

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

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Form 19b-4 Information *

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The self-regulatory organization must provide all required information, presented in a clear and comprehensible manner, to enable the public to provide meaningful comment on the proposal and for the Commission to determine whether the proposal is consistent with the Act and applicable rules and regulations under the Act.

Exhibit 1 - Notice of Proposed Rule Change *

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The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO]-xx-xx). A material failure to comply with these guidelines will result in the proposed rule change being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)

Exhibit 1A- Notice of Proposed Rule Change, Security-Based Swap Submission, or Advance Notice by Clearing Agencies *

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The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO]-xx-xx). A material failure to comply with these guidelines will result in the proposed rule change, security-based swap submission, or advance notice being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)

Exhibit 2 - Notices, Written Comments, Transcripts, Other Communications

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Exhibit Sent As Paper Document

Copies of notices, written comments, transcripts, other communications. If such documents cannot be filed electronically in accordance with Instruction F, they shall be filed in accordance with Instruction G.

Exhibit 3 - Form, Report, or Questionnaire

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Exhibit Sent As Paper Document

Copies of any form, report, or questionnaire that the self-regulatory organization proposes to use to help implement or operate the proposed rule change, or that is referred to by the proposed rule change.

Exhibit 4 - Marked Copies

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The full text shall be marked, in any convenient manner, to indicate additions to and deletions from the immediately preceding filing. The purpose of Exhibit 4 is to permit the staff to identify immediately the changes made from the text of the rule with which it has been working.

Exhibit 5 - Proposed Rule Text

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The self-regulatory organization may choose to attach as Exhibit 5 proposed changes to rule text in place of providing it in Item I and which may otherwise be more easily readable if provided separately from Form 19b-4. Exhibit 5 shall be considered part of the proposed rule change.

Partial Amendment

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If the self-regulatory organization is amending only part of the text of a lengthy proposed rule change, it may, with the Commission's permission, file only those portions of the text of the proposed rule change in which changes are being made if the filing (i.e. partial amendment) is clearly understandable on its face. Such partial amendment shall be clearly identified and marked to show deletions and additions.

Partial Amendment No. 1 to SR-IEX-2017-10

Investors Exchange LLC (“IEX” or the “Exchange”) is filing this Partial Amendment No. 1 to SR-IEX-2017-10, which was originally submitted on April 25, 2017, and is available on the Exchange’s public website.¹ Pursuant to SR-IEX-2017-10, the Exchange proposed rule changes to adopt rules governing auctions conducted on the Exchange, including dissemination of auction-related market data, for securities listed on the Exchange pursuant to Chapter 14 of the IEX Rule Book. In addition, the Exchange proposed to amend IEX Rule 11.280 to add provisions governing trading halts and trading pauses pursuant to the Limit Up-Limit Down Plan (“LULD” or the “LULD Plan”) in IEX-listed securities.

This Partial Amendment No. 1 proposes to: (i) clarify the price determination process for auctions in IEX-listed securities and make a conforming change to the definition of “Reference Price” under proposed Rule 11.350(a)(9)(A) to account for the modified clearing price determination language; (ii) slightly modify several definitions to account for an edge case scenario involving securities in Test Groups Two and Three of the Plan to Implement a Tick Size Pilot Program (the “Tick Plan”),² while also maintaining continuity in the Exchange’s handling of securities for auctions in IEX-listed securities; (iii) amend Supplementary Material .02 of proposed Rule 11.350(a), and proposed Rule 11.350(f)(2)(D)(ii) regarding the process for effecting incremental

¹ See www.iextrading.com/regulation/rule-filings/

² See Securities and Exchange Act Release No. 74892 (May 6, 2015), 80 FR 27513 (File No. 4-657) (“Tick Plan Approval Order”). See also Securities and Exchange Act Release No. 76382 (November 6, 2015) (File No. 4-657), 80 FR 70284 (File No. 4-657) (November 13, 2015), which extended the pilot period commencement date from May 6, 2016 to October 3, 2016.

extensions of the Order Acceptance Period following a Limit Up-Limit-Down Trading Pause; (iv) make a conforming change to Rule 11.271 (Trading Halts), in order to account for order entry during the Order Acceptance Period for a Halt Auction pursuant to proposed Rule 11.350(e); and (v) make various clarifying edits to the proposed rules and Form 19b-4 Information, as well as conforming changes to the Exhibit 1, which are designed to provide further clarity on the proposed functionality governing auctions on the Exchange.

Background and Proposed Rules

In SR-IEX-2017-10, the Exchange proposed, in relevant part, to amend IEX Rule 11.350 (which is currently reserved) to adopt rules governing auctions conducted on the Exchange for IEX-listed securities pursuant to Chapter 14 of the IEX Rule Book (“IEX Auctions”). Specifically, the Exchange proposed adoption of definitions to govern IEX Auctions in paragraph (a) of IEX Rule 11.350. Proposed paragraph (b) sets forth IEX Auction priority rules, describing how orders shall be ranked in the Opening, Closing, initial public offering (“IPO”), Halt, and Volatility Auctions. Proposed paragraph (c) sets forth the process for conducting an opening auction on the Exchange (“Opening Auction”), determining an official opening price for dissemination to the consolidated tape (“IEX Official Opening Price”), and contingency procedures that shall apply when a disruption occurs that prevents the execution of the Opening Auction. Proposed paragraph (d) describes the process for conducting a closing auction on the Exchange (“Closing Auction”), determining an official closing price for dissemination to the consolidated tape (“IEX Official Closing Price”), and primary and secondary contingency procedures that shall apply when a disruption occurs that prevents the execution of the

Closing Auction. Proposed paragraph (e) describes the Exchange's process for conducting an auction in the event of an IPO or launch of a new issue, or following a trading halt ("IPO Auction" or "Halt Auction", respectively), determining the opening price for dissemination to the consolidated tape in the case of an IPO Auction ("IEX Official IPO Opening Price") or the re-opening trade following a trading halt ("IEX Re-opening Trade" or "IEX Official Opening Price" if the security has not traded during the Regular Market Session on that trading day), and contingency procedures that shall apply when a disruption occurs that prevents the execution of the IPO or Halt Auction.

Proposed paragraph (f) describes the Exchange's process for conducting an auction following an LULD trading pause ("Volatility Auction"), determination of the IEX Re-opening Trade, or the IEX Official Closing Price when closing with a Volatility Auction, and contingency procedures that shall apply when a disruption occurs that prevents the execution of the Volatility Auction.

Auction Clearing Price

Proposed Rules 11.350(c)(2)(B), 11.350(d)(2)(B), 11.350(e)(2)(C), 11.350(f)(2)(E), and 11.350(f)(3)(B)(ii) set forth the process for determining the auction price for Opening Auctions, Closing Auctions, IPO and Halt Auctions, Volatility Auctions, and closing with a Volatility Auction, respectively (collectively, the "clearing price determination"). The Exchange proposed a standardized clearing price determination for IEX Auctions designed to enable Users to participate in electronic price discovery mechanisms that match orders in each IEX-listed security at a single price (i.e., the clearing price) using a double auction process.

Specifically, as proposed, IEX Auctions will occur at the price that maximizes the

number of shares of Auction Eligible Orders³ to be executed. If more than one price maximizes the number of shares of Auction Eligible Orders to be executed, the auction shall occur at the entered price at which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order). If more than one price maximizes the number of shares of Auction Eligible Orders to be executed, and there are multiple entered prices at which shares will remain unexecuted in the auction, the auction shall occur at the price that minimizes the distance from the Volume Based Tie Breaker⁴ (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is closest or equal to the Volume Based Tie Breaker). In the case of an Opening or Closing Auction, if the auction price established through the process detailed above is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar,⁵ the auction price will be the price at or within the range of prices between the lower (upper) threshold of the Opening/Closing Auction Collar and the lower (upper) threshold of the Reference Price Range that best satisfies the conditions of subparagraphs (i) through (iii) of proposed Rules 11.350(c)(2)(B) and 11.350(d)(2)(B).

As set forth above, if more than one price maximizes the number of shares to be executed in the auction, and shares are also left unexecuted at more than one price (resulting in an “auction price range”), the clearing price shall be the price within the

³ See proposed Rule 11.350(a)(2).

⁴ See proposed Rule 11.350(a)(33).

⁵ See proposed Rule 11.350(a)(27).

auction price range that minimizes the distance from the Volume Based Tie Breaker.⁶

Under proposed Rule 11.350(a)(33), the Exchange defines the Volume Based Tie Breaker for an Opening or Closing Auction as the midpoint of the Reference Price Range. If the Reference Price Range is a single price, the Volume Based Tie Breaker would be equal to the Reference Price Range. In the case of a Halt Auction, or Volatility Auction that is not determining the IEX Official Closing Price, the Volume Based Tie Breaker would be equal to the Latest Consolidated Last Sale Eligible Trade. In the case of a Volatility Auction that is determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Final Consolidated Last Sale Eligible Trade. In the case of an IPO Auction, the Volume Based Tie Breaker shall be equal to the issue price.

Proposed Rule 11.350(a)(30) defines the Reference Price Range for a Volatility Auction as the prices between and including the applicable Volatility Auction Collar.⁷

For an Opening or Closing Auction, the Reference Price Range is defined as the prices

⁶ Proposed Rule 11.350(a)(9)(A) defines the Reference Price as the single price at or within the Reference Price Range at which orders on the Auction Book would match if the IEX Auction were to occur at that time of dissemination. The Reference Price is set to the price that maximizes the number of the shares from orders on the Auction Book to be executed in the auction. If more than one price maximizes the number of shares that will execute, the Reference Price is set to the entered price at which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order). If more than one price satisfies the above conditions (i.e., shares are maximized at each price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order, resulting in an “auction price range”), the Reference Price is set to the price within the auction price range that minimizes the distance from either the Volume Based Tie Breaker (if the auction price range includes prices in the Reference Price Range) or the Reference Price Range (if the auction price range does not include prices in the Reference Price Range) at the time of dissemination. In the case of an IPO or Halt Auction, the Reference Price shall be the same as the Auction Book Clearing Price.

⁷ See proposed Rule 11.350(a)(31), which defines the Volatility Auction Collar.

between and including the Protected NBB and Protected NBO for a particular security where the Protected NBBO is a Valid Protected NBBO. The Protected NBBO is a “Valid Protected NBBO” where there is both a Protected NBB and Protected NBO for the security, the Protected NBBO is not crossed, and the midpoint of the Protected NBBO is less than or equal to the Maximum Percentage⁸ away from both the Protected NBB and the Protected NBO. Where the Protected NBBO is not a Valid Protected NBBO, the IEX BBO will be used where the IEX BBO is a Valid IEX BBO. The IEX BBO is a “Valid IEX BBO” where there is both an IEX best bid and an IEX best offer for the security, and the midpoint of the IEX BBO is less than or equal to the Maximum Percentage away from both the IEX best bid and the IEX best offer. Where the IEX BBO is not a Valid IEX BBO, the Reference Price Range is set to the higher (lower) price of the Final Consolidated Last Sale Eligible Trade, or either the Protected NBB (NBO), if not crossed, or the IEX best bid (offer). If there is neither a Protected NBBO nor an IEX BBO, the Reference Price Range will be the Final Consolidated Last Sale Eligible Trade.

Volatility Auction Collar Extensions

Pursuant to proposed Rule 11.350(a)(31), the Volatility Auction match must occur at or within the upper and lower thresholds of the Volatility Auction Collar. If there is a market order imbalance or the clearing price determination process arrives at a clearing price above (below) the upper (lower) threshold of the Volatility Auction Collar (in either case, an “Impermissible Price”), the Volatility Auction Order Acceptance Period will be extended five (5) minutes and the Volatility Auction Collar will be updated as described

⁸ See proposed Rule 11.350(a)(26), which defines the Maximum Percentage.

below.⁹ The proposed Volatility Auction Collar functionality was designed to be consistent with the commitment made by each primary listing exchange set forth in Amendment 12 to the Plan to Address Extraordinary Market Volatility Pursuant to Rule 608 of Regulation NMS under the Act (the “Limit Up-Limit Down Plan”) to file rule changes with the Commission under Section 19(b) of the Securities Exchange Act of 1934 (the “Act”) to amend its respective trading practice for automated reopening’s following a trading pause consistent with a standardized approach agreed to by Limit Up-Limit Down Plan Participants that would allow for extensions of an LULD trading pause if equilibrium cannot be met for a reopening price within specified parameters.¹⁰

Specifically, the Order Acceptance Period may be extended for five (5) minutes pursuant to proposed Rule 11.350(f)(2)(D) if the conditions set forth in proposed Rules 11.350(f)(2)(C)(i) or (C)(ii) exist (the “Initial Extension Period”). After the Initial Extension Period, the Order Acceptance Period may be extended for additional five (5) minute periods pursuant to proposed rule 11.350(f)(2)(D) if the conditions set forth in proposed Rule 11.350(f)(2)(C)(i) or (C)(ii) exist (each an “Additional Extension Period”) until a Volatility Auction occurs. At the beginning of the Initial Extension Period, the upper (lower) Volatility Auction Collar shall be increased (decreased) by five percent

⁹ See proposed Rules 11.350(a)(17) and 11.350(f)(2)(C)(ii).

¹⁰ See, for example, Securities Exchange Act Release Nos. 79162 (October 26, 2016), 81 FR 75875 (November 1, 2016) (SR-BatsBZX-2016-61); 79158 (October 26, 2016), 81 FR 75879 (November 1, 2016) (SR-NASDAQ-2016-131); and 79107 (October 18, 2016), 81 FR 73159 (October 24, 2016) (SR-NYSEArca-2016-130) and Securities Exchange Act Release No. 79410 (November 28, 2016), 81 FR 87115 (December 2, 2016); File No. 4-631 (Notice of Filing of the Twelfth Amendment to the National Market System Plan to Address Extraordinary Market Volatility).

