



## Testing of Cboe Volatility Settlement Opening Process

Reference ID: C2019071500

### Overview

On **October 7, 2019**, *pending regulatory approval*, Cboe Options Exchange (“Cboe Options”) will complete a technology migration onto the Bats technology trading platform. In preparation, Cboe has scheduled certain Saturdays on which Trading Permit Holders may participate in testing.

The upcoming test dates are scheduled for:

- July 27
- August 24
- September 14
- October 5 (the final and compulsory test date).

On Saturday, July 27, and for each subsequent Saturday test, Cboe invites TPH participation in the simulation of the new volatility settlement opening process. A test checklist has been prepared for this test and is provided below.

Participants should verify market and configuration data throughout the test, which is available from these sources:

- PITCH/TOP
  - Order-by-Order data, excluding market orders and SLOOs
  - Constituent Symbol Mapping messages
  - AuctionUpdate and AuctionSummary messages (EOI)
  - Width Update Message (disseminated when MCW/OCW are widened or narrowed)
  - SOQ Strike Range Update message (disseminated with the SOQ strike range is modified)
- Cboe Auction Feed
  - Constituent Symbol Mapping messages
  - AuctionUpdate and AuctionSummary messages (EOI)
  - Width Update Message (disseminated when MCW/OCW are widened or narrowed)
  - SOQ Strike Range Update message (disseminated with the SOQ strike range is modified)
- Cboe Opening Auction Feed
  - Constituent Symbol Mapping messages
  - AuctionUpdate and AuctionSummary messages (EOI)
  - Width Update Message (disseminated when MCW/OCW are widened or narrowed)

- SOQ Strike Range Update message (disseminated with the SOQ strike range is modified)
- Auction Update (EOI) messages on the Cboe Website (Hoss Webpage replacement)
  - [https://markets.cboe.com/us/options/market\\_statistics/volatility\\_settlement\\_eoi/?mkt=cone](https://markets.cboe.com/us/options/market_statistics/volatility_settlement_eoi/?mkt=cone)
- Auction Update (EOI) messages via JSON API
  - [https://markets.cboe.com/us/options/market\\_statistics/volatility\\_settlement\\_eoi/json/?mkt=cone](https://markets.cboe.com/us/options/market_statistics/volatility_settlement_eoi/json/?mkt=cone)
- Constituent Series Symbol Mapping File on the Cboe website
  - [https://markets.cboe.com/us/options/market\\_statistics/constituent\\_symbol\\_reference/?mkt=cone](https://markets.cboe.com/us/options/market_statistics/constituent_symbol_reference/?mkt=cone)
- ❖ See also the full specification for the [US Options Opening Process](#).

#### Participant Test Script/Checklist:

In addition to the below, SPX Puts with strikes from 1000-1300 will be selected for controlled testing. Participants should only enter quotes/orders in those series as directed in this script.

NOTE: All times are **Eastern**.

- MMs set QRMs for GTH, volatility opening trades and RTH.
- All participating MMs enter a full surface of SPX and SPXW quotes using the ES future closing value on the preceding Friday.
  - Quotes can be marked either 'R'=RTH-only; or 'A'=All, both RTH+GTH.
- Quotes should be entered in each of the time windows below:
  - Prior to the 9:15 a.m. GTH close (note quotes marked 'A' will participate in GTH and then be added to the RTH pre-open book at 9:15 a.m.).
  - After the 9:15 a.m. GTH close but prior to the 9:20 a.m. cutoff.
  - After the 9:20 a.m. cutoff and through the opening.
- *Expected Result for all above* = Accept.
- Participants (MMs and non-MMs) enter regular market, limit, MOO and LOO orders prior to the 9:20 a.m. cutoff.
  - *Expected Result* = Accept.
- Those who entered pre-cutoff orders attempt to modify them after the 9:20 a.m. cutoff.
  - *Expected result* = Reject; Reason Code = '4'.
- Those who entered pre-cutoff orders attempt to cancel them after the 9:20 a.m. cutoff.
  - *Expected Result* = Reject; Reason Code = '4'.
- MMs and non-MMs with a volatility desk enter replicating orders prior to the 9:20 a.m. cutoff.
  - *Expected Result* = Accept.
- Those who entered replicating orders prior to the 9:20 a.m. cutoff attempt to modify the orders after the cutoff.
  - *Expected Result* = Reject; Reason Code = '4'.
- Those who entered replicating orders prior to the 9:20 a.m. cutoff attempt to cancel the orders after the cutoff.
  - *Expected Result* = Reject; Reason Code = '4'.

Participants enter SLOOs, including a variety of the following:

- Enter SLOO prior to the 9:20 a.m. cutoff.

- *Expected Result* = Reject.
- Enter SLOO to buy below or equal to the Composite Market midpoint.
  - *Expected Result* = Accept.
- Enter SLOO to buy above the Composite Market midpoint.
  - *Expected Result* = Accept and price adjust to collar midpoint. Verify SLOO restatement message.
- Enter SLOO to sell above or equal to the Composite Market midpoint.
  - *Expected Result* = Accept.
- Enter SLOO to sell below the Composite Market midpoint.
  - *Expected Result* = Accept and price adjust to collar midpoint. Verify SLOO restatement message.
- Enter SLOO to sell at \$.05 in a series with a Composite Market midpoint of \$.175 or less.
  - *Expected Result* = Accept with no price adjust.
- Enter SLOO to sell at \$.10 in a series with a Composite Market midpoint of \$.175 or less.
  - *Expected Result* = Accept with no price adjust.
- MMs move quotes to change MM BBO midpoint.
  - *Expected Result* = Applicable SLOOs re-adjust to new midpoint. Verify SLOO restatement message.
  
- Opening “trigger” is the receipt of the first SPX index value after 9:30 a.m. At that point, constituent series move from pre-open/queuing to Rotation.
- Series begin to open one second after opening trigger.
- Series will not open if MM quote BBO is wide, crossed or not present or if there is insufficient liquidity to satisfy market and marketable limit orders within the collar.
- Opening trades occur in series with an acceptable Composite Market, tradeable orders, and an opening price that is within defined collars.
- Un-executed remainders of SLOOs, MOOs and LOOs are automatically cancelled after the opening.

## **Additional Information**

Please contact any of the groups listed below with questions related to this notice.

We appreciate your business and remain committed to powering your potential with Cboe products, technologies and solutions.

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### **Cboe Market Structure and Functionality**

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