward Starting Replacement 2	
Currency	USD
Notional	200,000,000
Trade Date	07/12/2024
Effective Date	11/24/2024
Maturity Date	01/24/2027
Fixed Direction	Payer
Fixed Rate	5.00%
Fixed Leg Payment Freq.	1M
Fixed Leg Payment Offset	2 Days
Floating Rate Index	USD-SOFR-OIS Compound
Float Leg Index Tenor	1D
Float Leg Payment Freq.	1M
Float Leg Pay Adj Calendar	USNY
Float Leg Fixing Adj Calendar	USGS
Date Roll	24
Float Leg Payment Offset	2 Days
Stub Type	None
Upfront Fee	Cash compensation fee
Upfront Fee Payment Date	07/15/2024
Float Leg Spread	CME-calculated fixed spread adjustment (0.03403%)

- = Economic preserved
- = Economic changed/added

→ Effective and Maturity dates are unadjusted for illustration purpose.  
Replacement swap's dates may be adjusted to align cashflow dates

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1 Introduction to Conversion Plan

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2 Primary Conversion Methodology

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**3 Operational Processing**

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# Operational Processing: Timeline for Clearing Firms

Note: all dates are targets and subject to change



- **New Release (test environment) clean up:** To provide a “clean slate” for testing, CME will terminate all cleared USD BSBY swaps a week prior to Dress Rehearsal: June 5<sup>th</sup> for DR

# Operational Processing: End-of-Day Timeline

Tentative EOD Timeline for USD BSBY Conversion on conversion date

**7:00 pm ET:** CME end-of-day close. CME will begin a full clearing cycle with conversion processing included

**7:10 – 7:20 pm ET:** CME completes netting/blending for cleared BSBY swaps. This process finalizes the swap population for conversion. Corresponding trade messages sent to clearing firms.

**7:20 – 8:00 pm ET:** Conversion processing begins to terminate the original BSBY swaps and book Short BSBY and SOFR replacement swaps. All corresponding termination and clearing confirmed trade messages are sent to clearing firms.

- *CME runs settlements to compute VM and PAA on all swaps*

**8:00 – 8:30 pm ET:** CME publishes the end-of-day IRS Trade Register showing all new and terminated trades

**Conversion Date + 1 (following New York Business day)** – USD compensation fees are settled

**Please note:**

- *All times are estimates and may vary on each conversion date (UAT processing times are ~1 hour earlier for Dress Rehearsal)*

# Operational Processing: Sequencing of Conversion Events

## Steps to Convert BSBY Swaps to Replacement Short BSBY and SOFR OIS

### Step 1: Price Relevant BSBY Swaps on the Conversion Date

- Eligible BSBY swaps are valued using the ISDA Fallback Pricing Protocol (Supplement 70)

### Step 2: Convert BSBY Swaps to Replacement Swaps

- New SOFR OIS replacement swaps are created, and the CME-calculated fallback spread adjustment is applied to the SOFR leg
- Where applicable, fixed and representative BSBY floating accruals are booked as short-dated USD BSBY replacement swaps

### Step 3: Price Short-dated BSBY and SOFR Replacement Swaps on Conversion Date

- End-of-day pricing curves are leveraged to price all replacement swaps (BSBY and OIS)

### Step 4: Compute Cash Compensation and Add as Upfront Fee

- Cash compensation is calculated to account for NPV change between the terminated BSBY swap and replacement swaps
- All compensation amounts are settled as upfront fees on the replacement SOFR OIS
  - *Cash Compensation = Adj. NPV of LIBOR Swap – Adj. NPV of all Replacement Swaps*

### Step 5: Publish all Messaging and Reporting to Clearing Firms

- Termination messages are sent for all terminated BSBY swaps. INDEX\_CONVERSION is applied as “terminating event” to these swaps
- Clearing Confirmed messages are sent for all replacement swaps. INDEX\_CONVERSION is applied “originating event” to these swaps
- IRS Trade Register report is published with all terminated and new swaps, as well as relevant upfront fees

