**SECURITIES AND EXCHANGE COMMISSION**

**[Release No. 34-102966; File No. SR-CBOE-2025-031]**

**Self-Regulatory Organizations; Cboe Exchange, Inc.; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend Functionality Relating to the Processing of Auction Responses**

May 1, 2025.

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (the "Act"),[1] and Rule 19b-4 thereunder,[2] notice is hereby given that on April 29, 2025, 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 and II below, which Items have been prepared by the Exchange. The Exchange filed the proposal as a "non-controversial" proposed rule change pursuant to Section 19(b)(3)(A)(iii) of the Act[3] and Rule 19b-4(f)(6) thereunder.[4] 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

The Exchange proposes increase the maximum auction response processing time for non-FLEX SPX options to 1000 milliseconds (including the length of the auction response period) until December 31, 2025. The text of the proposed rule change is provided in Exhibit 5.

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1 15 U.S.C. 78s(b)(1).

2 17 CFR 240.19b-4.

3 15 U.S.C. 78s(b)(3)(A)(iii).

4 17 CFR 240.19b-4(f)(6).

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 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 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"),[5] Step Up Mechanism ("SUM"),[6] Automated Improvement Mechanism ("AIM"),[7] Complex AIM ("C-AIM"),[8] Solicitation Auction Mechanism ("SAM"),[9] and Complex SAM ("C-SAM").[10] The Exchange notes that eligible orders ("auctioned orders") are electronically exposed for an Exchange-determined period (collectively referred to herein as "auction response

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5 See Rule 21.20(d).

6 See Rule 21.18.

7 See Rule 21.19.

8 See Rule 21.22.

9 See Rule 21.21.

10 See Rule 21.23.

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 auction message.

In June 2023, in order to provide responses to these auctions with increased opportunities to participate in the auction, even during periods of high message traffic, and thus potentially provide customers with additional opportunities for price improvement, the Exchange adopted new functionality that applies 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.[11] Under this functionality, at the time an auction response period ends, the System continues to process its inbound queue for any messages that were received by the System before the end of the auction period (including auction responses) 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 which would apply to all auction mechanisms and which would be announced with reasonable advanced notice via Exchange Notice).[12] 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) 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 responses received prior to the execution of the applicable auction are eligible to be processed for

[11] See Rule 5.25(c); see also Securities Exchange Act Release No. 97738 (June 15, 2023), 88 FR 40878 (June 22, 2023) (SR-CBOE-2022-051). This functionality applies to COA, SUM, AIM, SAM, C-AIM, C-SAM, FLEX Auction Process, FLEX AIM, and FLEX SAM.

[12] The auction response processing time is currently set to 100 milliseconds for all classes. See Cboe Exchange Notice C2024111903, available at https://www.cboe.com/notices/content/?id=51420.

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.

The Exchange proposes to increase the permissible maximum length of this Exchange-determined time period with respect to S&P 500 Index options ("SPX options").[13] Specifically, the Exchange proposes to amend Rule 5.25(c) to provide that with respect to SPX options, this Exchange-determined period of time for this continuation of auction response processing plus the length of the auction response or exposure period, as applicable,[14] may not exceed 1000 milliseconds (which the Exchange will continue to announce with reasonable advance notice via Exchange Notice).[15] For example, Rule 5.37(c)(3) permits the Exchange to determine the length of the AIM

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13 The Exchange currently lists SPX options on a group basis pursuant to Rule 4.13(f), with a.m.-settled SPX options trading under symbol SPX and p.m.-settled SPX options trading under symbol SPXW. Pursuant to Rule 1.5(c), the proposed rule change would apply to both groups.

14 Current lengths of auction response and exposure periods are available at cboe_options_product_configurations.xlsx. The COA and AIM/C-AIM auction response periods are currently set to 500 milliseconds for SPX options (other auctions are not currently activated for SPX).

15 The proposed rule change also deletes the second reference to the maximum auction response processing time, as it is redundant, and makes other nonsubstantive changes to the sentence structure of the rule text to accommodate the proposed change. Additionally, the Exchange proposes that this increase in processing time will be in place until December 31, 2025. The Exchange may submit additional rule filings in the future to extend this timeframe or make the change permanent.

auction period, which may be no less than 100 milliseconds and no more than three seconds (i.e., 3000 milliseconds).[16] Currently, the Exchange has set the length of the AIM auction period as 500 milliseconds for SPX options; therefore, as proposed, the length of the auction response processing time may be no longer than 500 milliseconds. If, for example, the Exchange reduced the length of the AIM auction period for SPX options to 100 milliseconds, the length of the auction response processing time may be no longer than 900 milliseconds. The Exchange believes the proposed maximum amount of additional time for processing will result in more auction responses being executed in auctions for SPX options, particularly in times of high message traffic as has occurred in recent weeks.

