

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34-96081; File No. SR-CBOE-2022-051)

October 14, 2022

Self-Regulatory Organizations; Cboe Exchange, Inc.; Notice of Filing of a Proposed Rule Change to Amend Its Rules Relating to the Processing of Auction Responses

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (the “Act”),<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> notice is hereby given that on October 3, 2022, Cboe Exchange, Inc. (the “Exchange” or “Cboe Options”) filed with the Securities and Exchange Commission (the “Commission”) the proposed rule change as described in Items I, II, and III below, which Items have been prepared by the Exchange. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization’s Statement of the Terms of Substance of the Proposed Rule Change

Cboe Exchange, Inc. (the “Exchange” or “Cboe Options”) proposes to amend its rules relating to the processing of auction responses. The text of the proposed rule change is provided in Exhibit 5.

The text of the proposed rule change is also available on the Exchange’s website (<http://www.cboe.com/AboutCBOE/CBOELegalRegulatoryHome.aspx>), at the Exchange’s Office of the Secretary, and at the Commission’s Public Reference Room.

II. Self-Regulatory Organization’s Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the Exchange included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the

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<sup>1</sup> 15 U.S.C. 78s(b)(1).

<sup>2</sup> 17 CFR 240.19b-4.

proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The Exchange has prepared summaries, set forth in sections A, B, and C below, of the most significant aspects of such statements.

A. Self-Regulatory Organization’s Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

The Exchange seeks to amend its rules related to its auction responses.

Background

The Exchange currently offers a variety of auction mechanisms which provide price improvement opportunities for eligible orders. Particularly, the Exchange offers the following auction mechanisms: Complex Order Auction (“COA”),<sup>3</sup> Step Up Mechanism (“SUM”),<sup>4</sup> Automated Improvement Mechanism (“AIM”),<sup>5</sup> Complex AIM (“C-AIM”),<sup>6</sup> Solicitation Auction Mechanism (“SAM”),<sup>7</sup> Complex SAM (“C-SAM”),<sup>8</sup> FLEX Auction Process,<sup>9</sup> FLEX AIM<sup>10</sup> and FLEX SAM.<sup>11</sup> The Exchange notes that eligible orders are electronically exposed for an Exchange-determined period (collectively referred to herein as “auction response period”) in accordance with the applicable Exchange Rule, during which time Users may submit responses (collectively referred to herein as “auction responses” or “auction response messages”) to an

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<sup>3</sup> See Rule 5.33(d).

<sup>4</sup> See Rule 5.35.

<sup>5</sup> See Rule 5.37.

<sup>6</sup> See Rule 5.38.

<sup>7</sup> See Rule 5.39.

<sup>8</sup> See Rule 5.40.

<sup>9</sup> See Rule 5.72(c).

<sup>10</sup> See Rule 5.73.

<sup>11</sup> See Rule 5.74.

auction message. Trading Permit Holders (“TPHs”) may submit auction responses via logical port connectivity.<sup>12</sup> An auction response may only execute in the applicable auction and is cancelled if it does not execute during an auction. If an auction response is unable to be processed by the System during the auction response period, that auction response is unable to receive any execution opportunity or provide liquidity (and possible price improvement) on the Exchange.

By way of further background, auction response messages historically have waited in the same System queue as all other order and quote message traffic. If an auction response is submitted at a time where there is a deep queue of other message traffic such as mass cancellation messages or other orders and quotes, it is possible that the auction response may not be “processed” by the System in sufficient time (i.e., prior to the end of the auction response period).<sup>13</sup> Particularly, the queued auction response may not be able to participate in the applicable auction mechanism because the System had unprocessed (queued) messages at the time of the auction execution despite the fact that the User submitted the auction response prior to the end of the auction response period. Auctioned orders may therefore be missing out on potential price improvement that may have otherwise resulted if queued timely auction response(s) were able to participate in the auction. Indeed, the Exchange notes that its review of

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<sup>12</sup> A User connects to the Exchange using a logical port available through an API, such as the industry-standard FIX or BOE protocol. Logical ports represent a technical port established by the Exchange within the Exchange’s trading system for the delivery and/or receipt of trading messages, including orders, cancels, and auction responses.

<sup>13</sup> For example, it takes the Exchange’s system approximately 10 microseconds to process a single order/quote or auction response message and, on average, approximately 190 microseconds to process a mass cancel message. As such, under the current system, an auction response that is entered after a mass cancel message is more likely to be detrimentally delayed as compared to a mass cancel message that is entered after an auction response (i.e., a 190 microsecond “wait time” versus a 10 microsecond “wait time”).

auction responses during July 2022 indicated that approximately 55% of auction responses had no opportunity to execute in their respective auctions, notwithstanding being submitted within the auction response period.