# Operational Processing: Variation Margin and Cash Compensation

## Variation Margin and Cash Compensation Example (IRS Trade Register view)

Value Date	Cleared Trade ID	Floating Rate Index	Status	NPV	NPV Adj.*	Previous NPV Adj.	Variation	Upfront Payment	FEE_TYPE	Payment Date	Net Cash Flow
07/12/2024	20162532	USD-BSBY	TERMINATED	0	0	38,012.03	-38,012.03	-	-	-	-38,012.02
07/12/2024	20216009	USD-BSBY	CLEARED	9,926.50	9,926.50	0	9,926.50	-	-	-	9,926.50
07/12/2024	20215998	USD-SOFR-OIS Compound	CLEARED	29,955.78	29,554.44	0	29,554.44	401.56	UPFRONT_FEE	07/15/2024	29,955.78

Cash Compensation	BSBY Swap Valuation (7/12)	39,882.5	Replacement BSBY Valuation + SOFR OIS Valuation	9,926.50 + 29,554.44	PnL Change	-401.56
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Value Date	Cleared Trade ID	Floating Rate Index	Status	NPV	NPV Adj.	Previous NPV Adj.	Variation	Upfront Payment	FEE_TYPE	Payment Date	Net Cash Flow
07/15/2024	20216009	USD-BSBY	CLEARED	9,940.00	9,940.00	9,926.50	13.50	-	-	-	13.50
07/15/2024	20215998	USD-SOFR-OIS Compound	CLEARED	29,580.00	29,580.00	29,554.44	25.56	-	-	-	25.56

### Calculation Breakdown (July 12<sup>th</sup>, Conversion Date)

Original BSBY Swap VM = NPV Adj. – Previous NPV Adj.

$$= 0 - 38,012.03 = -38,012.03$$

PnL Change = [NPV Adj. (SOFR OIS) + NPV Adj. (Repl. BSBY swap)] - NPV Adj. (BSBY swap)

$$= (29,554.44 + 9,926.50) - 39,882.50 = -401.56$$

Compensation Amount = (NPV Adj. of BSBY Swap – [NPV Adj. (Repl. BSBY Swap) + NPV Adj. (SOFR OIS)])

$$= 39,882.50 - (29,554.44 + 9,926.50) = 401.56$$

NPV Adj. (SOFR OIS) = NPV – Upfront Payment

$$= 29,955.78 - (401.56) = 29,554.44$$

\* NPV Adj. reflects the value of the swap removing any fee payments to be made the following business day

**Note:** In the event of multiple replacement swaps, all Adj NPVs are added to calculate the cash compensation

# Operational Processing: Clearing Firm Messaging

## FpML Messaging (Key Elements)

For each BSBY swap, a termination message will be sent to clearing firms along with clearing confirmed messages for the Short-dated BSBY and SOFR replacement swaps:

### BSBY Swap Termination

Trade IDs:

```
<partyTradeIdentifier>
  <partyReference href="clearing_service"/>
  <tradeId tradeIdScheme="cme_trade_id">144223</tradeId>
  <tradeId tradeIdScheme="client_trade_id">144223-1</tradeId>
  <tradeId tradeIdScheme="platform_trade_id">12528374</tradeId>
  <tradeId tradeIdScheme="platform_side_id">12528374-1</tradeId>
  <tradeId tradeIdScheme="block_trade_id">18449413</tradeId>
</partyTradeIdentifier>
```

- A subset of trade IDs on the original BSBY swap will be carried over to the replacement swaps.
- The CME Trade ID and USI/UTI are not carried over.

