

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34-101434; File No. SR-CboeEDGX-2024-067)

October 25, 2024

Self-Regulatory Organizations; Cboe EDGX Exchange, Inc.; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Adopt New Functionality 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 16, 2024, Cboe EDGX Exchange, Inc. (the “Exchange” or “EDGX”) filed with the Securities and Exchange Commission (“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<sup>3</sup> and Rule 19b-4(f)(6) thereunder.<sup>4</sup> 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 EDGX Exchange, Inc. (the “Exchange” or “EDGX”) proposes to adopt new functionality 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://markets.cboe.com/us/options/regulation/rule\\_filings/edgx/](http://markets.cboe.com/us/options/regulation/rule_filings/edgx/)), at the Exchange’s Office of the Secretary, and at the Commission’s Public Reference Room.

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

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

<sup>3</sup> 15 U.S.C. 78s(b)(3)(A)(iii).

<sup>4</sup> 17 CFR 240.19b-4(f)(6).

## **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”),<sup>5</sup> Step Up Mechanism (“SUM”),<sup>6</sup> Automated Improvement Mechanism (“AIM”),<sup>7</sup> Complex AIM (“C-AIM”),<sup>8</sup> Solicitation Auction Mechanism (“SAM”),<sup>9</sup> and Complex SAM (“C-SAM”).<sup>10</sup> The Exchange notes that eligible orders (“auctioned order”) 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 auction message. An auction response may only execute in the applicable auction and is cancelled if it does not execute during

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<sup>5</sup> See Rule 21.20(d).

<sup>6</sup> See Rule 21.18.

<sup>7</sup> See Rule 21.19.

<sup>8</sup> See Rule 21.22.

<sup>9</sup> See Rule 21.21.

<sup>10</sup> See Rule 21.23.

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.<sup>11</sup>

By way of further background, Members may submit auction responses via logical port connectivity.<sup>12</sup> Each logical port corresponds to a single running order handler application.<sup>13</sup> Each order handler application processes the messages it receives from the connected Member. This processing includes determining whether the message contains the required information to enter the System and where to send that message within the System (i.e., to which matching engine). Messages are sent from an order handler application to a matching engine via User Datagram Protocol (“UDP”). The Exchange has multiple matching engines, each of which controls the book for one or more classes of options listed for trading on the Exchange. The Exchange may run multiple matching engine applications on a single server. Once at a matching engine, the message is received at a server Network Interface Card (“NIC”), which timestamps each message upon arrival and places it in a queue. Currently, each matching engine processes all messages it receives from a single queue from the NIC and prioritizes the processing of all message traffic, including auction responses, in the order in which the NIC received each message (i.e., in time priority).

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<sup>11</sup> The Exchange notes that its review of auction responses during August 2024 indicated that approximately 4.25% of auction responses had no opportunity to execute in their respective auctions, notwithstanding being submitted within the auction response period.

<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> The Exchange has numerous order handlers and uses an algorithm to determine at random which ports connect to which order handlers. This algorithm attempts to spread out a single Member’s ports across order handlers as well as balance the number of ports that connect to a single order handler.

Auction response messages historically have waited in the same queue as all other order and quote message traffic. As such, 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>14</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.

The Exchange proposes to adopt new functionality under Rule 21.14, new subparagraph (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.<sup>15</sup> 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 by the System 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 which would apply to all auction mechanisms and which would be announced with reasonable advanced notice via Exchange Notice). That is, any auction

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<sup>14</sup> For example, it currently takes the Exchange’s system an approximate average of 12 microseconds to process a single order/quote or auction response message and, on average, approximately 79 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 79 microsecond “wait time” versus a 12 microsecond “wait time”).

<sup>15</sup> Particularly, the proposed functionality would apply to the following Exchange auction mechanisms: COA, SUM, AIM, C-AIM, SAM, and C-SAM.

responses that were in the queue before the conclusion of the auction (as identified by the 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 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, even during periods of high message traffic, thereby potentially providing customers with additional opportunities for price improvement, 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 and announced to market participants with reasonable advance notice via Exchange Notice 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>16</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 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 (i.e., 100 milliseconds) 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. The Exchange also notes that it previously

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<sup>16</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).

discussed the proposed maximum amount with market participants who indicated that 100 milliseconds was acceptable to them. 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. To the extent the Exchange determines a lesser amount of time would be sufficient, the Exchange could implement an additional amount of time for processing auction responses that is less than 100 milliseconds, which time would be announced with reasonable advance notice to market participants via Exchange Notice. Additionally, 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 Members submitting responses with sufficient time to respond to, compete for, and provide price improvement for orders, but also continues to provide auctioned orders with quick executions that may reduce market and execution risk. Further, the Exchange believes some market participants 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. As such, merely extending the auction response period in each auction would not itself prevent auction responses from continuing to miss the auction notwithstanding being timely submitted.

Moreover, the Exchange notes that it recently adopted the same functionality on its affiliated exchange, Cboe Exchange, Inc (“Cboe Options”).<sup>17</sup>

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<sup>17</sup> See Securities Exchange Act Release No. 97738 (June 15, 2023) 88 FR 40878 (June 22, 2023) (SR-CBOE-2022-051) (Order Granting Accelerated Approval of Proposed Rule Change as Modified by Amendment Nos. 1 and 2 Relating to the Processing of Auction Responses).