(5%) in the direction of the Impermissible Price, rounded to the nearest passive MPV.¹¹

For securities with a Volatility Auction Collar Reference Price of \$3.00 or less, the Volatility Auction Collar shall be increased (decreased) in \$0.15 increments in the direction of the Impermissible Price. At the beginning of each Additional Extension Period, the Volatility Auction Collar shall be widened in accordance with this paragraph by the same method as the Initial Extension Period

Trading Halts and Halt Auctions

Exchange Rule 11.271 (Trading Halts) currently states that the Exchange does not accept any orders in a security subject to a trading halt at the time of a trading halt, and that an order submitted during a halt will be rejected by the System. Furthermore, any orders resting on the Order Book at the time of a trading halt will not be canceled by the System. Moreover, all orders resting on the Order Book in a security subject to a trading halt at the time of a trading halt will be unavailable for trading or re-sweep during the trading halt, but will be available for cancellation by the submitting User. Lastly, during a trading halt, all quotes disseminated by the Exchange for such security will be set to zero. In contrast, proposed Rule 11.350(e) sets forth the process for conducting a Halt Auction after an IEX-listed security is subject to a trading halt. Proposed Rule 11.350(e)(1)(A) states that Users may submit Auction Eligible Orders to the Exchange at the beginning of the Order Acceptance Period for participation in an IPO or Halt Auction. Proposed Rule 11.350(a)(29) defines the term “Order Acceptance Period”, in relevant part, as the period of time during which the Exchange accepts orders submitted for participation in a Halt Auction, and begins five (5) minutes prior to the scheduled auction match.

¹¹ See proposed Rule 11.350(d)(2)(D)(ii), and IEX Rule 11.210.

Plan to Implement a Tick Size Pilot Program

On May 6, 2015, the Securities & Exchange Commission (SEC) issued an order approving the National Market System (NMS) Plan to implement the Tick Plan by the National Securities Exchanges and FINRA.¹² The Tick Plan ordered the widening of quoting and trading increments for a group of Pilot Securities, which are subdivided into three Test Groups and a Control Group, each with its own requirements and exceptions relating to quoting and trading increments.¹³ Specifically, section VI of the Plan states that Pilot Securities in:

- The Control Group may be quoted and traded at any price increment that is currently permitted;
- Test Group One must be quoted in \$0.05 minimum increments, but may continue to trade at any price increment that is currently permitted;¹⁴
- Test Group Two must be quoted and traded in \$0.05 minimum increments unless they meet the requirements of certain exemptions for midpoint executions, retail investor executions, and negotiated trades; and
- Test Group Three are subject to the same quoting and trading requirements as Test Group Two, along with the applicable quoting and trading exceptions. In addition, Pilot Securities in Test Group Three are subject to a trade-at prohibition.¹⁵

As a Tick Plan Participant, the Exchange is subject to the applicable requirements of the Plan, and has adopted Rule 11.340, which sets forth the obligations of the

¹² See *supra* note 2.

¹³ See *id.*, Exhibit A, Plan to Implement a Tick Size Pilot Program (<https://www.sec.gov/rules/sro/nms/2015/34-74892-exa.pdf>).

¹⁴ Note, orders priced to execute at the midpoint and orders entered in a Participant-operated retail liquidity program may be ranked and accepted in increments of less than \$0.05.

¹⁵ Note, the trade-at prohibition restricts the execution of a buy (sell) order at the price of a protected offer (bid), unless the order is executed pursuant to an exception set forth under section VI(D)(1)-(13) of the Plan.

Exchange and its Members' pursuant thereto.

Proposed Amendments

Process for Determining the Opening Match Price

The Exchange is proposing an amendment to the clearing price determination to provide additional clarity on how the auction price is determined when the number of shares to be executed in the auction are maximized at more than one price resulting in a range of possible auction prices. The proposed amendment is designed to clarify that the range of valid auction prices is constrained to prices that are not lower (higher) than the most aggressive unexecuted buy (sell) order (i.e., IEX Auctions are designed to prevent executing the auction at a price that would “trade-through” the price at which shares will remain unexecuted in the auction).¹⁶

Furthermore, the Exchange is proposing a conforming revision to the clearing price determination when there is more than one price at or within the auction price range that is not lower (higher) than the most aggressive unexecuted buy (sell) order. The conforming change is designed to clarify that the auction shall occur at the price closest or equal to the Volume Based Tie Breaker. The amendment proposed above is a simplification of the original proposed rules that is designed to conform to the proposed

¹⁶ The Exchange notes that if there are both buy and sell orders that will remain unexecuted in the auction, the auction would be restricted from executing at a price lower than the most aggressive unexecuted buy order and higher than the most aggressive unexecuted sell order. Furthermore, if the number of shares to be executed in the auction are maximized at a range of prices, but are not left unexecuted at any price level within such range (for example, in the event buy order shares equal sell order shares at a range of prices and the most aggressive unexecuted buy order is lower than such range, and the most aggressive unexecuted sell order is above such range), then the auction price would be the price closest or equal to the Volume Based Tie Breaker.

amendment to the clearing price determination when the number of shares to be executed in the auction are maximized at more than one price resulting in a range of possible auction prices. In order to effectuate this change, the Exchange proposes the following amendments to proposed rules:

1. Proposed Rule 11.350(c)-(f) would be revised by rewording subparagraphs (c)(2)(B)(ii), (d)(2)(B)(ii), (e)(2)(C)(ii), (f)(2)(E)(ii), and (f)(3)(B)(ii)(b) to state that if the number of shares to be executed in the auction are maximized at more than one price resulting in an auction price range, the applicable auction shall occur at the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order.
2. Proposed Rule 11.350(c) – (f) would be revised by rewording subparagraphs (c)(2)(B)(iii), (d)(2)(B)(iii), (e)(2)(C)(iii), (f)(2)(E)(iii), and (f)(3)(B)(ii)(c), to state that if there is more than one price at or within the auction price range that is not lower (higher) than the most aggressive unexecuted buy (sell) order, the auction shall occur at the price closest or equal to the Volume Based Tie Breaker.

The Exchange is also proposing to make a conforming change to proposed Rule 11.350(a)(9)(A), which defines the Reference Price field disseminated in IEX Auction Information. The Reference Price is calculated using the auction clearing price determination, but is constrained to the Reference Price Range, which is generally the Protected NBBO. Accordingly, the Exchange is proposing to carry through the proposed amendments to the clearing price determination into the definition of Reference Price.

The Exchange notes, importantly, that the amendments proposed above alter only wording, and do not alter the underlying functionality of the proposed rules as described

in SR-IEX-2017-10.

Lastly, the Exchange is proposing to amend proposed Rule 11.350(e)(2)(C) to clarify how the IEX Official Opening Price¹⁷ is determined when pursuant to Rule 11.350(c)(2)(D) or (E), IEX has not determined the IEX Official Opening Price for an IEX-listed security, and a Halt Auction scheduled to occur during the Regular Market Session will determine the IEX Official Opening Price. Specifically, in such cases, when there is insufficient trading interest to complete the Halt Auction, the transition to the Regular Market Session shall be conducted pursuant to proposed Rule 11.350(e)(3), no auction will occur, and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.

The Exchange believes the amendments described above do not fundamentally alter the proposed clearing price determination, but rather seek to bring clarity to the clearing price determination originally proposed. Moreover, the Exchange believes the proposed amendments would further clarify and add additional detail to the proposed auction processes, and eliminate potential confusion among market participants regarding the auction clearing price.

Consistent with the foregoing, the Exchange is proposing to make the following amendments to proposed rules as set forth below (proposed new language is underlined; proposed deletions are in brackets):

- Proposed Rule 11.350(c)(2)(B) is amended as follows:
 - Determination of IEX Official Opening Price. The IEX Official Opening Price will be the price of the Opening Auction. In the event that there is no Opening Auction for an IEX-listed security, the security will be released for trading

¹⁷ See proposed Rule 11.350(a)(12).

pursuant to section (3) below, and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.

- (i) The Opening Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
 - (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the Opening Auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)];
 - (iii) If more than one price exists under subparagraph (ii), the Opening Auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is] closest or equal to the Volume Based Tie Breaker)]; and
 - (iv) If the Opening Auction price established by subparagraphs (i) through (iii) is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Opening Auction, the IEX Official Opening Price will be the price at or within the range of prices between the lower (upper) threshold of the Opening/Closing Auction Collar and the lower (upper) threshold of the Reference Price Range that best satisfies the conditions of subparagraphs (i) through (iii).
- Proposed Rule 11.350(d)(2)(B) is amended as follows:
 - Determination of IEX Official Closing Price. The IEX Official Closing Price will be the price of the Closing Auction. In the event that there is no Closing Auction for an IEX-listed security, the IEX Official Closing Price will be the price of the Final Last Sale Eligible Trade, and the security will be released for trading pursuant to section (3) below.
 - (i) The Closing Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
 - (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the Closing Auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)];
 - (iii) If more than one price exists under subparagraph (ii), the Closing Auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is] closest or equal to the Volume Based Tie

Breaker[]); and

(iv) If the Closing Auction price established by subparagraphs (i) through (iii) is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Closing Auction, the IEX Official Closing Price will be the price at or within the range of prices between the lower (upper) Opening/Closing Auction Collar and the lower (upper) threshold of the Reference Price Range that best satisfies the conditions of subparagraphs (i) through (iii).

- Proposed Rule 11.350(e)(2)(C) is amended as follows:
 - Determination of IEX IPO Opening Price and IEX Re-opening Trade. The IPO Auction price will be the IEX Official IPO Opening Price. The execution resulting from the Halt Auction will be the IEX Re-opening Trade. If there is insufficient trading interest in the System to execute a Halt Auction for that security, no Halt Auction will occur, and the security will be released for trading pursuant to section (3) below. Pursuant to Rule 11.350(c)(2)(D) or (E), as applicable, if IEX has not determined the IEX Official Opening Price for an IEX-listed security, and the Halt Auction is scheduled to occur during the Regular Market Session, the IEX Official Opening Price will be the price of the Halt Auction. If there is insufficient trading interest to complete the Halt Auction, the transition to the Regular Market Session shall be conducted pursuant to Rule 11.350(e)(3) below, no auction will occur, and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.
 - (i) The auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
 - (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)]; and
 - (iii) If more than one price exists under subparagraph (ii), the auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is] closest or equal to the Volume Based Tie Breaker[]].
 - (iv) If the IPO Auction price established by subparagraphs (i) through (iii) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(e)(2)(B)(i)-(iii), the Order Acceptance Period shall be extended accordingly; or
 - (v) If the Halt Auction price established by subparagraphs (i) through (iii) meets the conditions for extending the Order Acceptance Period described

in Rule 11.350(e)(2)(B)(i)-(ii), the Order Acceptance Period shall be extended accordingly.

- Proposed Rule 11.350(f)(2)(E) is amended as follows:
 - Determination of IEX Re-Opening Trade. The execution resulting from the Volatility Auction will be the IEX Re-opening Trade. If there is insufficient trading interest in the System to execute the Volatility Auction for that security, no Volatility Auction will occur, and the security will be released for trading pursuant to section (G) below. Pursuant to Rule 11.350(c)(2)(F), if IEX has not determined the IEX Official Opening Price for an IEX-listed security, and the security is subject to an LULD trading pause, the IEX Official Opening Price will be the price of the Volatility Auction.
 - (i) The Volatility Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
 - (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the Volatility Auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)]; and
 - (iii) If more than one price exists under subparagraph (ii), the Volatility Auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is] closest or equal to the Volume Based Tie Breaker[]].
 - (iv) If the Volatility Auction price established by subparagraphs (i) through (iii) is outside the Volatility Auction Collar, the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(C)(ii) and the Volatility Auction Collars shall be updated pursuant to Rule 11.350(f)(2)(D)(ii), described above; or
 - (v) If the Volatility Auction price established by subparagraphs (i) through (iii) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(f)(2)(C)(i), the Order Acceptance Period shall be extended accordingly.
- Proposed Rule 11.350(f)(3)(B)(ii) is amended as follows:
 - Determination of IEX Official Closing Price. The IEX Official Closing Price will be the price of the Volatility Auction. If there is insufficient trading interest in the System to execute the Volatility Auction for that security, the Final Last Sale Eligible Trade shall be used as the IEX Official Closing Price in that security, and the security will be released for trading pursuant to

section (C) below. Pursuant to Rule 11.350(c)(2)(F), if IEX has not determined the IEX Official Opening Price for an IEX-listed security, and the security is subject to an LULD trading pause, the IEX Official Opening Price will be the price of the Volatility Auction.

