



Reminder – Cboe BYX Equities Announces Periodic Auctions Certification Availability

Reference ID: C2022010501

Overview

Applicable Cboe Exchanges: BYX Equities

Effective on a date yet to be determined, Cboe BYX Equities Exchange (“BYX”) will introduce [Periodic Auctions](#), *subject to regulatory review*. Periodic Auctions will be available to test in the BYX certification environment starting January 12, 2022. The Periodic Auction process is a price forming auction that runs for a fixed time period of 100 milliseconds. The two Periodic Auction order types, outlined below, will only be available during the regular trading session and will be non-displayed.

Periodic Auction Order Types

On the effective date, BYX will introduce two Periodic Auction order types: **Periodic Auction Only** and **Periodic Auction Eligible**. A Periodic Auction will start when two opposite side Periodic Auction Orders of either type can match. Continuous book displayed and non-displayed orders are not eligible to initiate a Periodic Auction but may be swept into the auction at the end of the auction process.

Periodic Auction Only

- Will only execute in a Periodic Auction. Will not be eligible for trading in the continuous book.
- Eligible to initiate a Periodic Auction when matched with a contra-side Periodic Auction Order.
- Must include a limit price.
- IOC Periodic Auction Only Orders will not be accepted.

Periodic Auction Eligible

- Eligible to trade in both Periodic Auction and continuous book.
- Eligible to initiate a Periodic Auction when matched with a contra-side Periodic Auction Order.
- Upon entry will (1) trade immediately on the continuous book when the Periodic Auction Eligible order matches with a non-Periodic Auction Eligible order; (2) Initiate a Periodic Auction if the Periodic Auction Eligible order matches with a Periodic Auction Only or Periodic Auction Eligible Order; or (3) post to the book and be ranked as Non-Displayed Limit Orders consistent with Rule 11.12(a). Whether an incoming Periodic Auction Eligible Order trades immediately with the continuous book, initiates a Periodic Auction, or posts to the book is determined by the ranking

of resting continuous book orders, Periodic Auction Eligible orders, and Periodic Auction Only Orders that reside in the System at the time of Periodic Auction Eligible Order entry.

- Will be locked from trading in the continuous book upon initiation of a Periodic Auction.
- IOC Periodic Auction Eligible Orders will not be accepted.

Periodic Auction Details

- Periodic Auction orders will only be available on BYX during the regular trading session (9:30 a.m. – 4:00 p.m. ET).
- Displayed continuous book orders will be executed first using price/time priority, followed by Periodic Auction orders using size/time priority. Hidden continuous book orders will be executed third using standard BYX Priority.
- For odd lot orders in symbols trading below \$500 (based on Last Sale), Periodic Auction Only Orders will be rejected and Periodic Auction Eligible Orders will be restricted from initiating an auction.
- Unlike the Cboe Europe Periodic Auction process, the US auction process will not allow for broker preferencing.
- To prevent potential capacity or performance issues, the Exchange will cancel a Periodic Auction at the end of the Periodic Auction Period if it is unable to successfully process such Periodic Auction after three attempts.

At the end of the auction period, the price where the most shares will trade within the collar will be the auction price. If there are multiple prices where the same number of shares can trade, the price that leaves the smallest imbalance will be the auction price. If there are multiple prices where the same number of shares can trade and leave the smallest imbalance, the price closest to the volume-based tie breaker will be the auction price.

The volume-based tie breaker refers to the midpoint of the NBBO for a particular security where the NBBO is a valid NBBO. A valid NBBO refers to where there is both a NBB and NBO for the security and the NBBO is not crossed. The execution price of the auction must be within the NBBO and the Collared Price Range. The Collared Price Range varies based on the NBBO midpoint.

NBBO Midpoint Price	Collared Price Range from Midpoint
Less than or equal to \$25	10%
Greater than \$25 but less than or equal to \$50	5%
Greater than \$50	3%

Periodic Auction Market Data Messages

- All Periodic Auction messages will be published only over the BYX PITCH Depth of Book feed.
- The existing `Auction Update` message will be added to BYX and sent when a Periodic Auction starts. It will be sent at a randomized time between the start of an auction period and the end of the auction period minus 1 millisecond to inform participants that an auction is taking place.
- The `Auction Update` message will not include order imbalance information or information for continuous book orders.

- The *Auction Update* message will include the following information:
 - *Reference Price* - The collared, auction execution price at the point in time the message is sent using only orders eligible for Periodic Auctions.
 - *Buy Shares/Sell Shares* – Both fields will contain the same value and will represent the paired size that would be executed in the Periodic Auction using only orders eligible for Periodic Auctions.
 - *Auction Type* – The auction will be identified as a Periodic Auction (“P”).

Periodic Auction Order Entry

A new field, *CrossTradeFlag* (FIX Tag 9355), can be used to enter Periodic Auction orders. The following instructions can be used with either FIX or BOE protocol.

Tag	Field Name	Req'd	Description
9355	<i>CrossTradeFlag</i> (NEW)	Y	Can be entered on individual orders or as a port setting. 0 = None (to override port settings if necessary) 1 = Periodic Auction Only 2 = Periodic Auction Eligible
110	<i>MinQty</i>	N	Standard MinQty only. True Min feature not supported in Periodic Auctions.
59	<i>TimeInForce</i>	Y	R = Regular Hours only (Required for Periodic Auction Only orders) All TIFs except FOK, MKT, and IOC supported for Periodic Auction Eligible orders
18	<i>ExecInst</i>	N	Only the following are accepted for Periodic Auction Only orders: R = Primary Peg M = Midpoint Peg All instructions allowed for Periodic Auction Eligible orders except: m = Midpoint (peg to NBBO Midpoint, but do not match when NBBO is locked)
211	<i>PegDifference</i>	N	For Periodic Auction Only Orders, aggressive offsets only for primary peg orders. Orders with passive offsets will be rejected. No restrictions for Periodic Auction Eligible Orders.
9479	<i>DisplayIndicator</i>	Y	I = Invisible

Additionally, the Execution Report will contain a new value for Periodic Auction orders on *TradeLiquidityIndicator* (FIX Tag 9730).

Tag	Field Name	Req'd	Description
9730	<i>TradeLiquidityIndicator</i>	Y	1st Character P = Periodic Auction (NEW)

New Port Attributes

Two new port attributes will be added to FIX and BOE to support Periodic Auctions on BYX.

The “Default CrossTradeFlag” port attribute will enable Members to designate all orders sent on a port as either Periodic Auction Only or Periodic Auction Eligible using *CrossTradeFlag* = 1 or 2. If this port attribute is set, *CrossTradeFlag* = 0 can be used to override the port setting on an order-by-order basis.

The “Lock Auction Orders” port attribute will allow Members to configure whether orders that are participating in a Periodic Auction may be cancelled. A value of “False” (default) will allow cancellations to occur during a Periodic Auction.

All port attributes may be updated by using the [Logical Port Request](#) tool located within the Customer Web Portal.

Sale Condition Code Updates

[CTA](#) and UTP have announced updates to their respective Sale Condition definition.

Testing Opportunities

Periodic Auctions will be available to test in the BYX certification environment starting January 12, 2022.

Additional Information

For more information, please refer to the following technical specifications:

- [US Equities FIX Specification](#)
- [US Equities BOE Specification](#)
- [US Equities Auction Process Specification](#)
- [US Equities TCP Depth of Book Specification](#)
- [US Equities/Options Multicast Depth of Book Specification](#)

Please contact the Cboe Trade Desk for support or with any questions.

We appreciate your business. Our trading community inspires and drives our mission of defining markets.

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