The Exchange proposes to adopt new functionality under proposed Rule 5.25(e) which would apply across all of its auction mechanisms to increase the likelihood that timely submitted auction responses may participate in the applicable auction, even during periods of high message traffic. Under the proposed functionality, at the time an auction response period ends, the System will continue to process its inbound queue for any messages that were received before the end of the auction period (including auction messages) for up to an Exchange-determined period of time, not to exceed 100 milliseconds (which the Exchange may determine on a class-by-class basis). That is, any auction responses that were in the queue before the conclusion of the auction (as identified by the Network Interface Card (“NIC”) timestamp on the message)<sup>14</sup> would be processed as long as the Exchange-determined time on a class-by-class basis (not to exceed 100 milliseconds) is not exceeded. Only auction messages received prior to the execution of the applicable auction are eligible to be processed for that auction. The applicable auction will execute once all messages, including auction responses, received before the end time of the auction response period have been processed or the Exchange-determined maximum time limit of up to 100 milliseconds has elapsed, whichever occurs first. This continuation of processing the queue for an additional amount of time for messages that were received before the end of the auction allows for auction responses that would otherwise have been canceled due to the conclusion of the auction response period to still have an opportunity to participate in the auction. This provides such responses with increased opportunities to participate in the auction,

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<sup>14</sup> All incoming messages are “timestamped” by the Exchange’s System.

even during periods of high message traffic, while still providing a processing cut off time to ensure auction executions aren't unduly delayed.

By way of an example, if an auction with an auction response period set to 100 milliseconds were to start at 9:00:00 a.m., only auction responses that were able to be processed by the System by the conclusion of the auction at 9:00:100 would participate in the auction. Accordingly, if, for example, an auction response that was submitted at 9:00:090 (within the auction time response period), is still in the message queue at 9:00:100, that response under the current System functionality would be canceled and not eligible to participate in the auction. Under the proposal, at 9:00:100, because the System continues to process all messages timestamped before 9:00:100, that same auction response submitted at 9:00:090 would not automatically be canceled but rather included in the auction as long as it was able to be processed within an additional 50 milliseconds, which is the additional processing time set by the Exchange for that class in this example. Once that auction response is up for processing (because the System processes messages sequentially in time order sequence), the response will be able to participate in the auction so long as it's processed by 9:00:150, notwithstanding such processing would occur after the 100-millisecond auction response period has concluded. Any auction responses for the pending auction that are still pending after the execution of the auction would be canceled.<sup>15</sup> The Exchange notes that using the same example, if an auction response was submitted at 9:00:120, it would not be eligible for processing because the timestamp would

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<sup>15</sup> If, for example, the System processed all messages received before 9:00:100 by 9:00:110, then the auction would execute at 9:00:110 (i.e., the System does not need to wait until 9:00:150 to execute an auction if all messages submitted prior to the end time of the auction have been processed).

identify it as being submitted outside the auction response period which was otherwise set to conclude at 9:00:100.

The Exchange believes the proposed rule change will result in increased execution opportunities for liquidity providers that submit auction responses and enhance the potential for price improvement for orders submitted to each mechanism to the benefit of investors and public interest. Indeed, the Exchange believes the proposed functionality will increase the possibility that timely submitted auction responses are processed by the Exchange and have an opportunity for execution in the applicable auction mechanism, even if there is a deep pending message queue. The Exchange believes the proposed maximum amount of additional time for processing is both an adequate amount of time to provide pending auction responses with such execution opportunity, but also an amount minimal enough that impact to other message traffic, if any, would be de minimis. Indeed, the Exchange anticipates that in the vast majority of cases, the additional time needed after the conclusion of auction response period, if any, to process all pending auction responses will be shorter than the maximum 100 milliseconds. All message traffic (including auction responses) will continue to be processed in time-priority.

The Exchange also believes the proposal will continue to allow the Exchange to set each auction response period to an amount of time that provides TPHs with sufficient time to respond to, compete for, and provide price improvement for orders while continuing to provide auctioned orders with timely executions that may reduce market and execution risk. It also provides timely submitted auction responses with more execution opportunities in the applicable, even during periods of high message traffic, thereby potentially providing customers with additional opportunities for price improvement.

