

**Bloomberg SEF LLC**  
**New Contract Submission 2023-P-01**  
**January 30, 2023**

1. The Contract's terms and conditions are described in Attachment A.
2. The intended listing date is January 1, 2024.
3. Attached, please find a certification that, concurrent with this submission, BSEF posted on its website: (a) a notice of pending certification of this Contract with the U.S. Commodity Futures Trading Commission (the "**Commission**"); and (b) a copy of this submission.
4. Attached, please find a certification that the Contract complies with the Commodity Exchange Act (the "**Act**") and the Commission regulations thereunder.
5. Capitalized terms used but not defined herein have the meanings ascribed to them in the Bloomberg SEF LLC ("**BSEF**") Rulebook.

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EXPLANATION AND ANALYSIS OF THE CONTRACT'S COMPLIANCE WITH  
APPLICABLE CORE PRINCIPLES AND COMMISSION REGULATIONS

As required by Commission Regulation § 40.2(a), the following demonstrates that the Contract is consistent with the requirements of the Act and the Commission regulations and policies thereunder (in particular, Appendix B to Part 37 and Appendix C to Part 38, respectively).

**Appendix B to Part 37—Demonstration of Compliance That a Contract Is Not Readily Susceptible to Manipulation**

**Core Principle 3 of Section 5h of the Act—Swaps Not Readily Susceptible to Manipulation. The swap execution facility shall permit trading only in swaps that are not readily susceptible to manipulation.**

**(a) Guidance.**

**(1) In general, a swap contract is an agreement to exchange a series of cash flows over a period of time based on some reference price, which could be a single price, such as an absolute level or a differential, or a price index calculated based on multiple observations. Moreover, such a reference price may be reported by the swap execution facility itself or by an independent third party. When listing a swap for trading, a swap execution facility shall ensure a swap's compliance with Core Principle 3, paying special attention to the reference price used to determine the cash flow exchanges. Specifically, Core Principle 3 requires that the reference price used by a swap not be readily susceptible to manipulation. As a result, when identifying a reference price, a swap execution facility should either: Calculate its own reference price using suitable and well-established acceptable methods or carefully**

**select a reliable third-party index.**

**(2) The importance of the reference price's suitability for a given swap is similar to that of the final settlement price for a cash-settled futures contract. If the final settlement price is manipulated, then the futures contract does not serve its intended price discovery and risk management functions. Similarly, inappropriate reference prices cause the cash flows between the buyer and seller to differ from the proper amounts, thus benefitting one party and disadvantaging the other. Thus, careful consideration should be given to the potential for manipulation or distortion of the reference price.**

### *Background*

As the following demonstrates, BSEF, through the terms and conditions of the Contract, has given careful consideration to potential for manipulation and price distortion and has constructed the Contract's terms and conditions to reduce potential for price manipulation or distortion.

The Contract is a cash-settled, uncleared swap contract allowing the counterparties to buy or sell YLDVUS Index (as defined below) at a specified price on a future date.

Under the Contract, which is denominated in U.S. Dollars (USD), one counterparty agrees to buy or sell the Contract at a pre-determined price for a particular tenor and the other counterparty agrees to take the opposite position. The Contract could be used by market participants to hedge "Vega", i.e., the price sensitivity of an instrument to changes to volatility of the underlying asset – U.S. interest rates. The underlying commodity for the Contract is the T3 Yield Volatility Index US, also known as USD YLDVOL Index ("**YLDVUS Index**"), which represents the implied normal volatility of a 1 month 10 years at-the-money option straddle<sup>1</sup> on a USD SOFR OIS Fixed-to-Floating swap contract (the "**YLDVOL Swaption Straddle**").

The Contract settles to a settlement price ("**Settlement Price**"), which is determined by a monthly auction operated by BSEF (the "**Auction**") on the YLDVOL Swaption Straddle. The terms of the Auction are set forth in BSEF's Rulebook. The terms provide that a participant must post both firm bids and offers with the maximum spread between bids and offers and fixed strike price specified by BSEF. The maximum spread and fixed strike price are communicated to participants when they launch a BSEF Auction ticket and prior to submitting a bid or an offer to BSEF.