- (a) The Volatility Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
 - (b) If more than one price exists under subparagraph (a) resulting in an auction price range, the Volatility Auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)]; and
 - (c) If more than one price exists under subparagraph (b), the Volatility Auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is] closest or equal to the Volume Based Tie Breaker[]].
 - (d) If the Volatility Auction price established by subparagraphs (a) through (c) is outside the Volatility Auction Collar, the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(C)(ii) and the Volatility Auction Collars shall be updated pursuant to Rule 11.350(f)(2)(D)(ii), described above; or
 - (e) If the Volatility Auction price established by subparagraphs (a) through (c) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(f)(2)(C)(i), the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(C)(i).
- Proposed Rule 11.350(a)(9)(A) is amended as follows:
 - Reference Price: The single price at or within the Reference Price Range at which orders on the Auction Book would match if the IEX Auction were to occur at that time of dissemination. The Reference Price is set to the price that maximizes the number of the shares from orders on the Auction Book to be executed in the auction. If more than one price maximizes the number of shares that will execute resulting in an auction price range, the Reference Price is set to the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)]. If more than one price satisfies the above conditions [(i.e., shares are maximized at each price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell

order, resulting in an “auction price range”)], the Reference Price is set to the price closest or equal to either [within the auction price range that minimizes the distance from either] the Volume Based Tie Breaker (if [the auction price] such range includes prices in the Reference Price Range) or the Reference Price Range (if [the auction price] such range does not include prices in the Reference Price Range) at the time of dissemination. In the case of an IPO or Halt Auction, the Reference Price shall be the same as the Auction Book Clearing Price.

Proposed Rounding Functionality

In addition to the amendments set forth above, the Exchange is proposing to partially modify the definition of Final Consolidated Last Sale Eligible Trade, Latest Last Consolidated Sale Eligible Trade, and Volume Based Tie Breaker,¹⁸ in order to round such prices to the nearest MPV or Midpoint Price, whichever is closer, to account for an edge case scenario involving securities in Test Groups Two and Three of the Tick Plan. The proposed rounding approach is designed to address an edge case scenario that presents a potential inconsistency with the Tick Plan and IEX Rule 11.340 should a Final Consolidated Last Sale Eligible Trade, Latest Last Sale Eligible Trade, or Volume Based Tie Breaker that is equal to the midpoint of the IEX BBO that is in a non-nickel increment, set the auction price for a Pilot Security in Test Groups Two or Three.¹⁹ The Exchange notes that the Final Last Sale Eligible Trade, Initial Consolidated Last Sale Eligible Trade, and Initial Last Sale Eligible Trade, as defined in proposed Rules 11.350(a)(7), 11.350(a)(15), and 11.350(a)(16) respectively, are not used to determine the

¹⁸ See proposed Rules 11.350(a)(6), (19), and (33), respectively.

¹⁹ The Volume Based Tie Breaker is generally defined as the midpoint of the Reference Price Range. The Exchange is proposing a minor clarifying edit to the definition of “Reference Price Range” (detailed below) to clarify the conditions under which the Reference Price Range is equal to the Final Consolidated Last Sale Eligible Trade.

price of an auction at which shares will be executed, and therefore do not need to be similarly rounded to remain consistent with the Tick Plan.

Specifically, where an auction for Pilot Securities in Test Groups 2 and 3 is set to occur at the price of the Final Consolidated Last Sale Eligible Trade or Latest Last Sale Eligible Trade, and such trade is set by an execution that qualified for an exception from the \$0.05 minimum trade increment requirement (i.e., a midpoint execution, a retail investor execution, or a negotiated trade), the resultant auction may be an impermissible increment without qualifying for an exception from the \$0.05 minimum trade increment requirement. Moreover, where an auction for Pilot Securities in Test Groups 2 and 3 is set to occur at the price of the Volume Based Tie Breaker, and the Volume Based Tie Breaker is equal to the midpoint of the IEX BBO, such price may be in a non-nickel increment and thus the resultant auction may be an impermissible increment without qualifying for an exception from the \$0.05 minimum trade increment requirement.

For example, for a Pilot Security in Test Groups 2 or 3 of the Plan, assuming the Final Consolidated Last Sale Eligible Trade and Latest Consolidated Last Sale Eligible Trade are set by an execution that qualified for an exception from the \$0.05 minimum trade increment requirement (e.g., a negotiated trade that occurred at \$10.005), and there is an odd number of pricing increments between the IEX best bid and IEX best offer (e.g., the IEX BBO is \$10.00 x \$10.05):

- **Scenario 1**—For a Halt Auction or Volatility Auction that is not determining the IEX Official Closing Price, where the number of shares to be executed in the auction are maximized at a range of prices, and multiple prices within such range are not lower (higher) than the most aggressive unexecuted buy (sell) order, the auction will occur at the price closest or equal to the Volume Based Tie Breaker. Pursuant to proposed Rule 11.350(a)(33), the Volume Based Tie Breaker would be equal to the Latest Consolidated Last Sale Eligible Trade;

- Because the Latest Consolidated Last Sale Eligible Trade is set by a trade that qualified for an exception from the \$0.05 minimum trade increment requirement, the resultant auction may be an impermissible increment without qualifying for an exception from the \$0.05 minimum trade increment. Accordingly, as amended, the Exchange would round the price of the Latest Consolidated Last Sale Eligible Trade to the nearest permissible increment of \$10.00 (because there is no Midpoint Price). Therefore, the Halt or Volatility Auction would execute at \$10.00.
- Scenario 2—For a Volatility Auction that is determining the IEX Official Closing Price, where the number of shares to be executed in the auction are maximized at a range of prices, and multiple prices within such range are not lower (higher) than the most aggressive unexecuted buy (sell) order, the auction will occur at the price closest or equal to the Volume Based Tie Breaker. Pursuant to proposed Rule 11.350(a)(33), the Volume Based Tie Breaker would be equal to the Final Consolidated Last Sale Eligible Trade.
 - Because the Final Consolidated Last Sale Eligible Trade is set by a trade that qualified for an exception from the \$0.05 minimum trade increment requirement, the resultant auction may be an impermissible increment without qualifying for an exception from the \$0.05 minimum trade increment. Accordingly, as amended, the Exchange would round the price of the Final Consolidated Last Sale Eligible Trade to the nearest permissible increment of \$10.00 (because there is no Midpoint Price). Therefore, the Volatility Auction would execute at the IEX Official Closing Price of \$10.00.
- Scenario 3—When a disruption occurs that prevents the execution of the Closing Auction and IEX applies the Primary Closing Auction Contingency Procedures set forth in proposed Rule 11.350(d)(4)(A)(i), the IEX Official Closing Price will be the price of the Final Consolidated Last Sale Eligible Trade, and orders on the Closing Auction Book will be executed at the IEX Official Closing Price to the extent executable buy and sell interest exists on the Closing Auction Book;²⁰
 - Because the Final Consolidated Last Sale Eligible Trade is set by a trade that qualified for an exception from the \$0.05 minimum trade increment requirement, the resultant auction may be an impermissible increment without qualifying for an exception from the \$0.05 minimum trade increment.

²⁰ The Exchange notes that pursuant to proposed Rule 11.350(d)(4)(B)(i) or (ii), when IEX is utilizing the Secondary Closing Auction Contingency Procedures (whether initiated before or after 3:00 p.m.), and there are no last sale eligible trades reported to the Consolidated Tape during the last five (5) minutes of Regular Market Hours, the IEX Official Closing Price will be the price of the Final Consolidated Last Sale Eligible Trade, and such price will be rounded pursuant to proposed Rule 11.350(a)(6).

Accordingly, as amended, the Exchange would round the Final Consolidated Last Sale Eligible Trade to the nearest permissible increment of \$10.00 (because such price is closer than the Midpoint Price). Therefore, executable buy and sell orders on the Closing Auction Book would execute at the IEX Official Closing Price of \$10.00.

- Scenario 4—In an Opening or Closing Auction where (i) the number of shares to be executed in the auction are maximized at a range of prices, and multiple prices within such range are not lower (higher) than the most aggressive unexecuted buy (sell) order, and thus the auction will occur at the price closest or equal to the Volume Based Tie Breaker; and (ii) the Protected NBBO is “invalid” but the IEX BBO is “valid”, thus the Reference Price Range is equal to the IEX BBO; and (iii) the Volume Based Tie Breaker (i.e., the midpoint of the IEX BBO) is within the applicable auction collar, then the auction price would be equal to the Volume Based Tie Breaker pursuant to proposed Rules 11.350(c)(2)(B)(iv), and 11.350(d)(2)(B)(iii).
 - Because the IEX BBO is a one (1) MPV spread, and the Tick Plan does not provide an exception from the \$0.05 minimum trade increment for executions occurring at the midpoint of any single market’s best bid and offer, the resultant auction price would be an impermissible increment without qualifying for an exception from the \$0.05 minimum trade increment. Accordingly, as amended, the Volume Based Tie Breaker would be rounded to the nearest permissible increment of \$10.00. Therefore, the auction would execute at \$10.00.
- Scenario 5—In an Opening or Closing Auction where (i) the number of shares to be executed in the auction are maximized at a range of prices, and multiple prices within such range are not lower (higher) than the most aggressive unexecuted buy (sell) order, thus the auction will occur at the price closest or equal to the Volume Based Tie Breaker; and (ii) the Volume Based Tie Breaker is equal to the Final Consolidated Last Sale Eligible Trade because (a) there is neither a Valid Protected NBBO nor a Valid IEX BBO; (b) the Final Consolidated Last Sale Eligible Trade is higher (lower) than the Protected NBB (NBO), if not crossed, or the IEX BB (BO), thus the Reference Price Range is equal to the Final Consolidated Last Sale Eligible Trade; and (c) the Volume Based Tie Breaker (i.e., the Final Consolidated Last Sale Eligible Trade) is within the applicable auction collar, then the resultant auction price would be equal to the Volume Based Tie Breaker pursuant to proposed Rules 11.350(c)(2)(B)(iii), and 11.350(d)(2)(B)(iii);²¹

²¹ See also proposed Rules 11.350(a)(33) and 11.350(a)(30), defining the Volume Based Tie Breaker and the Reference Price Range, respectively. The Exchange notes that pursuant to 11.350(a)(30)(D), in the event there is neither a Protected NBBO nor an

- Because the Final Consolidated Last Sale Eligible Trade is set by a trade that qualified for an exception from the \$0.05 minimum trade increment requirement, the resultant auction may be an impermissible increment without qualifying for an exception from the \$0.05 minimum trade increment. Accordingly, as amended, the Final Consolidated Last Sale Eligible Trade would be rounded to the nearest permissible increment of \$10.00 (because such price is closer than the Midpoint Price). Therefore, the auction would execute at \$10.00.

Consistent with the foregoing, the Exchange is proposing to make the following amendments to proposed rules as set forth below (proposed new language is underlined; proposed deletions are in brackets):

- Proposed Rule 11.350(a)(6) is amended as follows:
 - The term “Final Consolidated Last Sale Eligible Trade” shall mean the last trade prior to the end of Regular Market Hours, or, where applicable, prior to trading in the security being halted or paused, that is last sale eligible and reported to the Consolidated Tape System (“Consolidated Tape”), rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.
- Proposed Rule 11.350(a)(19) is amended as follows:
 - The term “Latest Consolidated Last Sale Eligible Trade” shall mean the last trade immediately prior to trading in the security being halted or paused that is last sale eligible and reported to the Consolidated Tape, rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.
- Proposed Rule 11.350(a)(33) is amended as follows:
 - The term “Volume Based Tie Breaker” shall mean, for an Opening or Closing Auction, the midpoint of the Reference Price Range. In an Opening or Closing Auction, when the Reference Price Range is equal to the IEX BBO for Pilot Securities in Test Groups 2 and 3 of the Tick Size Pilot Program, the Volume Based Tie Breaker will be rounded to the nearest MPV. If the Reference Price Range is a single price, the Volume Based Tie Breaker shall be equal to the

IEX BBO (i.e., a zero-sided market), the Reference Price Range (and therefore the Volume Based Tie Breaker) will be the Final Consolidated Last Sale Eligible Trade.

Reference Price Range. In the case of a Halt Auction, or Volatility Auction that is not determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Latest Consolidated Last Sale Eligible Trade. In the case of a Volatility Auction that is determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Final Consolidated Last Sale Eligible Trade. In the case of an IPO Auction, the Volume Based Tie Breaker shall be equal to the issue price.

- Proposed Rule 11.350(a)(30) is amended as follows:
 - (30) The term “Reference Price Range” is in reference to, for a Volatility Auction, the prices between and including the applicable Volatility Auction Collar, or, for an Opening or Closing Auction, the prices between and including the Protected NBB and Protected NBO for a particular security where the Protected NBBO is a Valid Protected NBBO.
 - (A) The Protected NBBO is a “Valid Protected NBBO” where:
 - (i) There is both a Protected NBB and Protected NBO for the security;
 - (ii) The Protected NBBO is not crossed; and
 - (iii) The midpoint of the Protected NBBO is less than or equal to the Maximum Percentage away from both the Protected NBB and the Protected NBO.
 - (B) Where the Protected NBBO is not a Valid Protected NBBO, the IEX BBO will be used where the IEX BBO is a Valid IEX BBO.
 - (i) The IEX BBO is a “Valid IEX BBO” where:
 - (a) There is both an IEX best bid and an IEX best offer for the security; and
 - (b) The midpoint of the IEX BBO is less than or equal to the Maximum Percentage away from both the IEX best bid and the IEX best offer.
 - (C) If there is neither a Valid Protected NBBO nor[Where the IEX BBO is not] a Valid IEX BBO, the Reference Price Range is set to the higher (lower) price of the following:
 - (i) the Final Consolidated Last Sale Eligible Trade; or
 - (ii) the Protected NBB (NBO), if not crossed, or the IEX best bid (offer).
 - (D) If there is neither a Protected NBBO nor an IEX BBO (i.e., a zero-sided market), the Reference Price Range will be the Final Consolidated Last Sale Eligible Trade.