Finally, in light of the proposed change, the Exchange proposes to modify Rule 5.25 to make clear that the Exchange may determine whether or not to establish a Priority Queue for Auction response messages (indeed, the Exchange anticipates implementing the proposed functionality at this time in lieu of a Priority Queue). The Exchange previously adopted Priority Queue functionality under Rule 5.25, which provides that auction response messages may be processed through a Priority Queue, and all remaining messages would be processed through a General Queue. If the Exchange utilizes a Priority Queue, the System would process a certain number of messages, as determined by the Exchange, from each queue on an alternating basis and prioritize processing messages in each respective queue in the order in which the System receives them (i.e., in time priority). The Exchange adopted Rule 5.25 for similar purposes as this proposal, which is to increase the likelihood that submitted auction responses would have the opportunity to participate in auctions notwithstanding any potential deep queue of pending message traffic. The Exchange believes however, that the proposed new functionality is a more streamlined approach and would further increase the likelihood that timely submitted auction responses are able to participate in an applicable auction. Particularly, under the priority queue functionality, auction responses not processed by the conclusion of the auction response period would still be canceled, whereas, under the proposal, timely submitted auction responses would have the opportunity to be processed for up to an additional 100 milliseconds following the conclusion of the auction response period. Should the Exchange determine it is necessary to utilize a priority queue for auction responses in the future, it would provide notice to all TPHs pursuant to Rule 1.5.

## 2. Statutory Basis

The Exchange believes the proposed rule change is consistent with the Securities Exchange Act of 1934 (the “Act”) and the rules and regulations thereunder applicable to the Exchange and, in particular, the requirements of Section 6(b) of the Act.<sup>16</sup> Specifically, the Exchange believes the proposed rule change is consistent with the Section 6(b)(5)<sup>17</sup> requirements that the rules of an exchange be designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitating transactions in securities, to remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general, to protect investors and the public interest. Additionally, the Exchange believes the proposed rule change is consistent with the Section 6(b)(5)<sup>18</sup> requirement that the rules of an exchange not be designed to permit unfair discrimination between customers, issuers, brokers, or dealers.

In particular, the Exchange believes modifying its System to allow it to potentially process more, if not all, timely submitted auction responses may provide further opportunities for auctioned orders to receive price improvement, which removes impediments to a free and open market and ultimately protects and benefits investors. In particular, the proposed rule change will continue to provide investors with timely processing of their options quote and order messages, while providing investors who submit auction eligible orders with additional auction liquidity. Indeed, the proposed rule change may allow more investors additional opportunities to receive

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<sup>16</sup> 15 U.S.C. 78f(b).

<sup>17</sup> 15 U.S.C. 78f(b)(5).

<sup>18</sup> Id.



price improvement through an auction mechanism. While the Exchange may increase the length of auction response periods to accommodate more auction responses, the Exchange believes the proposed rule change will accommodate more auction responses and allow the Exchange to continue to mitigate the market risk that may accompany a longer auction period for auctioned orders by setting the length of an auction response period to a timeframe that allows an adequate amount of time for TPHs to respond to an auction message and providers orders with fast executions. Additionally, the Exchange believes the proposed functionality may provide liquidity providers that submit auction responses with additional execution opportunities in auctions, which may encourage the submission of more auction responses, which may contribute to a deeper, more liquid auction process that provides investors with additional price improvement opportunities.

The Exchange believes adopting the proposed functionality for auction responses would better provide customers with additional opportunities for price improvements with little to no impact to non-auction response message traffic. Currently, auction responses account for an incredibly small fraction of message traffic submitted to the Exchange. Indeed, based on the Exchange's analysis in July 2022, auction response messages accounted for a mere 0.04% of all message traffic submitted to the Exchange. The Exchange believe the processing of such a small amount of message traffic, even after the conclusion of an auction response period, would therefore have de minimis, if any, impact on the processing of non-auction response messages waiting in the queue. The Exchange also notes that all messages are currently processed one at a time by the System. Therefore, the System still needs to "process" all pending auction responses, regardless of whether that processing involves canceling the pending auction response because it wasn't processed in time to participate in the auction or actually processing the response to

participate in the auction. Either way, the non-auction response messages will still have to wait for processing of any pending responses ahead of it. Conversely, the current system may cause investors to miss out on opportunities to receive price improvement through the Exchange's auction mechanisms as the System is configured to cancel pending auction responses that "miss" the auction execution, even if such responses were timely submitted but not processed due to the System being otherwise occupied processing messages in queue ahead of it. The Exchange therefore believes its proposal will make it more likely that the System processes timely submitted auction responses and includes them in applicable auctions, thus providing them with more opportunities to execute against auctioned orders, even during periods of high message traffic. The Exchange further believes the proposal will continue to allow the Exchange to set an auction response period to an amount of time that provides TPHs with sufficient time to respond to, compete for, and provide price improvement for orders while also continuing to provide auctioned orders with quick executions that may reduce market and execution risk. Accordingly, the Exchange believes the proposal would provide customers with additional opportunities for price improvement and enhance the quality of the auctions, thereby removing impediments to and perfecting the mechanism of a free and open market and a national market system, and, in general protecting investors and the public interest.