The terms of the Auction also provide for a fixed notional amount for a transaction of 100 million USD. The Auction is held at 9:30 a.m. EST on the third Wednesday of each calendar month, unless that day falls on a U.S. public holiday, in which case the Auction takes place on the preceding trading day, or as otherwise specified in the Contract terms (see [Attachment A](#)). BSEF will not enter into the Auction bids and offers that are significantly higher or lower than the rest of the bids submitted to the Auction as described in BSEF's Rulebook. BSEF will execute trades only if there is an overlap between the bids and offers. To execute trades, BSEF will match orders where the bid is equal or greater than the offer based on a price-time priority

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<sup>1</sup> A straddle is an options strategy involving the purchase of both a put and call option for the same expiration date and strike price on the same underlying.

algorithm, as described in BSEF’s Rulebook. The price entered first (bid or offer) will be the execution price.

Solactive, A.G. (“**Solactive**”), on behalf of T3I Pty Ltd (“**T3**”), will calculate the Settlement Price for the expiring Contract as described in Attachment A, based on Auction bids and offers sent by BSEF. The Contract provides for back-up methodologies for determination of the Settlement Price if the Auction bids and offers were not available or available in an insufficient amount to be a reliable indicator of market price. BSEF will publish the Settlement Price on its website at: <https://www.bloomberg.com/professional/product/swap-execution-facility/>. It will also be made available on the Bloomberg Terminal and on T3’s website at <https://t3index.com/indices/yldvol>.

The Settlement Price will be calculated by Solactive, the calculation agent.<sup>2</sup> Solactive was established in 2007 and located in Frankfurt, Germany. Solactive is registered with the German Federal Financial Supervisory Authority (BaFin) as a benchmark administrator under the European Benchmarks Regulation (BMR). It is included on the European Securities and Markets Administration’s register of benchmark administrators.<sup>3</sup> Solactive has confirmed its compliance with IOSCO principles for Financial Benchmarks.<sup>4</sup> Solactive, as calculation agent, will calculate the Settlement Price based upon data provided by BSEF from the Auction that BSEF hosts.

The YLDVUS Index is not a component of the Settlement Price calculation, which as noted above, is based on actual transactions in the monthly Auction hosted by BSEF. The YLDVUS Index is owned by T3. YLDVUS Index is calculated by Solactive, T3’s calculation agent, from inputs derived from transaction and indicative prices of the YLDVOL Swaption Straddles of an interdealer broker (“**IDB**”). T3 receives a data feed from the IDB that contains both transaction and indicative prices for the YLDVOL Swaption Straddle.

The algorithm used by Solactive for calculation of the YLDVUS Index is programed to choose actual transactions over bids or offers, to use the last transaction if there is no current bid or offer, and to disregard outlier bids or offers that exceed (or are below) the next closest bid (offer) by a specified percentage. The YLDVUS Index is calculated and published every 15 minutes during each trading day. The YLDVUS Index calculation methodology can be found at <https://t3index.com/indices/yldvol>. YLDVOL Index is made available at least every 15 minutes on the Bloomberg Terminal and by T3 on its website at: <https://t3index.com/indices/yldvol/>.<sup>5</sup>

**(3) For swaps that are settled by physical delivery or by cash settlement refer to the guidance in appendix C to part 38 of this chapter—Demonstration of Compliance That a Contract is not Readily Susceptible to Manipulation, section b(2) and section c(4), respectively.**

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<sup>2</sup> BSEF contracted with T3 to calculate the Settlement Price. T3 has hired Solactive to act as a calculation agent.

<sup>3</sup> The registration status of Solactive may be verified at: [https://registers.esma.europa.eu/publication/searchRegister?core=esma\\_registers\\_bench\\_entities](https://registers.esma.europa.eu/publication/searchRegister?core=esma_registers_bench_entities).