The Exchange believes the proposed amendments are consistent with the

protection of investors and the public interest in that they address a potential inconsistency between the proposed auction processes, and Exchange Rules and the Tick Plan, and thus are designed to facilitate the Exchange's compliance with the Tick Plan. More specifically, rounding the Final Consolidated Last Sale Eligible Trade and Latest Last Sale Eligible Trade to the nearest MPV or Midpoint Price calculated by System, whichever is closer, is designed to prevent auctions for Pilot Securities in Test Groups 2 and 3 of the Tick Plan from executing orders at an invalid increment. The Exchange proposes to apply this rounding logic to all IEX-listed securities (rather than only Pilot Securities in Test Groups 2 and 3 of the Plan) in order to maintain continuity in the Exchange's handling of IEX-listed securities, and avoid introducing additional technical complexities to the System. Accordingly, non-Pilot Securities priced above one dollar (\$1.00) will be rounded to the nearest Midpoint Price or one-penny (\$0.01) MPV, whichever is closer.

Moreover, rounding the Volume Based Tie Breaker to the nearest MPV when the Reference Price Range is equal to the IEX BBO for auctions in Pilot Securities in Test Groups 2 and 3 of the Plan is designed to prevent utilizing the midpoint of the IEX BBO as the Volume Based Tie Breaker when such price is an invalid increment, and there is no applicable exception to the \$0.05 minimum increment in the Plan. The Exchange believes it is appropriate to narrowly apply this rounding methodology to Pilot Securities in Test Groups 2 and 3 in the scenario set forth above because rounding the result of the calculation for deriving the Volume Based Tie Breaker when the Reference Price Range is equal to the IEX BBO (i.e., rounding the midpoint of the IEX BBO) would create unnecessary complexity for non-Pilot Securities. This is in contrast with the relatively

straightforward process of rounding the Latest and Final Consolidated Last Sale Eligible Trade for all securities (whether or not they are Pilot Securities), because such prices are static and do not require derivation, and thus can be simply rounded.

Incremental Extensions of the Order Acceptance Period Following a Trading Pause

The Exchange has identified a minor discrepancy with the proposed process for effecting incremental extensions of the Order Acceptance Period following a trading pause, and similar processes adopted by other exchange participants pursuant to Amendment 12 of the LULD Plan.²² Specifically, as set forth above, proposed Rule 11.350(f)(2)(D)(ii) does not make clear that for each Initial and Additional Extension Period, the Volatility Auction Collar is incremented five percent (5%) or \$0.50 from the original Volatility Auction Collar Reference Price in the direction of the Impermissible Price. The Exchange is further proposing to make a conforming amendment to Supplementary Material .02 of proposed Rule 11.350(a), which is intended to illustrate the process for effecting incremental extensions of the Order Acceptance Period following a Limit Up-Limit Down Trading Pause.

Consistent with the foregoing, the Exchange is proposing to make the following amendments to proposed rules as set forth below (proposed new language is underlined; proposed deletions are in brackets):

²² See, for example, Securities Exchange Act Release Nos. 79162 (October 26, 2016), 81 FR 75875 (November 1, 2016) (SR-BatsBZX-2016-61); 79158 (October 26, 2016), 81 FR 75879 (November 1, 2016) (SR-NASDAQ-2016-131); and 79107 (October 18, 2016), 81 FR 73159 (October 24, 2016) (SR-NYSEArca-2016-130) and Securities Exchange Act Release No. 79410 (November 28, 2016), 81 FR 87115 (December 2, 2016); File No. 4-631 (Notice of Filing of the Twelfth Amendment to the National Market System Plan to Address Extraordinary Market Volatility).

- Proposed Rule 11.350(f)(2)(D)(ii) is amended as follows:
 - At the beginning of the Initial Extension Period pursuant to section (C)(ii), the upper (lower) Volatility Auction Collar shall be increased (decreased) by five (5) percent of the original Volatility Auction Collar Reference Price in the direction of the Impermissible Price, rounded to the nearest passive MPV. For securities with a Volatility Auction Collar Reference Price of \$3.00 or less, the Volatility Auction Collar shall be increased (decreased) in \$0.15 increments in the direction of the Impermissible Price. At the beginning of each Additional Extension Period pursuant to section (C)(ii), the Volatility Auction Collar shall be widened in accordance with this paragraph by the same method as the Initial Extension Period.
- Supplementary Material .02 of proposed Rule 11.350(a) is amended as follows:
 - .02 Volatility Auction Collar
 For example, if the Lower and Upper Price Bands are \$10.00 and \$11.00, respectively, and a pause is triggered following a Limit State at the Lower Price Band, the Volatility Auction Collar Reference Price would be equal to the Lower Price Band, \$10.00. The lower threshold of the Volatility Auction Collar (“lower Volatility Auction Collar”) would be calculated by subtracting 5% of the Volatility Auction Collar Reference Price, or \$0.50 (5% of \$10.00 = \$0.50), from the Volatility Auction Collar Reference Price. The upper threshold of the Volatility Auction Collar (“upper Volatility Auction Collar”) would be equal to the Upper Price Band. In this example, it would result in a lower Volatility Auction Collar of \$9.50 ($\$10.00 - \$0.50 = \9.50) and an upper Volatility Auction Collar of \$11.00, thus creating a range of \$9.50 to \$11.00, within which the Volatility Auction can occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.00 is the highest price at which it can occur.

In this example, if the pause was triggered at 12:00 p.m., the above calculated Volatility Auction Collar would be in effect during the initial Order Acceptance Period from 12:00 until 12:05 p.m. To continue the example, if the Indicative Clearing Price was above the upper Volatility Auction Collar at the time of the scheduled auction match, 12:05 p.m., then the Volatility Auction would receive an extension of 5 minutes (the “Initial Extension Period”) and the upper Volatility Auction Collar would be updated by adding [5% of] \$0.50 to the upper Volatility Auction Collar (which is equal to 5% of the original Volatility Auction Collar Reference Price of \$10.00) [, or \$0.55 (5% of \$11.00 = \$0.55), to the upper Volatility Auction Collar]. The lower Volatility Auction Collar remains unchanged. In this example, it would result in an upper Volatility Auction Collar of $\$11.50[5]$ ($\$11.00 + \$0.50[5] = \$11.50[5]$) and a lower Volatility Auction Collar of \$9.50, thus creating a range of \$9.50 to $\$11.50[5]$, within which the

Volatility Auction can now occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.50^[5] is the highest price at which it can now occur at the next scheduled auction match 5 minutes from now, at 12:10 p.m.

Furthermore, continuing the example, if the Indicative Clearing Price was below the lower Volatility Auction Collar at the time of the scheduled auction match of 12:10 p.m., then the Volatility Auction would receive an extension of 5 minutes (an “Additional Extension Period”) and the lower Volatility Auction Collar would be updated by subtracting [5% of the lower Volatility Auction Collar, or \$0.47 (5% of \$9.50 = \$0.47, when rounded to the nearest passive MPV),] \$0.50 from the lower Volatility Auction Collar (which is equal to 5% of the original Volatility Auction Collar Reference Price of \$10.00). In this example, it would result in a lower Volatility Auction Collar of \$9.00^[3] ($\$9.50 - \$0.50^{[47]} = \$9.00^{[3]}$) and an upper Volatility Auction Collar of \$11.50^[5], thus creating a range of \$9.00^[3] to \$11.50^[5] within which the Volatility Auction can now occur. This means \$9.00^[3] is the lowest price at which the Volatility Auction can occur and \$11.50^[5] is the highest price at which it can now occur, and the Exchange shall attempt to conduct a Volatility Auction every one second during the course of each Additional Extension Period until the clearing price falls at or within the Volatility Auction Collar.

The Exchange believes the proposed amendments to the process for effecting incremental extensions of the Volatility Auction Collar are consistent with the commitment made by each primary listing exchange set forth in Amendment 12 to the Limit Up-Limit Down Plan to file rule changes with the Commission under Section 19(b) of the Exchange Act to amend its respective trading practice for automated reopenings following a trading pause consistent with a standardized approach agreed to by Limit Up-Limit Down Plan Participants that would allow for extensions of an LULD trading pause if equilibrium cannot be met for a reopening price within specified parameters.

Furthermore, the Exchange believes that, as amended, the process for effecting incremental extensions of the Volatility Auction Collar is substantially similar to the functionality proposed by Bats BZX Exchange, Inc. (“Bats”), the Nasdaq Stock Market

(“Nasdaq”), and NYSE Arca, Inc. (“Arca”) for conducting an auction to resume a security subject to an LULD trading pause.²³

Order Entry During a Trading Halt

Proposed Rule 11.350(e)(1)(A) states that Users may submit Auction Eligible Orders to the Exchange at the beginning of the Order Acceptance Period for participation in an IPO or Halt Auction. Proposed Rule 11.350(a)(29) defines the term “Order Acceptance Period”, in relevant part, as the period of time during which the Exchange accepts orders submitted for participation in a Halt Auction, and begins five (5) minutes prior to the scheduled auction match. In contrast, current Exchange Rule 11.271 (Trading Halts) provides for broad restrictions on order entry during a trading halt. In order to create consistency in the Exchange’s rules and avoid any potential confusion among market participants, the Exchange proposes a conforming change to Exchange Rule 11.271 to account for Halt Auctions in IEX-listed securities. Specifically, the Exchange is proposing to make the following amendments (proposed new language is underlined; proposed deletions are in brackets):

- IEX Rule 11.271 is amended as follows:
 - (a) The Exchange does not accept any orders in a security subject to a trading halt at the time of a trading halt. Any order submitted during a halt will be rejected by the System, except as set forth in Rule 11.350(e).
 - (b) Any orders resting on the Order Book at the time of a trading halt will not be canceled by the System, except as set forth in Rule 11.350(e). All orders

²³ See, for example, Securities Exchange Act Release Nos. 79162 (October 26, 2016), 81 FR 75875 (November 1, 2016) (SR-BatsBZX-2016-61); 79158 (October 26, 2016), 81 FR 75879 (November 1, 2016) (SR-NASDAQ-2016-131); and 79107 (October 18, 2016), 81 FR 73159 (October 24, 2016) (SR-NYSEArca-2016-130) and Securities Exchange Act Release No. 79410 (November 28, 2016), 81 FR 87115 (December 2, 2016); File No. 4-631 (Notice of Filing of the Twelfth Amendment to the National Market System Plan to Address Extraordinary Market Volatility).

resting on the Order Book in a security subject to a trading halt at the time of a trading halt will be unavailable for trading or re-sweep during the trading halt, but will be available for cancellation by the submitting User.

The Exchange believes that the proposed change further clarifies the Exchange's handling of orders during a trading halt in IEX-listed securities, and is consistent with the Act in that it is designed to eliminate potential confusion among market participants regarding the proposed functionality.

Other Clarifying Amendments

In addition to the foregoing, the Exchange is proposing to make various clarifying edits to the proposed rules that are designed to provide further clarity on the proposed functionality governing IEX Auctions. Specifically:

- The Exchange proposes to amend proposed Rule 11.350(a)(23), which defines the term “Lock-out Time”, to clarify that Auction Eligible Orders otherwise eligible for the Auction Book are restricted from entering the Auction Book and will be rejected upon receipt after the Lock-out Time, but Auction Eligible Orders that are eligible for the Continuous Book will not be rejected, and remain eligible for entry after the Lock-out Time. Accordingly, proposed Rule 11.350(a)(23) is amended as follows:
 - The term “Lock-out Time” shall mean ten (10) seconds prior to the Opening and Closing Auction match, at which time any new Auction Eligible Order otherwise eligible for the Auction Book is restricted from entering the Auction Book and is rejected upon receipt (i.e., locked out). Orders must be on the Auction Book prior to the Lock-out Time to guarantee eligibility for the auction. Orders submitted to the Continuous Book after the Lock-out Time remain eligible for execution on the Continuous Book, and in the upcoming Opening or Closing Auction match.
- The Exchange proposes to amend proposed Rule 11.350(c)(3)(C) in order to provide a more precise citation to the Exchange's rule regarding Re-Sweep Behavior for routable orders that are released to the Continuous Book for the transition to the Regular Market Session after an Opening Auction. Accordingly, proposed Rule 11.350(c)(3)(C) is amended as follows:
 - Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c)(3) (Re-Sweep Behavior), subject to the orders' instructions.

- The Exchange proposes to amend proposed Rule 11.350(d)(3)(C) in order to provide a more precise citation to the Exchange’s rule regarding Re-Sweep Behavior for routable orders that are released to the Continuous Book for the transition to the Post-Market Session after a Closing Auction. Accordingly, proposed Rule 11.350(d)(3)(C) is amended as follows:
 - Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c)(3) (Re-Sweep Behavior), subject to the orders’ instructions.
- The Exchange proposes to amend proposed Rule 11.350(c)(4)(A)(ii) in order to utilize the defined term “IEX Official Opening Price”. Accordingly, proposed Rule 11.350(d)(4)(A)(ii) is amended as follows:
 - If a security’s IEX Official Opening Price cannot be determined based on this procedure, IEX will not publish an IEX Official Opening Price for the security.
- The Exchange proposes to amend proposed Rule 11.350(d)(4)(A)(i) in order to utilize the defined term “IEX Official Closing Price”. Accordingly, the penultimate sentence of proposed Rule 11.350(d)(4)(A)(i) is amended as follows:
 - If a security’s IEX Official Closing Price cannot be determined by this subsection, IEX will not publish an IEX Official Closing Price for the security and will cancel all orders on the Order Book.
- The Exchange proposes to amend proposed Rule 11.350(f)(3)(B)(ii)(e) in order to correct an internal reference from proposed 11.350(f)(2)(C)(i) to proposed Rule 11.350(f)(2)(D). Accordingly, proposed Rule 11.350(f)(3)(B)(ii)(e) is amended as follows:
 - If the Volatility Auction price established by subparagraphs (a) through (c) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(f)(2)(C)(i), the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(D)[(C)(i)].