The Exchange also believes the proposed rule change is not designed to permit unfair discrimination between market participants as all market participants are allowed to submit auction responses. Additionally, the Exchange believes it's reasonable to adopt the proposed functionality for auction responses as compared to other messages because auction responses are submitted only for the purpose of executing (and possibly providing price improvement) in auctions with short durations, whereas other messages are generally submitted to rest in or

execute against the book (and generally not used to submit liquidity into auctions). As discussed above, the Exchange also believes the benefits that result from the adoption of the proposed functionality for auction responses would outweigh any potential negative impact to other message traffic, including customer orders, which have an incredibly low chance of being affected by the proposed change as discussed above and which continue to receive priority allocation in any event.

The Exchange lastly believes clarifying in Rule 5.25 that the Exchange may utilize priority queue functionality for auction responses provides further transparency in the rules. The Exchange believes the proposed functionality is currently a better alternative to provide timely submitted auction responses with opportunities to participate in an applicable auction as compared to the priority queue functionality. Particularly, under the priority queue functionality, the System may still be unable to process all submitted auction responses, since the System will not include any auction responses that are still in queue at the conclusion of the auction response period in the auction, even if they were submitted in a timely manner. Under the proposed functionality, as discussed, the System identifies and looks to process all auction responses timely submitted and will process such messages even after the conclusion of the auction response period, up to 100 milliseconds, thereby providing a better chance that more auction responses are in fact able to participate in the auction. As noted above, should the Exchange determine it is necessary or appropriate to utilize a priority queue for auction responses in the future, it would provide notice to all TPHs pursuant to Rule 1.5.

B. Self-Regulatory Organization's Statement on Burden on Competition

The Exchange does not believe that the proposed rule change will impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The

Exchange does not believe that the proposed changes will impose any burden on intra-market competition that is not necessary or appropriate in furtherance of the purposes of the Act, as the proposed rule change would apply equally to all TPHs that submit auction responses. As noted above, all market participants are able to submit auction responses. Additionally, the Exchange believes the adoption of the proposed functionality for auction responses would have little to no impact on non-auction response message traffic. As discussed, auction response messages account for an incredibly small fraction of message traffic submitted to the Exchange. The Exchange therefore believes the processing of such a small amount of message traffic by using the functionality would have a de minimis, if any, impact on the processing of non-auction response messages. Moreover, the Exchange believes it's reasonable to adopt the proposed functionality for auction responses as compared to other messages because auction responses are submitted only for the purpose of executing (and possibly providing price improvement) in auctions with short durations, whereas other messages are generally submitted to rest in or execute against the book (and generally not used to submit liquidity into auctions). Lastly, the Exchange does not believe the proposed rule change will impose any burden on inter-market competition that is not necessary or appropriate in furtherance of the purposes of the Act, as the proposed change affects how the System processes auction responses that may only participate in auctions that occur on the Exchange.

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants, or Others

The Exchange neither solicited nor received comments on the proposed rule change.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 45 days of the date of publication of this notice in the Federal Register or within such longer period up to 90 days (i) as the Commission may designate if it finds such longer period

to be appropriate and publishes its reasons for so finding or (ii) as to which the Exchange consents, the Commission will:

- A. by order approve or disapprove such proposed rule change, or
- B. institute proceedings to determine whether the proposed rule change should be disapproved.

#### IV. Solicitation of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

##### Electronic comments:

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>); or
- Send an e-mail to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number SR-CBOE-2022-051 on the subject line.

##### Paper comments:

- Send paper comments in triplicate to Secretary, Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549-1090.

All submissions should refer to File Number SR-CBOE-2022-051. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet website (<http://www.sec.gov/rules/sro.shtml>). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those

that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, 100 F Street, NE, Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. All comments received will be posted without change. Persons submitting comments are cautioned that we do not redact or edit personal identifying information from comment submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR-CBOE-2022-051, and should be submitted on or before [insert date 21 days from publication in the Federal Register].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>19</sup>

J. Matthew DeLesDernier,  
Deputy Secretary.

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<sup>19</sup> 17 CFR 200.30-3(a)(12).