### Short-Dated BSBY Replacement Swap

Trade IDs:

```
<partyTradeIdentifier>
  <partyReference href="clearing_service"/>
  <tradeId tradeIdScheme="cme_trade_id">126466</tradeId>
  <tradeId tradeIdScheme="client_trade_id">144223-1</tradeId>
  <tradeId tradeIdScheme="platform_trade_id">12528374</tradeId>
  <tradeId tradeIdScheme="platform_side_id">12528374-1</tradeId>
  <tradeId tradeIdScheme="block_trade_id">18449413</tradeId>
</partyTradeIdentifier>
```

### Replacement SOFR Swap

```
<partyTradeIdentifier>
  <partyReference href="clearing_service"/>
  <tradeId tradeIdScheme="cme_trade_id">126467</tradeId>
  <tradeId tradeIdScheme="client_trade_id">144223-1</tradeId>
  <tradeId tradeIdScheme="platform_trade_id">12528374</tradeId>
  <tradeId tradeIdScheme="platform_side_id">12528374-1</tradeId>
  <tradeId tradeIdScheme="block_trade_id">18449413</tradeId>
</partyTradeIdentifier>
```



# Operational Processing: Clearing Firm Messaging

## FpML Messaging (Key Elements)

For each BSBY swap, a termination message will be sent to clearing firms along with clearing confirmed messages for the Short-dated BSBY and SOFR replacement swaps:

### BSBY Swap Termination

#### - Terminating Event and Status

```
<tradeDate>2023-12-20</tradeDate>
<clearedDate>2023-12-22</clearedDate>
<businessDate>2024-07-12</businessDate>
<cme:terminatingEvent>INDEX_CONVERSION</cme:terminatingEvent>
<cme:status>TERMINATED</cme:status>
```

#### - Floating Index

```
<floatingRateCalculation>
  <floatingRateIndex>USD-BSBY</floatingRateIndex>
  <indexTenor>
    <periodMultiplier>1</periodMultiplier>
    <period>M</period>
  </indexTenor>
</floatingRateCalculation>
```

#### - Terminated and replacement trade(s) are linked through the history element:

```
<cme:history>
  <cme:replacementTradeId tradeIdScheme="cme_trade_id">20215998</cme:replacementTradeId>
  <cme:replacementTradeId tradeIdScheme="cme_trade_id">20216009</cme:replacementTradeId>
  <cme:originalTradeId tradeIdScheme="cme_trade_id">20162532</cme:originalTradeId>
</cme:history>
```

### Replacement Swaps

#### - Originating Event and Status

```
<tradeDate>2024-07-12</tradeDate>
<clearedDate>2024-07-12</clearedDate>
<businessDate>2024-07-12</businessDate>
<cme:originatingEvent>INDEX_CONVERSION</cme:originatingEvent>
<cme:status>CLEARED</cme:status>
```

#### - Floating Index

```
<floatingRateCalculation>
  <floatingRateIndex>USD-BSBY</floatingRateIndex>
  <indexTenor>
    <periodMultiplier>1</periodMultiplier>
    <period>M</period>
  </indexTenor>
</floatingRateCalculation>

<floatingRateCalculation>
  <floatingRateIndex>USD-SOFR-OIS Compound</floatingRateIndex>
  <spreadSchedule>
```

#### - Original BSBY swap is referenced through the history element on each replacement swap:

```
<cme:history>
  <cme:originalTradeId tradeIdScheme="cme_trade_id">20162532</cme:originalTradeId>
</cme:history>
```

# Operational Processing: Trade Register Reporting

## IRS Trade Register on Conversion Date

### Terminated BSBY Swaps

- All terminated swaps are shown on the conversion date in a “TERMINATED” status
- Impacted swaps can be identified by “INDEX\_CONVERSION” value in the IRSTR column “TERMINATING\_EVENT”

Value Date	Cleared Trade ID	Platform ID	Client ID	CONVERTED_TRADE_ID	LEG2_INDEX	PRODUCT_TYPE	Status	NPV	Upfront Payment	FEE_TYPE	TERMINATING_EVENT
07/12/2024	20162532	144223-1	12528374	-	USD-BSBY	SWAP	TERMINATED	-	-	-	INDEX_CONVERSION