## Implementation

The Exchange will announce via Exchange Notice the implementation date of implement the proposed rule change, which shall be no later than 60 days after the operative date of this rule filing.

### 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>18</sup> Specifically, the Exchange believes the proposed rule change is consistent with the Section 6(b)(5)<sup>19</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>20</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

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<sup>18</sup> 15 U.S.C. 78f(b).

<sup>19</sup> 15 U.S.C. 78f(b)(5).

<sup>20</sup> Id.

continue to provide investors with timely processing of their options quote and order messages, while providing investors who submit auction orders with additional auction liquidity. Indeed, the proposed rule change may allow more investors additional opportunities to receive price improvement through an auction mechanism. 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.

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. As described above, 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 (i.e., 100 milliseconds) 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. The Exchange also discussed the proposed maximum amount of time with market participants who indicated that 100 milliseconds was acceptable to them. As represented above, 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. To the extent the Exchange determines a lesser amount of time would be sufficient, the Exchange could

implement an additional amount of time for processing auction responses that is less than 100 milliseconds, which time would be announced with reasonable advance notice to market participants via Exchange Notice. Additionally, all message traffic (including auction responses) will continue to be processed in time-priority.

While the Exchange may increase the length of auction response periods to accommodate more auction responses, the Exchange believes the proposed functionality better addresses the issue of missed auction responses. Particularly, the Exchange believes the proposed rule change will accommodate more auction responses while also mitigating market risk that may accompany a longer auction period by setting the length of an auction response period to a timeframe that allows an adequate amount of time for Members to respond to an auction message and provides the auctioned order with fast executions. Additionally, the Exchange believes Members may wait until the end of an auction response period regardless of how long the Exchange sets it to in order to ensure they are comfortable with the price the response may execute at the conclusion of such 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.

The Exchange believes adopting the proposed functionality for auction responses would also 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 August 2024, auction response messages accounted for a mere 0.01% 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 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 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.

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 Members 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**

The Exchange has filed the proposed rule change pursuant to Section 19(b)(3)(A)(iii) of the Act<sup>21</sup> and Rule 19b-4(f)(6) thereunder.<sup>22</sup> Because the 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 prior to 30 days from the date on which it was filed, or such shorter time as the Commission may designate, if consistent with the protection of investors and the public interest, the proposed rule change has become effective pursuant to Section 19(b)(3)(A) of the Act<sup>23</sup> and Rule 19b-4(f)(6)(iii) thereunder.<sup>24</sup>

A proposed rule change filed under Rule 19b-4(f)(6)<sup>25</sup> normally does not become operative prior to 30 days after the date of the filing. However, pursuant to Rule 19b-4(f)(6)(iii),<sup>26</sup> the Commission may designate a shorter time if such action is consistent with the protection of investors and the public interest. The Exchange has asked the Commission to

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<sup>21</sup> 15 U.S.C. 78s(b)(3)(A)(iii).

<sup>22</sup> 17 CFR 240.19b-4(f)(6).

<sup>23</sup> 15 U.S.C. 78s(b)(3)(A).

<sup>24</sup> 17 CFR 240.19b-4(f)(6). In addition, Rule 19b-4(f)(6)(iii) requires the Exchange to give the Commission written notice of the Exchange’s 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.

<sup>25</sup> 17 CFR 240.19b-4(f)(6).

<sup>26</sup> 17 CFR 240.19b-4(f)(6)(iii).

waive the 30-day operative delay so that the proposal may become operative immediately upon filing. As discussed above, the Exchange states that this proposed rule change provides substantively identical functionality as a rule previously approved by the Commission from the Exchange's affiliate, Cboe Options.<sup>27</sup> The Exchange believes that the waiver of the operative delay will protect investors by allowing the Exchange to implement the proposed functionality as soon as possible, which will benefit investors as the System will potentially process more, if not all, timely submitted auction responses. The Commission believes that the waiver of the operative delay is consistent with the protection of investors and the public interest because it may permit the Exchange to provide further opportunities for auctioned orders to receive price improvement, which may in turn remove impediments to a free and open market and benefit investors. Accordingly, the Commission hereby waives the 30-day operative delay and designates the proposal operative upon filing.<sup>28</sup>

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. If the Commission takes such action, the Commission shall institute proceedings under Section 19(b)(2)(B)<sup>29</sup> of the Act to determine whether the proposed rule change should be approved or disapproved.

#### **IV. Solicitation of Comments**

Interested persons are invited to submit written data, views and arguments concerning the

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<sup>27</sup> See supra note 17.

<sup>28</sup> For purposes only of waiving the 30-day operative delay, the Commission has considered the proposed rule's impact on efficiency, competition, and capital formation. See 15 U.S.C. 78c(f).

<sup>29</sup> 15 U.S.C. 78s(b)(2)(B).

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](mailto:rule-comments@sec.gov). Please include file number SR-CboeEDGX-2024-067 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-CboeEDGX-2024-067. 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-CboeEDGX-2024-067 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.<sup>30</sup>

**J. Matthew DeLesDernier,**

*Deputy Secretary.*

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<sup>30</sup> 17 CFR 200.30-3(a)(12).