Form 19b-4 Information and Exhibit 1

In addition to the foregoing proposed amendments, the Exchange further proposes to make the following conforming changes to the Form 19b-4 Information and Exhibit 1 to

reflect the proposed amendments described above:²⁴

- The proposed definitions for the terms “Final Consolidated Last Sale Eligible Trade”, “Reference Price”, “Latest Consolidated Last Sale Eligible Trade”, “Lock-out Time”, “Reference Price Range”, and “Volume Based Tie Breaker” starting on page 20 and ending on page 32 in the Form 19b-4 Information, and reproduced between pages 157 and 172 of the Exhibit 1, are amended and restated in their entirety as follows:
 - 11.350(a)(6)—The term “Final Consolidated Last Sale Eligible Trade” shall mean the last trade prior to the end of Regular Market Hours, or where applicable, prior to trading in the security being halted or paused, that is last sale eligible and reported to the Consolidated Tape System (“Consolidated Tape”), rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.
 - 11.350(a)(9)(A)—Reference Price: The single price at or within the Reference Price Range at which orders on the Auction Book would match if the IEX Auction were to occur at that time of dissemination. The Reference Price is set to the price that maximizes the number of the shares from orders on the Auction Book to be executed in the auction. If more than one price maximizes the number of shares that will execute resulting in an auction price range, the Reference Price is set to the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order. If more than one price satisfies the above conditions the Reference Price is set to the price closest or equal to either the Volume Based Tie Breaker (if such range includes prices in the Reference Price Range) or the Reference Price Range (if such range does not include prices in the Reference Price Range) at the time of dissemination. In the case of an IPO or Halt Auction, the Reference Price shall be the same as the Auction Book Clearing Price.
 - 11.350(a)(19)—The term “Latest Consolidated Last Sale Eligible Trade” shall mean the last trade immediately prior to trading in the security being halted or paused that is last sale eligible and reported to the Consolidated Tape, rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.
 - 11.350(a)(23)—The term “Lock-out Time” shall mean ten (10) seconds prior to the Opening and Closing Auction match, at which time any new

²⁴ Note, unless otherwise indicated, the original footnotes associated with the language being amended and restated below are unchanged, and remain a part of the proposed rules as amended.

Auction Eligible Order otherwise eligible for the Auction Book is restricted from entering the Auction Book and is rejected upon receipt (i.e., locked out). Orders must be on the Auction Book prior to the Lock-out Time to guarantee eligibility for the auction. Orders submitted to the Continuous Book after the Lock-out Time remain eligible for execution on the Continuous Book, and in the upcoming Opening or Closing Auction match.

- 11.350(a)(30)—The term “Reference Price Range” is in reference to, for a Volatility Auction, the prices between and including the applicable Volatility Auction Collar, or, for an Opening or Closing Auction, the prices between and including the Protected NBB and Protected NBO for a particular security where the Protected NBBO is a Valid Protected NBBO.

(A) The Protected NBBO is a “Valid Protected NBBO” where:

- (i) There is both a Protected NBB and Protected NBO for the security;
- (ii) The Protected NBBO is not crossed; and
- (iii) The midpoint of the Protected NBBO is less than or equal to the Maximum Percentage away from both the Protected NBB and the Protected NBO.

(B) Where the Protected NBBO is not a Valid Protected NBBO, the IEX BBO will be used where the IEX BBO is a Valid IEX BBO.

(i) The IEX BBO is a “Valid IEX BBO” where:

- (a) There is both an IEX best bid and an IEX best offer for the security; and
- (b) The midpoint of the IEX BBO is less than or equal to the Maximum Percentage away from both the IEX best bid and the IEX best offer.

(C) If there is neither a Valid Protected NBBO nor a Valid IEX BBO, the Reference Price Range is set to the higher (lower) price of the following:

- (i) the Final Consolidated Last Sale Eligible Trade; or
- (ii) the Protected NBB (NBO), if not crossed, or the IEX best bid (offer).

(D) If there is neither a Protected NBBO nor an IEX BBO (i.e., a zero-sided market), the Reference Price Range will be the Final Consolidated Last Sale Eligible Trade.

- 11.350(a)(33)—The term “Volume Based Tie Breaker” shall mean, for an

Opening or Closing Auction, the midpoint of the Reference Price Range. In an Opening or Closing Auction, when the Reference Price Range is equal to the IEX BBO for Pilot Securities in Test Groups 2 and 3 of the Tick Size Pilot Program, the Volume Based Tie Breaker will be rounded to the nearest MPV. If the Reference Price Range is a single price, the Volume Based Tie Breaker shall be equal to the Reference Price Range. In the case of a Halt Auction, or Volatility Auction that is not determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Latest Consolidated Last Sale Eligible Trade. In the case of a Volatility Auction that is determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Final Consolidated Last Sale Eligible Trade. In the case of an IPO Auction, the Volume Based Tie Breaker shall be equal to the issue price.

- The first full paragraph on page 35 including footnote 30 appurtenant thereto under the heading “IEX Auction Clearing Price Determination” in the Form 19b-4 Information, and reproduced on pages 175 and 176 of the Exhibit 1, is amended and restated in its entirety as follows:
 - If crossing interest exists, the auction match price will be established by determining the price level that maximizes the number of shares to be executed at a single price. In the event of a volume based tie at multiple price levels resulting in an auction price range, the auction shall occur at the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order. If more than one price exists that maximizes the number of shares to be executed in the auction, and more than one price at or within such range is not lower (higher) than the most aggressive unexecuted buy (sell) order, the auction shall occur at the price closest or equal to the Volume Based Tie Breaker.
 - Footnote 30 is amended as follows: The Volume Based Tie Breaker shall mean, for an Opening or Closing Auction, the midpoint of the Reference Price Range, which is generally the midpoint of the Protected NBBO. In an Opening or Closing Auction, when the Reference Price Range is equal to the IEX BBO for Pilot Securities in Test Groups 2 and 3 of the Tick Size Pilot Program, the Volume Based Tie Breaker will be rounded to the nearest MPV. If the Reference Price Range is a single price, the Volume Based Tie Breaker shall be equal to the Reference Price Range. In the case of a Halt Auction, or Volatility Auction that is not determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Latest Consolidated Last Sale Eligible Trade. In the case of a Volatility Auction that is determining the IEX Official Closing Price, the

Volume Based Tie Breaker shall be equal to the Final Consolidated Last Sale Eligible Trade. In the case of an IPO Auction, the Volume Based Tie Breaker shall be equal to the issue price. See proposed Rules 11.350(a)(33) and (30).

- Examples 2 and 3 beginning on page 36 and ending on page 38 under the heading “IEX Auction Clearing Price Determination” in the Form 19b-4 Information, and reproduced on pages 177 and 178 of the Exhibit 1, illustrate the clearing price determination process. Examples 2 and 3 below assume the Protected NBBO is \$10.09 by \$10.11, and include Auction Eligible Orders on the Closing Auction Book at the time of the Closing Auction match. Examples 2 and 3 are amended and restated in their entirety as follows:
 - Example 2
 - The Closing Auction Book contains the following orders:
 - LOC order to buy 1,500 shares with a limit price of \$10.10;
 - and
 - MOC order to sell 1,000 shares.
 - Shares are maximized at each price at and between the lower threshold of the Opening/Closing Auction Collar (i.e., \$9.08) and \$10.10 resulting in an auction price range, but the only price at or within such range that is not lower than the most aggressive unexecuted buy order is \$10.10; therefore
 - 1,000 shares would execute at the IEX Official Closing Price of \$10.10.
 - Example 3
 - The Closing Auction Book contains the following orders:
 - LOC order to buy 2,000 shares with a limit price of \$10.11;
 - LOC order to sell 2,000 shares with a limit price of \$10.09.
 - The Continuous Book contains the following orders:
 - Displayed limit order to buy 500 shares with a limit price of \$10.09;
 - Displayed limit order to sell 600 shares with a limit price of \$10.11.
 - Shares are maximized at each price at and between \$10.09 and \$10.11, resulting in an auction price range. Each price at and between such range is not lower (higher) than the most aggressive unexecuted buy (sell) order, \$10.09 and \$10.11 respectively;
 - The price closest or equal to the Volume Based Tie Breaker (i.e., the midpoint of the Protected NBBO) within the resulting range is \$10.10; therefore

- 2,000 shares would execute at the IEX Official Closing Price of \$10.10.
- Examples 1 and 2 beginning on page 39 and ending on page 40 under the heading “IEX Auction Clearing Price Determination” in the Form 19b-4 Information, and reproduced between pages 180 and 181 of the Exhibit 1, illustrate the clearing price determination including non-displayed orders on the Continuous Book with a resting price within the Reference Price Range. Examples 1 and 2 below assume the Protected NBBO is \$20.19 by \$20.21, and include a non-displayed order to buy on the Continuous Book, and Auction Eligible Orders on the Closing Auction Book, at the time of the Closing Auction match. Examples 1 and 2 below are amended and restated in their entirety as follows:
 - Example 1
 - The Regular Market Continuous Book contains the following orders:
 - Midpoint Peg order to buy 2,500 shares with a resting price of \$20.20.
 - The Closing Auction Book includes the following orders:
 - LOC order to buy 500 shares with a limit price of \$20.18; and
 - LOC order to sell 2,000 shares with a limit price of \$20.18.
 - For purposes of determining the clearing price, the Midpoint Peg order is priced to the Protected NBB (\$20.19), but remains ranked and eligible to execute at its resting price;
 - Accordingly, shares are maximized at each price at and between \$20.18 and \$20.19, but \$20.19 is the only price at or within such range that is not lower than the most aggressive unexecuted buy order; therefore
 - 2,000 shares would execute at the IEX Official Closing Price of \$20.19;
 - Both the Midpoint Peg buy order and LOC sell order would receive an execution of 2,000 shares; and
 - The LOC buy order would not receive an execution, because the LOC sell order is fully filled after matching with the Midpoint Peg buy order with superior priority.
 - Example 2
 - The Regular Market Continuous Book contains the following orders:
 - Midpoint Peg order to buy 2,500 shares with a resting price of \$20.20.
 - The Closing Auction Book includes the following orders:
 - LOC order to buy 500 shares with a limit price of \$20.19; and
 - LOC order to sell 2,000 shares with a limit price of \$20.18.

- For purposes of determining the clearing price, the Midpoint Peg order is priced to the Protected NBB (\$20.19), but remains ranked and eligible to execute at its resting price;
- Accordingly, shares are maximized at each price between \$20.18 and \$20.19, but \$20.19 is the only price at or within such range that is not lower than the most aggressive unexecuted buy order; therefore
 - 2,000 shares would execute at the IEX Official Closing Price of \$20.19;
 - The Midpoint Peg buy order would receive an execution of 2,000 shares;
 - The LOC sell order would receive an execution of 2,000 shares; and
 - The LOC buy order would not receive an execution, because the LOC sell order is fully filled after matching with the Midpoint Peg buy order with superior priority.
- The final sentence of the first partial paragraph, as well as the first full paragraph on pages 44 and 45 under the heading “IEX Auction Clearing Price Determination” in the Form 19b-4 Information, and reproduced on pages 186 and 87 of the Exhibit 1, is amended and restated in its entirety as follows:
 - Accordingly, the Exchange is proposing to consolidate these two conditions, and instead utilize the price at or within the range of prices that maximize the number of shares to be executed that is not lower (higher) than the most aggressive unexecuted buy (sell) order.

Moreover, in the event the number of shares to be executed in the auction are maximized at multiple prices resulting in an auction price range, and more than one price within such range is not lower (higher) than the most aggressive unexecuted order, the Exchange proposes to utilize the price closest or equal to the Volume Based Tie Breaker. This differs from Nasdaq in that in the event the clearing price determination process results in an auction price range, Nasdaq Rule 4752(d)(2)(D) states that the auction shall match at the price that minimizes the distance from the bid-ask midpoint of the inside quotation on Nasdaq prevailing at the time of the auction. The Exchange’s proposed rule is designed to match the auction at the price closest to the Volume Based Tie Breaker (e.g., midpoint of the Protected NBBO). The Exchange believes that when the clearing price determination process results in a clearing price range, matching the auction at the price closest to the midpoint of the Protected NBBO, is consistent with the protection of investors and the public interest, because such prices reflect the broader market for the

security.