### Replacement SOFR OIS

- All replacement swaps are shown on the conversion date in a “CLEARED” status
- Cash compensation amounts are shown as upfront fees
- Replacement swaps can be identified by “INDEX\_CONVERSION” value in the IRSTR column “ORIGINATING\_EVENT”
- “CONVERTED\_TRADE\_ID” column will show the CME Trade ID of the original trade that was converted (**primary link**)

Value Date	Cleared Trade ID	Platform ID	Client ID	CONVERTED_TRADE_ID	LEG2_INDEX	PRODUCT_TYPE	Status	NPV	Upfront Payment	FEE_TYPE	ORIGINATING_EVENT
07/12/2024	20216009	144223-1	12528374	20162532	USD-BSBY	SWAP	CLEARED	5,000	-	-	INDEX_CONVERSION
07/12/2024	20215998	144223-1	12528374	20162532	USD-SOFR-OIS Compound	OIS	CLEARED	14,000	1,000	UPFRONT_FEE	INDEX_CONVERSION

# Operational Processing: Indicative Analysis Reporting

- Report shows the NPV and key economic terms of each replacement swap, and the cash compensation at the trade level
- Initial publication of "indicative reports" is targeted for **June 12<sup>th</sup>**
- Report uses CME valuation curves for projected BSBY fixings and to value all swaps. Actual values will vary and are not known until the time of conversion.
- CSV formatted report delivered to clearing firm and client sFTP folders
- All parties receiving Trade Registers today, who have USD BSBY exposure, will receive this report

## Publication Details:

- Report values will closely mimic the cash flows as if taking place on the conversion date
- Trade population includes Production portfolios only
- Report figures are updated on New York business days
- USD BSBY swaps not eligible for conversion and SOFR-BSBY Basis Swaps are not included
- The last publication date of this report is July 12, 2024
- Each row shows identifiers of the original swap and then the trade details of a replacement swap. Swaps converted to two replacement swaps are shown on two separate rows.
- **File name:** IRS\_IBORCONV\_FFF\_YYYYMMDD\_EOD.csv

## Original Swap Identifiers & Cash Compensation Fields

Column Header	Description	Sample Value
Value Date	Business Date	06/10/2024
Position Account ID	Id of the Position (Clearing) Account	3TTNN7
Cleared Trade ID	CME Trade ID of Original BSBY trade	20162532
Platform ID	SEF/Platform ID	7897868G9H
Client ID	Client reference ID	1423523IS
REG_TRADE_ID	USI	CCCIRS9355844
Firm ID	3-digit Clearing Firm ID	998
ORIGIN	HOUS or CUST	CUST
PRODUCT_TYPE	Type of IRS product	SWAP
Currency	3-digit currency code	USD
NPV_NEW_INDEX	NPV of Replacement Swap	2,266.34
NPV_PRIOR_INDEX	NPV of Original BSBY Swap	2,244.28
NPV_ADJ_NEW_INDEX	ADJ NPV of Replacement Swap	2,266.34
NPV_ADJ_PRIOR_INDEX	ADJ NPV of Original BSBY Swap	2,244.28
NPV_ADJ_DIFF	Replacement Swap(s) ADJ NPV minus Original BSBY ADJ NPV	22.06
OFFSET_ADJ_AMT	Cash Compensation Amount / Original BSBY ADJ NPV minus Replacement Swap(s) ADJ NPV	-22.06
UTI	Universal Trade Identifier	NCHDOP39CCCIRS19711099
...	...	...