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.[17] Specifically, the Exchange believes the proposed rule change is consistent with the Section 6(b)(5)[18] 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

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16 The proposed rule change does not lengthen the auction response or exposure period itself but rather increases the length of time after that period ends that the System may continue processing auction responses that were received before the end of that period.

17 15 U.S.C. 78f(b).

18 15 U.S.C. 78f(b)(5).

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)[19] 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 the proposed rule change will remove impediments to a free and open market, as it will allow the Exchange's System to potentially process more, if not all, timely submitted auction responses for SPX options auctions, particularly in times of volatility and high message traffic. This may provide further opportunities for auctioned SPX option orders to receive price improvement, which ultimately benefits investors. In particular, the Exchange believes the proposed rule change will continue to appropriately balance providing investors with timely processing of their SPX options quote and order messages and providing investors who submit SPX orders that are auctioned with additional liquidity. Indeed, the proposed rule change may allow more investors additional opportunities to receive price improvement through an auction mechanism for their SPX orders. Additionally, because the proposed functionality may provide liquidity providers that submit auction responses with additional execution opportunities in auctions, the Exchange believes they may be further encouraged to submit more auction responses, which may contribute to a deeper, more liquid auction process that provides investors with additional price improvement opportunities for their SPX orders. The Exchange believes the proposal will continue to allow the Exchange to set each SPX auction response period or exposure time to an amount of time that provides Trading Permit Holders submitting responses with

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[19] Id.

sufficient time to respond to, compete for, and provide price improvement for orders, but also continues to provide auctioned orders with improved execution opportunities and minimal impact on market and execution risk.

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 SPX orders submitted to each mechanism to the benefit of investors and public interest. The proposed rule change will permit the Exchange, with respect to SPX options, to set a longer time period in which the System may process auction responses the System receives before the end of an auction response or exposure period (as identified by each auction response message's NIC timestamp). The Exchange believes the proposed increase in maximum time 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 will permit the Exchange to respond to times of high message traffic. Given recent volatility in the market, the Exchange has experienced significant increases in SPX volumes and message traffic, given those options may assist investors in achieving broad market protection in times of volatility. As a result, the Exchange has observed deeper pending message queues, resulting in an increased number of auction responses that were received and timestamped before the conclusion of the auction or exposure period but not processed as part of the execution at the conclusion of an auction. Based on these observations, the Exchange believes the proposed maximum time for SPX options will significantly increase the number of timely received auction responses that may execute against an auction order.[20]

While the proposed increase is significant, the Exchange notes that the combined maximum length of the auction response or exposure period plus the auction response processing period is the same length as the longest maximum permissible auction response or exposure period for the applicable auctions.[21] Therefore, the Commission has already determined that letting a price improvement auction occur for up to 3000 milliseconds was (at that time) consistent with the Act (which would permit the combined maximum auction response period plus maximum auction response processing time to be 3100 milliseconds for those auctions). The proposed maximum timeframe is well below this amount of time. Given that the current length of the auctions applicable to SPX options is 500 milliseconds, the proposed rule change would increase the total maximum processing time (auction response period plus response processing) by 400 milliseconds. The proposed rule change provides the Exchange with flexibility to increase the number of auction responses for SPX options that can participate in an

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20 The Exchange has undertaken various steps to improve the performance (including to reduce latency) of the matching engine on which SPX trades. For example, the Exchange recently made hardware and software upgrades. See https://www.cboe.com/notices/content/?id=53830. The Exchange continues to evaluate other potential means that may improve performance and reduce latency for SPX options. The sunset period will permit the Exchange to evaluate whether a longer auction response processing time will continue to be appropriate in times of high volatility.