<sup>4</sup> Solactive has registered over 1,700 indices with BaFin, the German Federal Financial Supervisory Authority, and its indices may be directly investable or underlying other instruments. It provides a variety of other calculation services, including providing real-time calculation of indicative net asset values of ETFs, which it distributes globally to exchanges.

<sup>5</sup> Also see: <https://www.solactive.com/indices/?se=1&index=DE000SL0FJQ0>

## **Appendix C to Part 38 - Demonstration of Compliance That a Contract Is Not Readily Susceptible to Manipulation**

### **(c) Futures Contracts Settled by Cash Settlement.**

**(1) Cash settlement is a method of settling certain futures or option contracts whereby, at contract expiration, the contract is settled by cash payment in lieu of physical delivery of the commodity or instrument underlying the contract. An acceptable specification of the cash settlement price for commodity futures and option contracts would include rules that fully describe the essential economic characteristics of the underlying commodity (e.g., grade, quality, weight, class, growth, issuer, maturity, source, rating, description of the underlying index and index's calculation methodology, etc.), as well as how the final settlement price is calculated. In addition, the rules should clearly specify the trading months and hours of trading, the last trading day, contract size, minimum price change (tick size) and any limitations on price movements (e.g., price limits or trading halts).**

The Settlement Price will be commercially acceptable and reliable due to its reliance on actual trading in the YLDVOL Swaption Straddles. The very frequent publication of the YLDVUS Index will enhance the acceptability, public availability, and timeliness of the price series associated with the Settlement Price. These factors will discourage price manipulation or distortion of the Contract.

#### *The Settlement Price is Robust, Reliable and Acceptable*

The Settlement Price is calculated using traded prices or bids and offers from the Auction. The Auction is an anonymous auction. Any BSEF participant that complies with Auction rules can participate, but the likely participants in the Auction will be major swap dealers. BSEF reserves the right to suspend the ability of a participant to respond to request for quotes for the Contract from other BSEF participants if such participant does not participate in an Auction on a regular basis, as specified in BSEF's Rulebook. In this way, BSEF will ensure sufficient participation so that the bids and offers in the Auction are entered by market participants that are knowledgeable of market conditions and able to make or take delivery of YLDVOL Swaption Straddles through the Auction.

The procedures for determining the Settlement Price are robust and include specific limits and thresholds designed to forestall undue influence on the prices and to eliminate outlier data.

The rules of the Auction themselves will discourage price manipulation or distortion of the Settlement Price. First, the Settlement Price will be based on firm bids and offers entered into the Auction. Second, participants must enter both bids and offers, with the maximum spread established by BSEF, based on BSEF's own analytics. This ensures that participants will be equally likely to make delivery as to take delivery. Third, there is a BSEF-mandated transaction size and Fixed Strike Price, so that no one participant can dominate the Auction through an outsized position or more favorable pricing. Fourth, the bids and offers are subject to further automated scrutiny by BSEF which will not enter into the Auction any bids or offers that are

significantly different from the rest into the Auction, protecting against obvious attempts to manipulate or distort the settlement price. Fifth, the Settlement Price will be based either on traded prices or be an average of bids and offers, if no trades were executed, further lessening any one entity's ability to affect the Settlement Price. Finally, the calculation of the Settlement Price will take place after trading in the Contract has terminated. This discourages any gaming of trading in the Contract while the Settlement Price is being determined.<sup>6</sup>

The Settlement Price will be acceptable to market participants based upon 1) participation of major swap dealers in the Auction; 2) the use of an actual Auction that includes the safeguards mentioned above to determine the Settlement Price.

BSEF will operate the Auction, and Solactive will calculate the Settlement Price using inputs from the Auction. Solactive, as a registered benchmark administrator, provides for appropriate protections and controls in respect of its handling of this data, and prohibits its employees from trading for their own accounts in the Contract or related products.

One component of the acceptability and reliability of a Settlement Price is the oversight and surveillance of the Settlement Price determination. In this regard, BSEF will undertake surveillance of the Auction and has in place an information sharing agreement with T3 to share information as appropriate and necessary to address any anomalous pricing situation.