> See next slide for replacement swap economics

**Note:** The OFFSET\_ADJ\_AMT may not always be equal and opposite to the NPV\_ADJ\_DIFF due to coupon(s) banking the following business day on the original BSBY swap

# Operational Processing: Indicative Analysis Reporting

## Report Specification

### Short BSBY and Replacement SOFR Swap Terms – Summary & Leg 1

Column Header (Cont.)	Description	Sample Value
Effective Date	Start date of the Replacement swap	06/15/2024
Maturity Date	Maturity date of the Replacement swap	07/15/2029
Notional	Notional of the Replacement swap;	36,856,000.00
Direction	Direction of the Replacement swap from the position account's perspective	P
Fixed Rate	Fixed rate of the Replacement swap	0.05112
LEG1_TYPE	Fixed/floating leg of the Replacement swap	FIXED
LEG1_START_DATE_ADJ_BUS_DAY_CONV	Business day convention applied to the Effective Date of the Replacement swap	NONE
LEG1_START_DATE_ADJ_CAL	Calendar(s) applied to the Effective Date of the Replacement swap	USNY
LEG1_PAY_FREQ	Coupon payment frequency applied to the Replacement swap	1M
LEG1_DAYCOUNT	Day count convention applied to the Replacement swap	ACT/360
LEG1_CALC_FREQ	Calculation (accrual) frequency applied to the Replacement swap	1M
LEG1_ROLL_CONV	Roll convention applied to the Replacement swap	15
LEG1_STUB_TYPE	Type of stub applied to the Replacement swap	Short Initial
LEG1_PAYMENT_DAYS_OFFSET	Number of business days the coupon settlement is delayed after the period end date for the Replacement swap	2D
LEG1_NEXT_ACCRUED	Accrued interest of fixed leg	1000.00

### Short BSBY and Replacement SOFR Swap Terms – Leg 2

Column Header (Cont.)	Description	Sample Value
LEG2_TYPE	Fixed/floating leg of the Replacement swap	FLOAT
LEG2_START_DATE_ADJ_BUS_DAY_CONV	Business day convention applied to the Effective Date of the Replacement swap	NONE
LEG2_START_DATE_ADJ_CAL	Calendar(s) applied to the Effective Date of the Replacement swap	USNY
LEG2_PAY_FREQ	Coupon pay frequency applied to the Replacement swap	1M
LEG2_DAYCOUNT	Day count convention applied to the Replacement swap	ACT/360
LEG2_CALC_FREQ	Calculation (accrual) frequency applied to the Replacement swap	1M
LEG2_INDEX	Floating index (FRO) assigned to the Replacement swap	USD-SOFR-OIS Compound; USD-BSBY
LEG2_FIXING_DATE_BUS_DAY_CONV	Business day convention applied to the fixing date of the Replacement swap	PRECEDING
LEG2_FIXING_DATE_CAL	Holiday calendar(s) applied to the fixing date of the Replacement swap	USGS
LEG2_ROLL_CONV	Roll convention applied to the Replacement swap	15
LEG2_SPREAD	Spread adjustment applied to the Replacement swap	0.03403
LEG2_STUB_TYPE	Type of stub applied to the Replacement swap	Short Initial
LEG2_PAYMENT_DAYS_OFFSET	Number of business days the coupon settlement is delayed after the period end date for the Replacement swap	2D
FEE_AMOUNT	The NPV difference between the original and replacement swaps is added as a cash compensation	2,500.25
FEE_PAYMENT_DATE	Payment date of the cash compensation; the next USNY business day after conversion	7/15/2024
LEG2_NEXT_ACCRUED	Accrued interest of floating leg	1000.00

# Operational Processing: Indicative Analysis Reporting

## Report Specification

### Short BSBY and Replacement SOFR Swap Terms – Summary & Leg 1

Column Header (Cont.)	Description	Sample Value
LEG1_MAT_DATE_ADJ_BUS_DATE_CONV	Adjustments to Maturity Date	MODFOLLOWING
LEG1_MAT_DATE_ADJ_CAL	Calendars to use for MAT DATE Adjustment	USNY
LEG1_CALC_PER_ADJ_BUS_DATE_CONV	Business day convention for calculation Period date adjustments	MODFOLLOWING
LEG1_CALC_PER_ADJ_CAL	Calendars to use for calculation period date adjustment	USNY
LEG1_NOTIONAL_TYPE	Displays the type of notional schedule for Leg 1: • Bullet or Schedule	Bullet
CONVERTED_TRADE_ID	ID of original BSBY swap; applicable to INDEX_CONVERSION trades only	20162532