- The second sentence of the first paragraph on page 46 and carrying over onto page 47 under the heading “Reference Price Range and Volume Based Tie Breaker” in the Form 19b-4 Information, and reproduced on page 188 of the Exhibit 1 is amended and restated in its entirety as follows:
 - If more than one price maximizes the number of shares to be executed in the auction resulting in an auction price range, and more than one price is not lower (higher) than the most aggressive unexecuted buy (sell) order, the clearing price shall be the price within the auction price range that is closest or equal to the Volume Based Tie Breaker.
- The following sentence is hereby added after the first full sentence on page 47 under the heading “Reference Price Range and Volume Based Tie Breaker” in the Form 19b-4 Information, and reproduced on page 188 of the Exhibit 1:
 - In an Opening or Closing Auction, when the Reference Price Range is equal to the IEX BBO for Pilot Securities in Test Groups 2 and 3 of the Tick Size Pilot Program, the Volume Based Tie Breaker will be rounded to the nearest MPV.
- The third sentence of the first full paragraph on page 48 under the heading “Reference Price Range and Volume Based Tie Breaker” in the Form 19b-4 Information, and reproduced on pages 189 and 190 of the Exhibit 1 is amended and restated in its entirety as follows:
 - Where there is neither a Valid Protected NBBO nor a Valid IEX BBO, the Reference Price Range is set to the higher (lower) price of the Final Consolidated Last Sale Eligible Trade, or the Protected NBB (NBO), if not crossed, or the IEX best bid (offer), which is similar to the Volume Based Tie Breaker used by Bats in the event the midpoint of the NBBO is not valid.
- The first sentence of the second paragraph on page 49 under the heading “Reference Price Range and Volume Based Tie Breaker” in the Form 19b-4 Information, and reproduced on page 191 of the Exhibit 1 is amended and restated in its entirety as follows:
 - Under proposed Rule 11.350(a)(6), the Final Consolidated Last Sale Eligible Trade will be the last trade prior to the end of Regular Market Hours, or, where applicable, prior to trading in the security being halted or paused, that is last sale eligible and reported to the Consolidated Tape, rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.
- The third sentence of the second paragraph on page 49 under the heading “Reference Price Range and Volume Based Tie Breaker” in the Form 19b-4

Information, and reproduced on page 191 of the Exhibit 1, is amended and restated in its entirety as follows:

- Under proposed Rule 11.350(a)(19), the Latest Consolidated Last Sale Eligible Trade will be the last trade immediately prior to trading in the security being halted or paused that is last sale eligible and reported to the Consolidated Tape, rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.
- The penultimate sentence of the first full paragraph on page 54 under the heading “Auction Collars”, subheading “Volatility Auction Collar” in the Form 19b-4 Information, and reproduced on page 196 of the Exhibit 1 is amended and restated in its entirety as follows:
 - At the beginning of a Volatility Auction Order Acceptance Period extension caused by a market order imbalance or an Indicative Clearing Price higher (lower) than the upper (lower) threshold of the Volatility Auction Collar (in either case, an “Impermissible Price”), the upper (lower) threshold of the Volatility Auction Collar will be increased (decreased) by five percent (5%) of the original Volatility Auction Collar Reference Price in the direction of the Impermissible Price, rounded to the nearest passive MPV.
- The example beginning on page 55 and ending on page 57 under the heading “Auction Collars”, subheading “Volatility Auction Collar” in the Form 19b-4 Information, and reproduced between pages 196 and 198 of the Exhibit 1, is amended and restated in its entirety as follows:
 - For example, if the Lower and Upper Price Bands are \$10.00 and \$11.00, respectively, and a pause is triggered following a Limit State at the Lower Price Band, the Volatility Auction Collar Reference Price would be equal to the Lower Price Band, \$10.00. The lower threshold of the Volatility Auction Collar (“lower Volatility Auction Collar”) would be calculated by subtracting five percent (5%) of the Volatility Auction Collar Reference Price, or \$0.50 (5% of \$10.00 = \$0.50), from the Volatility Auction Collar Reference Price. The upper threshold of the Volatility Auction Collar (“upper Volatility Auction Collar”) would be equal to the Upper Price Band. In this example, it would result in a lower Volatility Auction Collar of \$9.50 ($\$10.00 - \$0.50 = \9.50) and an upper Volatility Auction Collar of \$11.00, thus creating a range of \$9.50 to \$11.00, within which the Volatility Auction can occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.00 is the highest price at which it can occur.

The Volatility Auction Collar is static during the Order Acceptance Period and only updates at the beginning of each five (5) minute Volatility Auction Order Acceptance Period extension caused by an Impermissible Price. In this example, if the LULD trading pause was triggered at 12:00 p.m., the above calculated Volatility Auction Collar would be in effect during the Order Acceptance Period from 12:00 until 12:05 p.m. To continue the example, if the Indicative Clearing Price was above the upper Volatility Auction Collar at the time of the scheduled auction match, 12:05 p.m., then the Volatility Auction would receive an extension of five (5) minutes (the “Initial Extension Period”) and the upper Volatility Auction Collar would be updated by adding \$0.50 to the upper Volatility Auction Collar which is equal to five percent (5%) of the original Volatility Auction Reference Price of \$10.00). The lower Volatility Auction Collar remains unchanged. In this example, it would result in an upper Volatility Auction Collar of \$11.50 ($\$11.00 + \$0.50 = \11.50) and a lower Volatility Auction Collar of \$9.50, thus creating a range of \$9.50 to \$11.50, within which the Volatility Auction can now occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.50 is the highest price at which it can now occur at the next scheduled auction match five (5) minutes from now, at 12:10 p.m.

Furthermore, continuing the example, if the Indicative Clearing Price was below the lower Volatility Auction Collar at the time of the scheduled auction match of 12:10 p.m., then the Volatility Auction would receive an extension of five (5) minutes (an “Additional Extension Period”) and the lower Volatility Auction Collar would be updated by subtracting \$0.50 from the lower Volatility Auction Collar (which is equal to five percent (5%) of the original Volatility Auction Reference Price of \$10.00). In this example, it would result in a lower Volatility Auction Collar of \$9.00 ($\$9.50 - \$0.50 = \9.00) and an upper Volatility Auction Collar of \$11.50, creating a range of \$9.00 to \$11.50 within which the Volatility Auction can now occur. This means \$9.00 is the lowest price at which the Volatility Auction can occur and \$11.50 is the highest price at which it can now occur, and the Exchange shall attempt to conduct a Volatility Auction every one (1) second during the course of each Additional Extension Period until the clearing price falls at or within the Volatility Auction Collar.

- The third full sentence of the first partial paragraph on page 64 under the heading “Opening Auction”, subheading “Opening Auction Contingency Procedures” in

the Form 19b-4 Information, and reproduced on page 205 of the Exhibit 1 is amended and restated in its entirety as follows:

- If a security's IEX Official Opening Price cannot be determined based on this procedure, IEX will not publish an IEX Official Opening Price for the security.
- The last sentence of the first partial paragraph on page 65 under the heading "Opening Auction", subheading "Transition to Regular Market Session" in the Form 19b-4 Information, and reproduced on page 206 of the Exhibit 1 is amended and restated in its entirety as follows:
 - Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c)(3) (Re-Sweep Behavior), subject to the orders instructions.
- The penultimate sentence of the first full paragraph on page 73 under the heading "Closing Auction", subheading "Primary Closing Auction Contingency Procedures" in the Form 19b-4 Information, and reproduced on page 214 of the Exhibit 1 is amended and restated in its entirety as follows:
 - If a security's IEX Official Closing Price cannot be determined by this subsection, IEX will not publish an IEX Official Closing Price for the security and cancel all orders on the Order Book.
- The last sentence of the first partial paragraph on page 76 under the heading "Closing Auction, subheading "Transition to Post-Market Session" in the Form 19b-4 Information, and reproduced on page 217 of the Exhibit 1 is amended and restated in its entirety as follows:
 - Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c)(3) (Re-Sweep Behavior), subject to the orders' instructions.
- The second sentence of the second full paragraph on page 85 under the heading "Volatility Auction", subheading "Volatility Auction Process for IEX-Listed Securities" in the Form 19b-4 Information, and reproduced on page 226 of the Exhibit 1 is amended and restated in its entirety as follows:
 - Under proposed Rules 11.350(f)(2)(C)(i)-(ii), the conditions in which the Order Acceptance Period may be extended automatically for five (5) minutes pursuant to Rule 11.350(f)(2)(D) at the time of the Volatility Auction match include when: (i) there are unmatched shares from market orders on the Volatility Auction Book, or when the Indicative Clearing Price is higher (lower) than the upper (lower) threshold of the Volatility Auction Collar (in either case, an "Impermissible Price"); or (ii) when the Indicative Clearing Price differs by the greater of five percent (5%) or fifty cents (\$0.50) from any of the previous fifteen (15) Indicative Clearing

Price disseminations.

- The first sentence of the first full paragraph on page 86 under the heading “Volatility Auction”, subheading “Volatility Auction Process for IEX-Listed Securities” in the Form 19b-4 Information, and reproduced on page 227 of the Exhibit 1 is amended and restated in its entirety as follows:
 - Under proposed Rule 11.350(f)(2)(D), the Order Acceptance Period may be extended for five (5) minutes under proposed rule 11.350(f)(2)(C)(i) or (C)(ii) described above (the “Initial Extension Period”).
- The sixth sentence of the first full paragraph beginning on page 86 and carrying over onto page 87 under the heading “Volatility Auction Process for IEX-Listed Securities” in the Form 19b-4 Information, and reproduced on page 227 of the Exhibit 1 is amended and restated in its entirety as follows:
 - At the beginning of the Initial Extension Period the upper (lower) Volatility Auction Collar shall be increased (decreased) by five percent (5%) of the original Volatility Auction Collar Reference Price in the direction of the Impermissible Price, rounded to the nearest passive MPV.
- The first bullet point beginning on page 97 and carrying over onto page 98 under the heading “IEX Auction Information” in the Form 19b-4 Information, and reproduced on page 238 of the Exhibit 1, is amended and restated in its entirety as follows:
 - Reference Price: The single price at or within the Reference Price Range at which orders on the Auction Book would match if the IEX Auction were to occur at that time of dissemination. The Reference Price is set to the price that maximizes the number of the shares from orders on the Auction Book to be executed in the auction. If more than one price maximizes the number of shares that will execute resulting in an auction price range, the Reference Price is set to the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order. If more than one price satisfies the above conditions the Reference Price is set to the price closest or equal to either the Volume Based Tie Breaker (if such range includes prices in the Reference Price Range) or the Reference Price Range (if such range does not include prices in the Reference Price Range) at the time of dissemination. In the case of an IPO or Halt Auction, the Reference Price shall be the same as the Auction Book Clearing Price.
- The second bullet point on page 107 under the heading “Trading Halts and LULD Plan” in the Form 19b-4 Information, and reproduced on page 249 of the Exhibit 1, is amended and restated in its entirety as follows:
 - IEX Rule 11.280(g)(6) provides that IEX may halt trading in an IEX-listed

security when there is extraordinary market activity in the security, and IEX determines that such activity is likely to have a material effect on the market for such security and believes that such activity is (i) caused by the misuse or malfunction of an electronic quotation, communication, reporting or execution system operated by, or linked to IEX; or (ii) after consultation with another national securities exchange trading the security on an unlisted trading privileges basis; or (iii) after consultation with FINRA regarding a FINRA facility trading the security, IEX believes that such extraordinary market activity is caused by the misuse or malfunction of such FINRA facility or an electronic quotation, communication, reporting, or execution systems linked to such FINRA facility. This provision is substantially similar to Nasdaq Rule 4120(a)(6).

- The third sentence of the second full paragraph on page 108 under the heading “Trading Halts and LULD Plan” in the Form 19b-4 Information, and reproduced on page 250 of the Exhibit 1, is deleted in its entirety.
- The final sentence of the first partial paragraph, as well as the first full paragraph on pages 121 and 122 under the heading in the Statutory Basis section in the Form 19b-4 Information, and reproduced between pages 262 and 263 of the Exhibit 1, is amended and restated in its entirety as follows:
 - Accordingly, the Exchange is proposing to consolidate these two conditions, and instead utilize the price at or within the range of prices that maximize the number of shares to be executed that is not lower (higher) than the most aggressive unexecuted buy (sell) order.

Moreover, in the event the number of shares to be executed in the auction are maximized at multiple prices resulting in an auction price range, and more than one price within such range is not lower (higher) than the most aggressive unexecuted order, the Exchange proposes to utilize the price closest or equal to the Volume Based Tie Breaker. This differs from Nasdaq in that in the event the clearing price determination process results in an auction price range, Nasdaq Rule 4752(d)(2)(D) states that the auction shall match at the price that minimizes the distance from the bid-ask midpoint of the inside quotation on Nasdaq prevailing at the time of the auction. The Exchange’s proposed rule is designed to match the auction at the price closest to the Volume Based Tie Breaker (e.g., midpoint of the Protected NBBO). The Exchange believes that when the clearing price determination process results in a clearing price range, matching the auction at the price closest to the midpoint of the Protected NBBO, is consistent with the protection of investors and the public interest, because such prices reflect the broader market for the security.

In addition to the foregoing proposed amendments, the Exchange further proposes to make the following minor changes to the Form 19b-4 Information and Exhibit 1 to correct certain inaccuracies, and provide additional detail regarding the proposed functionality governing IEX Auctions:²⁵

- The following paragraph is hereby added after the first full sentence on page 54 under the heading “Auction Collars”, subheading “Volatility Auction Collar” in the Form 19b-4 Information, and reproduced on pages 195 and 196 of the Exhibit 1:
 - The Exchange notes that pursuant to Amendment 14 to the Limit Up-Limit Down Plan, in order to both provide time to support the technology changes for Amendment 12 and to align the implementation date of Amendment 12 with the implementation timeline for the automated reopening changes by the primary listing exchanges, the Limit Up-Limit Down Plan Participants proposed to change the implementation date for the changes in Amendment 12 to no later than the end of the third quarter of 2017. Accordingly, the primary listing exchanges anticipate implementing the automated reopening changes in the third quarter of 2017, assuming that the SIPs have implemented their changes and each primary listing exchange is able to implement their proposed rule changes simultaneously (i.e., the Limit Up-Limit Down Plan Participants expect that both the changes pursuant to the Twelfth Amendment and the primary listing exchange automated reopening changes would become operative at the same time). See Securities Exchange Act Release No. 80549 (April 28, 2017), 82 FR 20928 (May 4, 2017) (File No. 4- 631). While the Exchange intends to implement the proposed Volatility Auctions upon approval (since no aspect of its operation is inconsistent with the currently effective provisions of LULD Plan), the Exchange intends to continue coordinating with other Limit Up-Limit Down Plan Participants as well as the SIPs regarding the implementation timeline of changes to the SIPs pursuant to Amendment 12, to support dissemination of certain data related to Volatility Auctions.
- The penultimate sentence of the partial paragraph on page 58 under the heading

²⁵ Note, unless otherwise indicated, the original footnotes associated with the language being amended and restated below are unchanged, and remain a part of the proposed rules as amended.