Publication of the Settlement Price will be shortly after conclusion of the Auction. The Settlement Price will be made publicly available on BSEF's website as soon as it is calculated. Insofar as there is only a monthly Auction to determine Settlement Price, the YLDVUS Index level will be available to assist in Contract valuation, throughout the life of a Contract's tenor.

#### *YLDVUS Index is Robust, Reliable and Acceptable*

T3 is the owner of the YLDVUS Index. The YLDVUS Index is calculated and published on an ongoing basis during the periods between BSEF's publication of the Settlement Price.<sup>7</sup> The YLDVUS Index will provide important information which will assist market participants in measuring the value of the Contract (in addition to indicative quotes and trades on the BSEF market) during the intervals between publication of the Settlement Price.

The robust nature of the YLDVUS Index<sup>8</sup> is achieved through its construction and its data sources. As explained above, Solactive uses independent data feeds from a major IDB in the swaption markets. The use of IDB pricing feeds that are independent of each other provides a means of cross-checking price information. Because this IDB intermediates significant liquidity in the swaption market, independent agreement of the sources with respect to price levels provides a degree of assurance that the price inputs to the index are reliable. Moreover, given the fact that these are market leaders in terms of price information, it would be more difficult for a counterparty that is a customer of an IDB to attempt to move the price with off-market bids or offers. Such actions would be more likely to garner greater scrutiny of the IDB's customers.

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<sup>6</sup> This is a common safeguard used in the trading of cash-settled futures.

<sup>7</sup> See <https://t3index.com/indices/yldvol/> and <https://www.solactive.com/indices/?se=1&index=DE000SL0FJQ0>

<sup>8</sup> See <https://t3index.com/indices/yldvol/>.

Finally, by referring to pricing feeds which are supplied independently, Solactive through its surveillance algorithms can cross-reference them and remove outliers. Thus, the use of these sources of data provides a mechanism designed to assure the quality of the data upon which the YLDVUS Index is calculated.

The quality of the YLDVUS Index construction, the use of a diverse source of market data by Solactive and Solactive's automated surveillance, support acceptance of the YLDVUS Index by market participants. Moreover, the difficulty of computing the multiple factors that go into the index, and the current lack of a readily available alternative source of such an index, further support the YLDVUS Index's commercial acceptance.

Finally, in furtherance of its enhanced surveillance of the Contract, BSEF has entered into an information sharing arrangement with T3 in respect of Solactive's calculation of the YLDVUS Index. This agreement will enable BSEF and T3 to share information as appropriate and necessary to address any anomalous pricing situation.

Both the Settlement Price determination and the YLDVUS Index has been constructed and will be operated in a manner to meet the requirements that the Contract not be readily subject to manipulation, and its listing by BSEF is in accordance with Section 5h(f)(3) of the Act and regulations thereunder.

### ***Essential Economic Characteristics of the Contract***

#### ***Terms***

The terms of the Contract are described in Attachment A. The Contract is composed of both fixed and variable terms. This combination of standard and flexible terms allows the Contract to have a basic consistent form, while allowing counterparties to tailor the Contract to their economic needs. The structure follows industry convention; the terms of the Contract match the terms of equity futures contracts that are commonly offered in the market.

#### ***Contract Not Readily Susceptible to Manipulation***

The Contract is not readily susceptible to manipulation for a number of reasons. First, all essential terms of the Contract are agreed upon at the start of the Contract and remain static throughout the life of the swap. Second, manipulation is difficult to achieve given the calculation of the YLDVUS Index is based on inputs derived from transaction and indicative prices of the YLDVOL Swaption Straddles of a large IDB that is registered with the Commission as an introducing broker.

#### ***Calculation of Cash Settlement Price***

Please see above.