21 See Rules 5.33(d)(3), 5.37(c)(3), and 5.38(c)(3) (which permits the Exchange to set the length of the COA, AIM, and C-AIM, respectively, auction response periods up to three seconds). The maximum auction response or exposure period for SUM, SAM, and C-SAM is one second (see Rule 5.35(b)(1), 5.39(c)(3), and 5.40(c)(3)), which would make the maximum length of the auction response processing period two seconds (note these auctions are not activated for SPX options). Given the much longer length of FLEX auctions, which may last three seconds to five minutes (see Rules 5.72(c)(1)(F), 5.73(c)(3), and 5.74(c)(3)), the Exchange believes an increase in auction response processing is unnecessary, which is why the Exchange proposes to exclude FLEX SPX options from the proposal. Current lengths of auction response and exposure periods are available at cboe_options_product_configurations.xlsx.

auction without increasing the length of an auction (and may permit the Exchange to reduce the length of an auction). While the Exchange may increase the length of auction response periods to accommodate more auction responses, the Exchange believes shifting some of the already permissible auction response or exposure period time to the auction response processing time that may occur after the conclusion of the auction response or exposure period better addresses the issue of missed auction responses. Particularly, the Exchange believes the proposed rule change will accommodate more auction responses while also mitigating some of the market risk that may accompany a longer auction period by setting the length of an auction response period to a timeframe that both allows an adequate amount of time for Trading Permit Holders to respond to an auction message and provides the auctioned order with fast executions.

Additionally, the Exchange understands some Trading Permit Holders choose to submit auction responses towards the end of an auction response period to better ensure the response is at a price that the market participant is willing to trade given the market at the time the auction response period concludes. This is particularly true during times of higher volatility, as have recently occurred, which times also result in higher message traffic and thus makes it more likely these auction responses will not participate in the auction. As such, extending the auction response period in each auction would not itself prevent auction responses from continuing to miss the auction notwithstanding being timely submitted. Therefore, the Exchange believes extending the auction response processing time is preferable to extending the auction response or exposure period, which the Exchange believes would not prevent auction responses from continuing to miss the auction notwithstanding being timely submitted.

The Exchange believes the proposed increase in maximum auction response processing time for SPX options will provide an adequate amount of time to provide pending auction responses with execution opportunities in times of high message traffic and will continue to have a de minimis impact on other message traffic. Even in times of high message traffic, auction responses continue to represent a small percentage of volume on the Exchange. Auction responses account for a small fraction of message traffic submitted to the Exchange. The Exchange believes the processing of such a small amount of message traffic, even after the conclusion of an auction response period, would therefore continue to have de minimis, if any, impact on the processing of non-auction response messages waiting in the queue, even if that processing occurs over a longer timeframe. 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, regardless of the length of the auction response processing time. Further, updates to prices in the market will still be processed in the same order, and thus executions of the responses at the end of the buffer will not trade through the market at that time. The Exchange notes the proposed rule change makes no changes to how the auction response processing functionality will work (or how any auctions work). Additionally, all message traffic (including auction responses) will continue to be processed in time-priority. Therefore, the Exchange believes any impact of processing additional auction responses for inclusion in an auction rather than cancelling those responses will have minimal impact on message traffic behind them.

The Exchange continues to believe in the vast majority of cases, the additional time needed after the conclusion of an auction response period, if any, to process all pending auction responses will be shorter than the proposed maximum. This is a further benefit of being able to increase the length of the auction response processing time rather than the length of an auction response period. Unlike an auction response period, which must run in its entirety, the auction response processing is adaptable. For example, if the System is "caught up" and processes all auction responses received prior to the completion of a 100 millisecond auction response period within 50 milliseconds after the end of the auction period, the total processing time would be 150 milliseconds. The System only uses the portion of the auction response processing time it needs to process responses with timestamps prior to the end of the auction period (and uses no part of that time if unnecessary to do so). To the extent the Exchange determines a lesser amount of time would be sufficient for SPX options, the Exchange could implement an additional amount of time for processing auction responses that is less than the combined time of 1000 milliseconds, which time would be announced with reasonable advance notice to market participants via Exchange Notice.[22] Additionally, in practice, the Exchange generally discusses with market participants potential changes to the length of auction response or exposure periods and to the auction response processing timer (in which

22 The Exchange generally gives notice one to two weeks in advance of implementation for changes such as this; however, shorter notice may be provided if the Exchange believes it is necessary to maintain fair and orderly markets. The Exchange notes several customers have requested a longer auction response period and has engaged in discussions regarding potential changes to the length of the response period.

discussions the Exchange is currently engaged). Further, given the advanced notice that will be provided of any change, market participants may contact the Exchange to discuss any proposed changes.