“Opening Auction”, subheading “Order Entry and Cancellation before Opening Auction” in the Form 19b-4 Information, and reproduced on page 200 of the Exhibit 1 is amended and restated in its entirety as follows:

- Furthermore, Bats restricts Users from canceling or modifying Eligible Auction Orders between the Lock-out Time and the auction match, except for RHO orders, which may be modified, but not canceled, until the auction match.
- The second sentence of the first paragraph on page 72 under the heading “Closing Auction”, subheading “Closing Auction Contingency Procedures” in the Form 19b-4 Information, and reproduced on page 213 of the Exhibit 1 is amended and restated in its entirety as follows:
 - The proposed contingency procedures are substantially similar to those recently proposed by Nasdaq in conjunction with NYSE and NYSE Arca, and the exclusive securities information processors for the Nasdaq UTP Plan and the Consolidated Quote/Consolidated Tape Plan (the “SIPs”), as part of a larger industry initiative to ensure the orderly execution and dissemination of official closing prices.
- The following paragraph is hereby added as a footnote after the first sentence on page 76 under the heading “IPO and Halt Auctions”, subheading “Order Entry and Cancellation Before an IPO/Halt Auction” in the Form 19b-4 Information, and reproduced on page 217 of the Exhibit 1:
 - Proposed Rule 11.350(e)(1)(A) states that Users may submit Auction Eligible Orders to the Exchange at the beginning of the Order Acceptance Period for participation in an IPO or Halt Auction. Proposed Rule 11.350(a)(29) defines the term “Order Acceptance Period”, in relevant part, as the period of time during which the Exchange accepts orders submitted for participation in a Halt Auction, and begins five (5) minutes prior to the scheduled auction match. In contrast, current Exchange Rule 11.271 (Trading Halts) provides for broad restrictions on order entry during a trading halt. In order to create consistency in the Exchange’s rules and avoid any potential confusion among market participants, the Exchange proposes a conforming change to Exchange Rule 11.271 to account for Halt Auctions in IEX-listed securities.

Discussion

As discussed in the Purpose section, the Exchange believes that the proposed amendments, taken as a whole, are consistent with the Act in that they would further

clarify and add additional detail to the proposed Opening Process, and eliminate potential confusion among market participants regarding the proposed functionality.

As noted above, the proposed amendments to the clearing price determination alter only wording, and do not alter the underlying functionality of the originally proposed rules. Accordingly, the amendments proposed above do not fundamentally alter the proposed clearing price determination, but rather seek to bring clarity to the clearing price determination originally proposed. Therefore, the Exchange believes the proposed amendments to the clearing price determination are consistent with the protection of investors and the public interest in that they are designed to further clarify and add additional detail to the proposed auction processes, and eliminate potential confusion among market participants regarding the proposed functionality.

The Exchange believes the proposed rounding functionality is consistent with the protection of investors and the public interest in that it addresses a potential inconsistency between the proposed auction processes, and Exchange Rules and the Tick Plan, and thus is designed to facilitate the Exchange's compliance with the Tick Plan. More specifically, rounding the Final Consolidated Last Sale Eligible Trade and Latest Consolidated Last Sale Eligible Trade to the nearest MPV or Midpoint Price calculated by System, whichever is closer, is designed to prevent auctions for Pilot Securities in Test Groups 2 and 3 of the Plan from executing orders at an invalid increment. The Exchange believes that applying this rounding logic to all IEX-listed securities (rather than only Pilot Securities in Test Groups 2 and 3 of the Plan) is consistent with the protection of investors and the public interest in that it is designed to preserve continuity in the

Exchange's handling of IEX-listed securities, and avoid introducing additional technical complexities to the System.

Moreover, rounding the Volume Based Tie Breaker to the nearest MPV when the Reference Price Range is equal to the IEX BBO for auctions in Pilot Securities in Test Groups 2 and 3 of the Tick Plan is designed to prevent utilizing the midpoint of the IEX BBO as the Volume Based Tie Breaker when such price is an invalid increment, and there is no applicable exception to the \$0.05 minimum increment in the Plan. The Exchange believes it is appropriate and consistent with the protection of investors and the public interest to narrowly apply this rounding methodology to Pilot Securities in Test Groups 2 and 3 in the scenario set forth above, because rounding the result of the calculation used for deriving the Volume Based Tie Breaker when the Reference Price Range is equal to the IEX BBO (i.e., rounding the derived midpoint of the IEX BBO) would create unnecessary complexity for non-Pilot Securities. This is in contrast with the relatively straightforward process of rounding the Latest and Final Consolidated Last Sale Eligible Trade for all securities (whether or not they are Pilot Securities), because such prices are static and do not require derivation, and thus can be simply rounded.

As noted above, the Exchange believes the proposed amendments to the process for effecting incremental extensions of the Volatility Auction Collar are consistent with the commitment made by each primary listing exchange set forth in Amendment 12 to the Limit Up-Limit Down Plan to file rule changes with the Commission under Section 19(b) of the Exchange Act to amend its respective trading practice for automated reopenings following a trading pause consistent with a standardized approach agreed to by Limit Up-Limit Down Plan Participants that would allow for extensions of an LULD trading pause

if equilibrium cannot be met for a reopening price within specified parameters.

Furthermore, the Exchange believes that, as amended, the process for effecting incremental extensions of the Volatility Auction Collar is substantially similar to the functionality proposed by Bats, Nasdaq, and Arca for conducting an auction to resume a security subject to an LULD trading pause.

Lastly, the Exchange believes that the proposed conforming amendments to IEX Rule 11.271 to account for order entry during trading halts in IEX-listed securities are designed to create consistency in the Exchange's rules and avoid any potential confusion among market participants regarding order entry for a Halt Auction in IEX-listed securities. Therefore, the Exchange believes that the proposed changes further clarify the Exchange's handling of orders during a trading halt in IEX-listed securities, and are consistent with the protection of investors and the public interest in that they are designed to eliminate potential confusion among market participants regarding the proposed auction functionality.

Exhibit 4 – Marked Copies

Proposed new language is underlined; proposed deletions are in brackets.

Rule 11.350. Auctions

(a) Definitions.

(1) – (5) No change.

(6) The term “Final Consolidated Last Sale Eligible Trade” shall mean the last trade prior to the end of Regular Market Hours, or where applicable, prior to trading in the security being halted or paused, that is last sale eligible and reported to the Consolidated Tape System (“Consolidated Tape”), rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.

(A) No change.

(B) No change.

(7)-(8) No change.

(9) The term “IEX Auction Information” shall mean the information disseminated pursuant to Rule 11.330(a) regarding the current status of price, size, imbalance information, auction collar information, and other relevant information related to auctions conducted by the Exchange. IEX Auction Information shall include:

(A) Reference Price: The single price at or within the Reference Price Range at which orders on the Auction Book would match if the IEX Auction were to occur at that time of dissemination. The Reference Price is set to the price that maximizes the number of the shares from orders on the Auction Book to be executed in the auction. If more than one price maximizes the number of shares that will execute resulting in an auction price range, the Reference Price is set to the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)]. If more than one price satisfies the above conditions [(i.e.,

shares are maximized at each price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order, resulting in an “auction price range”)], the Reference Price is set to the price closest or equal to either [within the auction price range that minimizes the distance from either] the Volume Based Tie Breaker (if [the auction price] such range includes prices in the Reference Price Range) or the Reference Price Range (if [the auction price] such range does not include prices in the Reference Price Range) at the time of dissemination. In the case of an IPO or Halt Auction, the Reference Price shall be the same as the Auction Book Clearing Price.

(B)-(K) No change.

(10) – (18) No change.

(19) The term “Latest Consolidated Last Sale Eligible Trade” shall mean the last trade immediately prior to trading in the security being halted or paused that is last sale eligible and reported to the Consolidated Tape, rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.

(A) If there is no qualifying Latest Consolidated Last Sale Eligible Trade for the current day, the previous official closing price.

(20) – (22) No change.

(23) The term “Lock-out Time” shall mean ten (10) seconds prior to the Opening and Closing Auction match, at which time any new Auction Eligible Order otherwise eligible for the Auction Book is restricted from entering the Auction Book and is rejected upon receipt (i.e., locked out). Orders must be on the Auction Book prior to the Lock-out Time to guarantee eligibility for the auction. Orders submitted to the Continuous Book after the Lock-out Time remain eligible for execution on the Continuous Book, and in the upcoming Opening or Closing Auction match.

(24) – (29) No change.

(30) The term “Reference Price Range” is in reference to, for a Volatility Auction, the prices between and including the applicable Volatility Auction Collar, or, for an Opening or Closing Auction, the prices between and including the Protected NBB and Protected NBO for a particular security where the Protected NBBO is a Valid Protected NBBO.

(A) The Protected NBBO is a “Valid Protected NBBO” where:

- (i) There is both a Protected NBB and Protected NBO for the security;
- (ii) The Protected NBBO is not crossed; and
- (iii) The midpoint of the Protected NBBO is less than or equal to the Maximum Percentage away from both the Protected NBB and the Protected NBO.

(B) Where the Protected NBBO is not a Valid Protected NBBO, the IEX BBO will be used where the IEX BBO is a Valid IEX BBO.

(i) The IEX BBO is a “Valid IEX BBO” where:

- (a) There is both an IEX best bid and an IEX best offer for the security; and
- (b) The midpoint of the IEX BBO is less than or equal to the Maximum Percentage away from both the IEX best bid and the IEX best offer.

(C) If there is neither a Valid Protected NBBO nor [Where the IEX BBO is not] a Valid IEX BBO, the Reference Price Range is set to the higher (lower) price of the following:

- (i) the Final Consolidated Last Sale Eligible Trade; or
- (ii) the Protected NBB (NBO), if not crossed, or the IEX best bid (offer).

(D) If there is neither a Protected NBBO nor an IEX BBO (i.e., a zero-sided market), the Reference Price Range will be the Final Consolidated Last Sale Eligible Trade.

(31) – (32) No change.

(33) The term “Volume Based Tie Breaker” shall mean, for an Opening or Closing Auction, the midpoint of the Reference Price Range. In an Opening or Closing Auction, when the Reference Price Range is equal to the IEX BBO for Pilot Securities in Test Groups 2 and 3 of the Tick Size Pilot Program, the Volume Based Tie Breaker will be rounded to the nearest MPV. If the Reference Price Range is a single price, the Volume Based Tie Breaker shall be equal to the Reference Price Range. In the case of a Halt Auction, or Volatility Auction that is not determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Latest Consolidated Last Sale Eligible Trade. In the case of a Volatility Auction that is determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Final Consolidated Last Sale Eligible Trade. In the case of an IPO Auction, the Volume Based Tie Breaker shall be equal to the issue price.

••• *Supplementary Material* •••

.01 No Change.

.02 Volatility Auction Collar

For example, if the Lower and Upper Price Bands are \$10.00 and \$11.00, respectively, and a pause is triggered following a Limit State at the Lower Price Band, the Volatility Auction Collar Reference Price would be equal to the Lower Price Band, \$10.00. The lower threshold of the Volatility Auction Collar (“lower Volatility Auction Collar”) would be calculated by subtracting 5% of the Volatility Auction Collar Reference Price, or \$0.50 (5% of \$10.00 = \$0.50), from the Volatility Auction Collar Reference Price. The upper threshold of the Volatility Auction Collar (“upper Volatility Auction Collar”) would be equal to the Upper Price Band. In this example, it would result in a lower Volatility Auction Collar of \$9.50 ($\$10.00 - \$0.50 = \9.50) and an upper Volatility Auction Collar of \$11.00, thus creating a range of \$9.50 to \$11.00, within which the Volatility Auction can occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.00 is the highest price at which it can occur.

In this example, if the pause was triggered at 12:00 p.m., the above calculated Volatility Auction Collar would be in effect during the initial Order Acceptance Period from 12:00 until 12:05 p.m. To continue the example, if the Indicative Clearing Price was above the upper Volatility Auction Collar at the time of the scheduled auction match, 12:05 p.m., then the Volatility Auction would receive an extension of 5 minutes (the “Initial Extension Period”) and the upper Volatility Auction Collar would be updated by adding [5% of] \$0.50 to the upper Volatility Auction Collar (which is equal to 5% of the original Volatility Auction Collar Reference Price of \$10.00) [, or $\$0.55$ (5% of \$11.00 = \$0.55), to the upper

Volatility Auction Collar]. The lower Volatility Auction Collar remains unchanged. In this example, it would result in an upper Volatility Auction Collar of \$11.50[5] ($\$11.00 + \$0.50[5] = \$11.50[5]$) and a lower Volatility Auction Collar of \$9.50, thus creating a range of \$9.50 to \$11.50[5], within which the Volatility Auction can now occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.50[5] is the highest price at which it can now occur at the next scheduled auction match 5 minutes from now, at 12:10 p.m.