**(2) Cash settled contracts may be susceptible to manipulation or price distortion. In**

**evaluating the susceptibility of a cash-settled contract to manipulation, a designated contract market should consider the size and liquidity of the cash market that underlies the listed contract in a manner that follows the determination of deliverable supply as noted above in (b)(1). In particular, situations susceptible to manipulation include those in which the volume of cash market transactions and/or the number of participants contacted in determining the cash-settlement price are very low. Cash-settled contracts may create an incentive to manipulate or artificially influence the data from which the cash-settlement price is derived or to exert undue influence on the cash-settlement price's computation in order to profit on a futures position in that commodity.**

**The utility of a cash-settled contract for risk management and price discovery would be significantly impaired if the cash settlement price is not a reliable or robust indicator of the value of the underlying commodity or instrument. Accordingly, careful consideration should be given to the potential for manipulation or distortion of the cash settlement price, as well as the reliability of that price as an indicator of cash market values. Appropriate consideration also should be given to the commercial acceptability, public availability, and timeliness of the price series that is used to calculate the cash settlement price. Documentation demonstrating that the settlement price index is a reliable indicator of market values and conditions and is commonly used as a reference index by industry/market agents should be provided. Such documentation may take on various forms, including carefully documented interview results with knowledgeable agents.**

The Settlement Price is not easily susceptible to manipulation or distortion, as it is calculated by Solactive, which is registered with the German Federal Financial Supervisory Authority (BaFin) as a benchmark administrator under the European Benchmarks Regulation (BMR).

**(3) Where an independent, private-sector third party calculates the cash settlement price series, a designated contract market should consider the need for a licensing agreement that will ensure the designated contract market's rights to the use of the price series to settle the listed contract.**

**(i) Where an independent, private-sector third party calculates the cash settlement price series, the designated contract market should verify that the third party utilizes business practices that minimize the opportunity or incentive to manipulate the cash-settlement price series. Such safeguards may include lock-downs, prohibitions against derivatives trading by employees, or public dissemination of the names of sources and the price quotes they provide. Because a cash-settled contract may create an incentive to manipulate or artificially influence the underlying market from which the cash-settlement price is derived or to exert undue influence on the cash-settlement computation in order to profit on a futures position in that commodity, a designated contract market should, whenever practicable, enter into an information-sharing agreement with the third-party provider which would enable the designated contract market to better detect and prevent manipulative behavior.**

As described above, the Settlement Price is calculated through an Auction that will not be influenced by daily trading prices and volume in the Contract and is not easily susceptible to

manipulation.

**(ii) Where a designated contract market itself generates the cash settlement price series, the designated contract market should establish calculation procedures that safeguard against potential attempts to artificially influence the price. For example, if the cash settlement price is derived by the designated contract market based on a survey of cash market sources, the designated contract market should maintain a list of such entities which all should be reputable sources with knowledge of the cash market. In addition, the sample of sources polled should be representative of the cash market, and the poll should be conducted at a time when trading in the cash market is active.**

Please see above.

**(iii) The cash-settlement calculation should involve computational procedures that eliminate or reduce the impact of potentially unrepresentative data.**

**(iv) The cash settlement price should be an accurate and reliable indicator of prices in the underlying cash market. The cash settlement price also should be acceptable to commercial users of the commodity contract. The registered entity should fully document that the settlement price is accurate, reliable, highly regarded by industry/market agents, and fully reflects the economic and commercial conditions of the relevant designated contract market.**

Please see above.

**(v) To the extent possible, the cash settlement price should be based on cash price series that are publicly available and available on a timely basis for purposes of calculating the cash settlement price at the expiration of a commodity contract. A designated contract market should make the final cash settlement price and any other supporting information that is appropriate for release to the public, available to the public when cash settlement is accomplished by the derivatives clearing organization. If the cash settlement price is based on cash prices that are obtained from non-public sources (e.g., cash market surveys conducted by the designated contract market or by third parties on behalf of the designated contract market), a designated contract market should make available to the public as soon as possible after a contract month's expiration the final cash settlement price as well as any other supporting information that is appropriate or feasible to make available to the public.**

Please see above regarding the calculation of the Settlement Price.

**(4) Contract terms and conditions requirements for futures contracts settled by cash settlement.**

**(i) An acceptable specification of the terms and conditions of a cash-settled commodity contract will also set forth the trading months, last trading day, contract size, minimum price change (tick size) and daily price limits, if any.**



The Contract's terms are described in Attachment A and specifies trading months, last trading day, size and minimum price change.