The markets have experienced high volatility and market volatility in recent weeks, which has resulted in increased market traffic, particularly in SPX. The Exchange has observed during these higher market traffic times an increase in the number of auction responses not being able to participate in auctions, notwithstanding being timely submitted within the auction response period. The Exchange believes permitting an increased auction response processing time would better provide market participants with additional opportunities for price improvements with very little, if any, impact to non-auction response message traffic, thereby removing impediments to a free and open market and ultimately protecting and benefiting investors. Additionally, because the proposed rule change may provide liquidity providers that submit auction responses with additional execution opportunities in auctions, the Exchange believes they may be further encouraged to submit more auction responses, which may contribute to a deeper, more liquid auction process that provides investors with additional price improvement opportunities.

Given the current maximum auction response processing time, investors may miss out on opportunities to receive price improvement through the Exchange's auction mechanisms, 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 during periods of high message traffic, thus providing them with more opportunities to execute against auctioned orders.

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 intramarket 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 Trading Permit Holders that submit auction responses in SPX options. The Exchange believes it is appropriate to limit the proposed rule change to SPX options to address significantly higher message traffic within that class, particularly in times of volatility given they may assist investors in achieving broad market protection in such times. Additionally, as noted above, the Exchange believes the proposed increase in the maximum auction response processing time will have little to no impact on non-auction response message traffic and continues to be designed to prevent trade-throughs given all messages, including market price updates, will continue to be processed in time priority. 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

Because the foregoing proposed rule change does not: (i) significantly affect the protection of investors or the public interest; (ii) impose any significant burden on competition; and (iii) become operative for 30 days from the date on which it was filed, or such shorter time as the Commission may designate, it has become effective pursuant to Section 19(b)(3)(A)(iii) of the Act[23] and subparagraph (f)(6) of Rule 19b-4 thereunder.[24]

A proposed rule change filed under Rule 19b-4(f)(6) normally does not become operative prior to 30 days after the date of the filing. However, pursuant to Rule 19b-4(f)(6)(iii), the Commission may designate a shorter time if such action is consistent with protection of investors and the public interest. The Exchange has asked the Commission to waive the 30-day operative delay so that the proposed rule change may become operative immediately upon filing to address to the "market volatility in recent weeks, which has resulted in increased message traffic, particularly in SPX options." During those periods the Exchange observed "an increase in the number of auction responses not being able to participate in auctions for SPX orders." The Exchange requests waiver of the operative delay to permit it "to increase the auction response processing time as soon as possible to address this higher market traffic, which will benefit investors as the System will potentially process more, if not all, timely submitted auction responses,

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23 15 U.S.C. 78s(b)(3)(A)(iii).

24 17 CFR 240.19b-4(f)(6). In addition, Rule 19b-4(f)(6)(iii) requires a self-regulatory organization to give the Commission written notice of its intent to file the proposed rule change, along with a brief description and text of the proposed rule change, at least five business days prior to the date of filing of the proposed rule change, or such shorter time as designated by the Commission. The Exchange has satisfied this requirement.

thereby provide further opportunities for auctioned orders to receive price improvement." Further, the Exchange states that "the sunset period will permit the Exchange to evaluate the length of the auction response period as it considers other changes to improve performance of the SPX options matching engine." For those reasons, the Commission believes that waiving the 30-day operative delay is consistent with the protection of investors and the public interest. Accordingly, the Commission designates the proposed rule change to be operative upon filing.[25]

At any time within 60 days of the filing of this proposed rule change, the Commission summarily may temporarily suspend such rule change if it appears to the Commission that such action is necessary or appropriate in the public interest, for the protection of investors, or otherwise in furtherance of the purposes of the Act.

## 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 (https://www.sec.gov/rules/sro.shtml); or
- Send an email to rule-comments@sec.gov. Please include file number SR-CBOE-2025-031 on the subject line.

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25 For purposes only of waiving the 30-day operative delay, the Commission also has considered the proposed rule's impact on efficiency, competition, and capital formation. See 15 U.S.C. 78c(f).

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-2025-031. This file number should be included on the subject line if email 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 (https://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 a.m. and 3 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. Do not include personal identifiable information in submissions; you should submit only information that you wish to make available publicly. We may redact in part or withhold entirely from publication submitted material that is obscene or subject to copyright protection.  All submissions should refer to file number SR-CBOE-2025-031 and should be submitted on or before [INSERT DATE 21 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.[26]

**Sherry R. Haywood,**

*Assistant Secretary.*

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[26] 17 CFR 200.30-3(a)(12).