### Short BSBY and Replacement SOFR Swap Terms – Leg 2

Column Header (Cont.)	Description	Sample Value
LEG2_MAT_DATE_ADJ_BUS_DATE_CONV	adjustments to Maturity Date	MODFOLLOWING
LEG2_MAT_DATE_ADJ_CAL	Calendars to use for MAT DATE adjustment	USNY
LEG2_CALC_PER_ADJ_BUS_DATE_CONV	Business day convention for calculation period date adjustments	MODFOLLOWING
LEG2_CALC_PER_ADJ_CAL	Calendars for calculation period date adjustment	USNY
LEG2_INDEX_TENOR	Index Tenor	1M
LEG2_FIXING_DATE_OFFSET	Offset to use with the fixing date	0D
LEG2_INITIAL_STUBRATE_INDEX1	For Initial Stub, specifies the index and tenor to be used for this stub period- Not applicable to Overnight Index swap(OIS)	1M
LEG2_INITIAL_STUBRATE_INDEX2	For Initial Stub, specifies the second index and tenor to be used for interpolating stub rate - Not applicable to Overnight Index swap(OIS)	3M
LEG2_FINAL_STUBRATE_INDEX1	For Final Stub, provides the index and tenor to be used for this stub period - Not applicable to Overnight Index swap(OIS)	1M
LEG2_FINAL_STUBRATE_INDEX2	For Final Stub, specifies the second index and tenor to be used for interpolating stub rate - Not applicable to Overnight Index swap(OIS)	3M
LEG2_NOTIONAL_TYPE	Displays the type of notional schedule for Leg 2: Bullet or Schedule	Bullet

## Contact Information

Please contact [ClearedSwapConversion@CMEGroup.com](mailto:ClearedSwapConversion@CMEGroup.com) if you would like to raise any questions, provide feedback, and/or discuss the USD BSBY swap conversion in further detail.

# Disclaimer

The methodology utilized by CME to calculate the fallback spreads for BSBY tenors contained in this document (the Fallback Spreads) is based on the IBOR fallback methodology previously utilized by BISL, acting on appointment by the International Swaps and Derivatives Association (ISDA), to calculate and distribute RFR adjustments for certain ISDA IBOR contractual fallbacks. CME has permission from ISDA and BISL to utilize the methodology for the purposes anticipated in this document, including the calculation and publication of the Fallback Spreads for use by CME in relation to contractual fallbacks for CME cleared swaps. BISL and ISDA, as applicable, are the owners of the intellectual property rights with respect to the ISDA IBOR fallback methodology and the BISL IBOR Fallback Rate Adjustments Rule Book. CME is solely responsible for the determination and application of the relevant methodology and the calculation and publication of the Fallback Spreads, and for use in any conversion process implemented by CME. Neither ISDA nor BISL endorses the Fallback Spreads or CME's proposed methodology and neither ISDA nor BISL has any responsibility or liability for CME's utilization of the methodology, calculation or publication of the Fallback Spreads or use of the Fallback Spreads in any fallback or conversion process conducted by CME, or use of the Fallback Spreads by any other person.

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The contents of this document are for informational purposes only and provide an overview of CME's proposal to facilitate the conversion of BSBY cleared swaps to SOFR ahead of the cessation date announced by BISL. The plan is subject to change at any time without prior notice. Any implementation of any final conversion plan is subject to regulatory review and to any necessary internal and external approvals.



Subject to Regulatory Review