**(A) Commodity Characteristics: The terms and conditions of a commodity contract should describe the commodity underlying the contract.**

The reference to YLDVUS Index is included in the Contract's terms and conditions.

**(B) Contract Size and Trading Unit: An acceptable specification of the trading unit would be a contract size that is consistent with customary transactions in the cash market. A designated contract market may opt to set the contract size smaller than that of standard cash market transactions.**

The Contract has a fixed size of US\$ 1,000 of Normal Vega. Normal Vega is Vega when assumed returns in interest rates follow a normal distribution.

**(C) Cash Settlement Procedure: The cash settlement price should be reliable, acceptable, publicly available, and reported in a timely manner as described in paragraphs (c)(3)(iv) and (c)(3)(v) of this appendix C.**

Please see above. The cash settlement procedure and an explanation of how, in the context of this Contract, it is not readily susceptible to manipulation, is described above.

**(D) Pricing Basis and Minimum Price Fluctuation (Minimum Tick): The minimum price increment (tick) should be set a level that is equal to, or less than, the minimum price increment commonly observed in cash market transactions for the underlying commodity. Specifying a futures' minimum tick that is greater than the minimum price increment in the cash market can undermine the risk management utility of the futures contract by preventing hedgers from efficiently establishing and liquidating futures positions that are used to hedge anticipated cash market transactions or cash market positions.**

Prices to be expressed in points to two decimal places with 1 point = \$1000. The minimum price change (tick) is .01 or \$10.

The contract multiplier for each Contract is \$1000 of Normal Vega.

**(E) Maximum Price Fluctuation Limits: Designated contract markets may adopt price limits to: (1) Reduce or constrain price movements in a trading day that may not be reflective of true market conditions but might be caused by traders overreacting to news; (2) Allow additional time for the collection of margins in times of large price movements; and (3) Provide a "cooling-off" period for futures market participants to respond to bona fide changes in market supply and demand fundamentals that would lead to large cash and futures price changes. If price-limit provisions are adopted, the limits should be set at levels that are not overly restrictive in relation to price movements in the cash market for the commodity underlying the futures contract. For broad-based stock index futures contracts,**

**rules should be adopted that coordinate with New York Stock Exchange (“NYSE”) declared Circuit Breaker Trading Halts (or other market coordinated Circuit Breaker mechanism) and would recommence trading in the futures contract only after trading in the majority of the stocks underlying the index has recommenced.**

Subject to BSEF Rule 535. Risk Controls

**(F) Last Trading Day: Specification of the last trading day for expiring contracts should be established such that it occurs before publication of the underlying third-party price index or determination of the final settlement price. If the designated contract market chooses to allow trading to occur through the determination of the final settlement price, then the designated contract market should show that futures trading would not distort the final settlement price calculation.**

Expiration date of the Contract is the third Wednesday of the calendar month, unless that day falls on a U.S. public holiday, in which case the Expiration Date will be the preceding trading day, or as otherwise specified by BSEF. No trading in the Contract will be permitted after 8:00 p.m. on the New York business day immediately preceding the third Wednesday of the Contract’s named month of delivery.

**(G) Trading Months: Trading months should be established based on the risk management needs of commercial entities as well as the availability of price and other data needed to calculate the cash settlement price in the specified months. Specification of the last trading day should take into consideration whether the volume of transactions underlying the cash settlement price would be unduly limited by occurrence of holidays or traditional holiday periods in the cash market. Moreover, a contract should not be listed past the date for which the designated contract market has access to use a proprietary price index for cash settlement.**

The Contract is intended to standardize interest volatility trading and provides market participants with an efficient way of such trading by concentrating liquidity in 12 monthly dates. To allow market participants hedging on a continuous basis, BSEF lists the Contract for each month of the year based on the dates when the Settlement Price Auction is conducted.

**(H) Speculative Limits: Specific rules and policies for speculative position limits are set forth in part 150 and/or part 151, as applicable, of the Commission’s regulations.**

None required by Parts 150 or 151 of the Commission’s regulations.

**(I) Reportable Levels: Refer to § 15.03 of the Commission’s regulations.**

BSEF will adhere to applicable reporting levels set forth in § 15.03 of the Commission’s regulations.

**(J) Trading Hours: Should be set by the designated contract market to delineate each trading day.**

The Contract is traded twenty-four hours a day (00:01 – 24:00), Sunday to Friday (ET).

CERTIFICATIONS PURSUANT TO SECTION 5c OF THE COMMODITY EXCHANGE  
ACT, 7 U.S.C. §7A-2 AND COMMODITY FUTURES TRADING COMMISSION  
REGULATION 40.2, 17 C.F.R. §40.2

I hereby certify that: 1) the Contract complies with the Commodity Exchange Act, 7 U.S.C. §1 *et seq.* and regulations thereunder; and 2) concurrent with this submission, Bloomberg SEF LLC posted on its website: (a) a notice of pending certification of the Contract with the Commission; and (b) a copy of this submission.

*Daniel Glatter*

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By: Daniel Glatter  
Title: Chief Compliance Officer

## USD YLDVOL Forward Swap Contract

<b>Contract Overview</b>	The Contract is a cash-settled, uncleared swap contract allowing the counterparties to buy or sell YLDVUS Index at a specified price on a future date. Under the Contract, one counterparty agrees to buy or sell the Contract at a pre-determined price for a particular tenor and the other counterparty agrees to take the opposite position.
<b>Ticker</b>	USD Forward v YLDVUS MM/DDDD where MM/DDDD is the maturity date of the forward
<b>Index</b>	YLDVUS
<b>Settlement Currency</b>	USD
<b>Quoting Convention and Minimum Increment</b>	Prices to be expressed in points to two decimal places. 1 point = \$1000 The minimum price change (tick) is .01 or \$10.
<b>Contract Multiplier</b>	The contract multiplier for each Contract is \$1000 of Normal Vega. Normal Vega is Vega when assuming returns in interest rates follow a normal distribution. Vega is the price sensitivity of an instrument to changes to volatility of the underlying asset.
<b>Contract Value</b>	Price * Contract Multiplier
<b>Contract Maturities</b>	12 active monthly contracts
<b>Contract Expiration</b>	The third Wednesday of the Contract named calendar month of delivery, unless that day falls on a U.S. public holiday, in which case the Expiration Date will be the preceding trading day, or as otherwise specified by BSEF.
<b>Termination of Trading</b>	8:00 pm New York time on the New York business day immediately preceding the third Wednesday of the Contract's named month of delivery.
<b>Settlement Price</b>	<p>The Settlement Price will be determined based on firm bids and offers from the Auction held by BSEF on the Expiration Date for a spot month Contract, as described in Chapter 5A of the BSEF Rulebook. The Settlement Price will be determined based upon the Auction Price calculated using the following hierarchy:</p> <p><b>Auction Price Calculation</b></p> <p>A. If there is no overlap between bids and offers participating in the Auction, then the Auction Price will be an arithmetic average of the highest four bids and lowest four offers. If there are less than four bids and offers, the Auction price will be an arithmetic average of all bids and offers;</p> <p>B. If there is an overlap between bids and offers participating in the Auction, then:</p> <ol style="list-style-type: none"> <li>1. Consider all eligible prices (i.e., integer increments) from the range of traded prices as matched on the Auction, including intermediate price levels where no trade took place. This ensures that the Auction Price falls within the range of traded prices at the conclusion of the Auction.</li> <li>2. The Auction Price is set where the maximum volume of eligible orders will trade. If there is more than one such price, principle 3 is applied to this select range of prices.</li> <li>3. The Auction Price is set where order imbalances (i.e., surplus volumes) are minimized. These are buying or selling volumes that will not be matched (i.e., leftovers) at a particular price. If there is more than one such price (where match volume is maximized AND order imbalance is minimized), consider principle 4.</li> <li>4. Look at the direction (buy or sell) of the order imbalances. <ol style="list-style-type: none"> <li>a. If there are both buy and sell surplus volumes, the Settlement Price is set to be the average of the two prices where buy and sell surplus volumes switch.</li> <li>b. If all are excess buy (sell) volumes, use the highest (lowest) of these select price levels as the Settlement Price.</li> <li>c. If there are prices where both buy and sell imbalances are zero, the Settlement Price is set to be the average (or mid-point) of these prices.</li> </ol> </li> </ol> <p><b>YLDVOL Settlement Price Calculation</b></p> <p>Once the Auction is concluded, the Settlement Price will be calculated using the following formula:</p> $\text{Settlement Price} = \sqrt{\frac{2\pi}{\tau}} \times \frac{F \times df(T_{1M})}{2 \times \sum_{i=1}^{10} \tau_i \times df(T_{pay_i})}$ <p>Where:</p> <ul style="list-style-type: none"> <li>• <math>\tau</math> is the year fraction from calculation date to the YLDVOL Swaption Straddle expiration date according to ISDA ACT/360 day count convention.</li> <li>• <math>F</math> is the Auction Price.</li> <li>• <math>df(T_{1M})</math> is the discount factor from the Spot Date to the Effective Date, where: <ul style="list-style-type: none"> <li>○ Spot Date is the day that is two business days after calculation date.</li> <li>○ Effective Date is the effective date of the underlying swap and is set two business days after the Expiration Date.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• <math>T_i</math> is the year fraction from the <math>i^{\text{th}}</math> period accrual start date of the underlying swap to the <math>i^{\text{th}}</math> period accrual end date of the underlying swap according to ISDA ACT/360 day count convention.</li> <li>• <math>df(T_{\text{pay}_i})</math> is the discount factor from calculation date to the <math>i^{\text{th}}</math> period payment date of the underlying swap.</li> </ul> <p><b>Fallback Settlement Price Determination:</b></p> <p>If no Settlement Price can be calculated due to a Failed Auction, then Settlement Price shall be calculated in accordance with the following fallback rules:</p> <ol style="list-style-type: none"> <li>using an average of three (3) randomly selected snapshots taken of the levels of YLDVUS Index in the thirty-minute period prior to the Auction;</li> <li>if the process described in the preceding subsection (i) does not produce a Settlement Price, then the YLDVUS Index's prior business day's end-of-day level (using the calculation calendar for the option described in a contract listed in Rule 1318.B to determine the prior business day) shall be used; and</li> <li>if the end-of-day level of YLDVUS Index for the prior business day is not available, the previous month's Settlement Price shall be used to the extent a prior month's Settlement Price is available.</li> </ol> <p><b>Settlement Price Publication</b></p> <p>The Settlement Price will be published by BSEF on <a href="https://www.bloomberg.com/professional/product/swap-execution-facility/">https://www.bloomberg.com/professional/product/swap-execution-facility/</a>. The Settlement Price based on the Auction Price will be published at 10 a.m. EST, and the Settlement Price based on the fallback Settlement Price Determinations will be published at 10:15 a.m. EST</p>
<b>Settlement Date</b>	3 <sup>rd</sup> Friday of the Contract month
<b>Settlement Procedure</b>	Cash-settled  <u>At Maturity:</u> Number of Contracts * Settlement Price * Multiplier = Cash Settlement Value <u>Intra-Period:</u> Index Points * Number of Contracts * Multiplier (Index Points is the difference in value of where the YLDVUS Contract was bought / sold in the market)
<b>Termination of Trading</b>	6:59 p.m. EST on the Business Day prior to the Expiration Date.
<b>Trading Hours</b>	00:01-24:00 EST, from Sunday-Friday
<b>"Made Available to Trade" Determination</b>	None
<b>Mandatory Clearing Determination</b>	None
<b>Clearing House</b>	None
<b>Block Size</b>	As set forth in Appendix F to Part 43 of the CFTC Regulations
<b>Speculative Limits</b>	As set forth in Part 150 of the CFTC Regulations
<b>Reportable Levels</b>	As set forth in CFTC Regulation 15.03