Furthermore, continuing the example, if the Indicative Clearing Price was below the lower Volatility Auction Collar at the time of the scheduled auction match of 12:10 p.m., then the Volatility Auction would receive an extension of 5 minutes (an “Additional Extension Period”) and the lower Volatility Auction Collar would be updated by subtracting [5% of the lower Volatility Auction Collar, or \$0.47 (5% of \$9.50 = \$0.47, when rounded to the nearest passive MPV),] \$0.50 from the lower Volatility Auction Collar (which is equal to 5% of the original Volatility Auction Collar Reference Price of \$10.00). In this example, it would result in a lower Volatility Auction Collar of \$9.00[3] ($\$9.50 - \$0.50[47] = \$9.00[3]$) and an upper Volatility Auction Collar of \$11.50[5], thus creating a range of \$9.00[3] to \$11.50[5] within which the Volatility Auction can now occur. This means \$9.00[3] is the lowest price at which the Volatility Auction can occur and \$11.50[5] is the highest price at which it can now occur, and the Exchange shall attempt to conduct a Volatility Auction every one (1) second during the course of each Additional Extension Period until the clearing price falls at or within the Volatility Auction Collar.

.03 No change.

(b) No change.

(c) Opening Auction.

(1) No Change.

(2) Opening Auction Process. The Exchange will conduct an Opening Auction for all IEX-listed securities.

(A) No change.

(B) Determination of IEX Official Opening Price. The IEX Official Opening Price will be the price of the Opening Auction. In the event that there is no Opening Auction for an IEX-listed security, the security will be released for trading pursuant to section (3) below, and the IEX Official Opening

Price will be the price of the Initial Last Sale Eligible Trade.

- (i) The Opening Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
- (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the Opening Auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)];
- (iii) If more than one price exists under subparagraph (ii), the Opening Auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is] closest or equal to the Volume Based Tie Breaker[]]; and
- (iv) If the Opening Auction price established by subparagraphs (i) through (iii) is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Opening Auction, the IEX Official Opening Price will be the price at or within the range of prices between the lower (upper) threshold of the Opening/Closing Auction Collar and the lower (upper) threshold of the Reference Price Range that best satisfies the conditions of subparagraphs (i) through (iii).

(C) – (F) No change.

(3) Transition to Regular Market Session.

(A) – (B) No change.

(C) Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c)(3) (Re-Sweep Behavior), subject to the orders' instructions.

(4) Opening Auction Contingency Procedures.

(A) No change.

(i) No change.

(ii) If a security's IEX Official Opening Price cannot be determined based on this procedure, IEX will not publish an IEX Official Opening Price for the security.

(iii) No change.

(d) Closing Auction.

(1) No change.

(2) Closing Auction Process. The Exchange will conduct a Closing Auction for all IEX-listed securities.

(A) No change.

(B) Determination of IEX Official Closing Price. The IEX Official Closing Price will be the price of the Closing Auction. In the event that there is no Closing Auction for an IEX-listed security, the IEX Official Closing Price will be the price of the Final Last Sale Eligible Trade, and the security will be released for trading pursuant to section (3) below.

(i) The Closing Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;

(ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the Closing Auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)];

(iii) If more than one price exists under subparagraph (ii), the Closing Auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is] closest or equal to the Volume Based Tie Breaker[]]; and

(iv) If the Closing Auction price established by subparagraphs (i) through (iii) is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Closing Auction, the IEX Official Closing Price will be the price at or within the range of

prices between the lower (upper) Opening/Closing Auction Collar and the lower (upper) threshold of the Reference Price Range that best satisfies the conditions of subparagraphs (i) through (iii).

(C) – (D) No change.

(3) Transition to Post-Market Session.

(A) – (B) No change.

(C) Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c)(3) (Re-Sweep Behavior), subject to the orders' instructions.

(4) Closing Auction Contingency Procedures.

(A) No change.

(i) IEX will publicly announce that no Closing Auction will occur. The price of the Final Consolidated Last Sale Eligible Trade will be used for the IEX Official Closing Price. The IEX Official Closing Price will be published to the Consolidated Tape. IEX will execute orders on the Closing Auction Book at the IEX Official Closing Price to the extent executable buy and sell interest exists on the Closing Auction Book. All remaining orders on the Order Book will be canceled at the conclusion of the contingency process. IEX will report the resulting execution to the Consolidated Tape and deliver execution reports to Users. If a security's IEX Official Closing Price cannot be determined by this subsection, IEX will not publish an IEX Official Closing Price for the security and will cancel all orders on the Order Book. The Post Market Session shall begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Primary Contingency Procedures.

(B) No change.

(e) IPO and Halt Auctions. For trading in an IEX-listed security in an initial public offering (an "IPO"), or launch of a new issue, the Exchange will conduct an IPO Auction, as described below. Following a trading halt in an IEX-listed security pursuant to IEX Rule 11.280(g)(1), (4), or (5), the Exchange will conduct a Halt Auction, as described below.

(1) No change.

- (2) IPO and Halt Auction Process.
- (A) No change.
 - (B) No change.
 - (C) Determination of IEX IPO Opening Price and IEX Re-opening Trade. The IPO Auction price will be the IEX Official IPO Opening Price. The execution resulting from the Halt Auction will be the IEX Re-opening Trade. If there is insufficient trading interest in the System to execute a Halt Auction for that security, no Halt Auction will occur, and the security will be released for trading pursuant to section (3) below. Pursuant to Rule 11.350(c)(2)(D) or (E), as applicable, if IEX has not determined the IEX Official Opening Price for an IEX-listed security, and the Halt Auction is scheduled to occur during the Regular Market Session, the IEX Official Opening Price will be the price of the Halt Auction. If there is insufficient trading interest to complete the Halt Auction, the transition to the Regular Market Session shall be conducted pursuant to Rule 11.350(e)(3) below, no auction will occur, and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.
 - (i) The auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
 - (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)]; and
 - (iii) If more than one price exists under subparagraph (ii), the auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is] closest or equal to the Volume Based Tie Breaker[]].
 - (iv) If the IPO Auction price established by subparagraphs (i) through (iii) meets the conditions for extending the Order Acceptance

Period described in Rule 11.350(e)(2)(B)(i)-(iii), the Order Acceptance Period shall be extended accordingly; or

- (v) If the Halt Auction price established by subparagraphs (i) through (iii) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(e)(2)(B)(i)-(ii), the Order Acceptance Period shall be extended accordingly.

(D) No change.

(3) – (4) No change.

- (f) Volatility Auction. The Volatility Auction is used to re-open an IEX-listed security after such security is subject to an LULD trading pause pursuant to IEX Rule 11.280(e).

(1) No change.

(2) Volatility Auction Process.

(A) – (C) No change.

(D) Incremental Extensions of the Order Acceptance Period following a Trading Pause. Pursuant to section (a)(29)(C) above, the Order Acceptance Period for a Volatility Auction shall commence immediately after the Trading Pause. The Order Acceptance Period may be extended for five (5) minutes pursuant to section 11.350(f)(2)(C)(i) or (C)(ii) above (the “Initial Extension Period”). After the Initial Extension Period, the Order Acceptance Period may be extended for additional five (5) minute periods pursuant to section 11.350(f)(2)(C)(i) or (C)(ii) above (each an “Additional Extension Period”) until a Volatility Auction occurs. The Exchange shall attempt to conduct a Volatility Auction every one (1) second during the course of each Additional Extension Period. Should the Order Acceptance Period for a Volatility Auction be extended to a time past the Closing Auction Lock-in Time (i.e., 10 minutes prior to the end of the Regular Market Session), the Volatility Auction shall be conducted pursuant to section (f)(3) of this Rule.

- i. At the beginning of the Order Acceptance Period, the Volatility Auction Collar Reference Price and the Volatility Auction Collar shall be determined in accordance with section (a)(32) and (a)(31) of the Rule, respectively.

- ii. At the beginning of the Initial Extension Period pursuant to section (C)(ii), the upper (lower) Volatility Auction Collar shall be increased (decreased) by five (5) percent of the original Volatility Auction Collar Reference Price in the direction of the Impermissible Price, rounded to the nearest passive MPV. For securities with a Volatility Auction Collar Reference Price of \$3.00 or less, the Volatility Auction Collar shall be increased (decreased) in \$0.15 increments in the direction of the Impermissible Price. At the beginning of each Additional Extension Period pursuant to section (C)(ii), the Volatility Auction Collar shall be widened in accordance with this paragraph by the same method as the Initial Extension Period.

(E) Determination of IEX Re-Opening Trade. The execution resulting from the Volatility Auction will be the IEX Re-opening Trade. If there is insufficient trading interest in the System to execute the Volatility Auction for that security, no Volatility Auction will occur, and the security will be released for trading pursuant to section (G) below. Pursuant to Rule 11.350(c)(2)(F), if IEX has not determined the IEX Official Opening Price for an IEX-listed security, and the security is subject to an LULD trading pause, the IEX Official Opening Price will be the price of the Volatility Auction.

- (i) The Volatility Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
- (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the Volatility Auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)]; and
- (iii) If more than one price exists under subparagraph (ii), the Volatility Auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is] closest or equal to

the Volume Based Tie Breaker[]).

- (iv) If the Volatility Auction price established by subparagraphs (i) through (iii) is outside the Volatility Auction Collar, the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(C)(ii) and the Volatility Auction Collars shall be updated pursuant to Rule 11.350(f)(2)(D)(ii), described above; or
- (v) If the Volatility Auction price established by subparagraphs (i) through (iii) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(f)(2)(C)(i), the Order Acceptance Period shall be extended accordingly.

(F) – (H) No change.

(3) Closing with a Volatility Auction. Where an IEX-listed security is paused pursuant to IEX Rule 11.280(e) at or after the Closing Auction Lock-in Time, or the Order Acceptance Period of a Volatility Auction for a security paused before the Closing Auction Lock-in Time pursuant to IEX Rule 11.280(e) would otherwise be extended by the Exchange to a time after the Closing Auction Lock-in Time, no Closing Auction for the security will occur. Instead, the Exchange will conduct a Volatility Auction at the end of Regular Market Hours to determine the IEX Official Closing Price for the security.

(A) No change.

(B) Process for Closing with a Volatility Auction.

(i) No change.

(ii) Determination of IEX Official Closing Price. The IEX Official Closing Price will be the price of the Volatility Auction. If there is insufficient trading interest in the System to execute the Volatility Auction for that security, the Final Last Sale Eligible Trade shall be used as the IEX Official Closing Price in that security, and the security will be released for trading pursuant to section (C) below. Pursuant to Rule 11.350(c)(2)(F), if IEX has not determined the IEX Official Opening Price for an IEX-listed security, and the security is subject to an LULD trading pause, the IEX Official Opening Price will be the price of the Volatility Auction.

(a) The Volatility Auction shall occur at the price that maximizes

the number of shares of Auction Eligible Orders to be executed;

- (b) If more than one price exists under subparagraph (a) resulting in an auction price range, the Volatility Auction shall occur at the [entered] price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order[which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order)]; and
- (c) If more than one price exists under subparagraph (b), the Volatility Auction shall occur at the price [that minimizes the distance from the Volume Based Tie Breaker (i.e., the price at or higher than the most aggressive unexecuted buy order and at or lower than the most aggressive unexecuted sell order that is]closest or equal to the Volume Based Tie Breaker[)].
- (d) If the Volatility Auction price established by subparagraphs (a) through (c) is outside the Volatility Auction Collar, the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(C)(ii) and the Volatility Auction Collars shall be updated pursuant to Rule 11.350(f)(2)(D)(ii), described above; or
- (e) If the Volatility Auction price established by subparagraphs (a) through (c) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(f)(2)(C)(i), the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(D)[(C)(i)].

(iii) No change.

(C) – (D) No change.

(g) – (j) No change.

Rule 11.271. Trading Halts

(a) The Exchange does not accept any orders in a security subject to a trading halt at the

time of a trading halt. Any order submitted during a halt will be rejected by the System, except as set forth in Rule 11.350(e).

(b) Any orders resting on the Order Book at the time of a trading halt will not be canceled by the System, except as set forth in Rule 11.350(e). All orders resting on the Order Book in a security subject to a trading halt at the time of a trading halt will be unavailable for trading or re-sweep during the trading halt, but will be available for cancellation by the submitting User.

(c) No change.

Exhibit 5 – Text of Proposed Rule Change

Proposed new language is underlined; proposed deletions are in brackets.

Rule 11.350. [Reserved]Auctions

(a) Definitions.

(1) The term “Auction Book” refers to the orders specified below that queue prior to the auction match, and shall mean:

(A) For Opening Auctions (i.e., Opening Auction Book):

- (i) On-Open orders;
- (ii) Limit orders with a TIF of DAY or GTX; and
- (iii) Market orders with a TIF of DAY.

(B) For Closing Auctions (i.e., Closing Auction Book):

- (i) On-Close orders.

(C) For IPO Auctions (i.e., IPO Auction Book):

- (i) On-Open orders;
- (ii) Limit orders with a TIF of DAY, GTX, GTT, SYS, FOK, or IOC;
and
- (iii) Market orders with a TIF of DAY.

(D) For Halt Auctions (i.e., Halt Auction Book):

- (i) On-Open orders queued prior to Regular Market Hours if a Pre-Market Session halt persists through the start of Regular Market Hours and the Halt Auction is scheduled to occur during the Regular Market Session;
- (ii) Limit orders with a TIF of GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- (iii) Limit orders with a TIF of DAY received during the Order Acceptance Period within the Regular Market Session, or queued

prior to the Regular Market Session for securities that have not traded during the Regular Market Session on that trading day;

- (iv) Limit orders with a TIF of GTX received during the Order Acceptance Period within the Regular Market Session or Post-Market Session, or queued prior to the Regular Market Session for securities that have not traded during the Regular Market Session on that trading day;
- (v) Market orders with a TIF of FOK or IOC received during the Order Acceptance Period within the Regular Market Session;
- (vi) Market orders with a TIF of DAY received during the Order Acceptance Period within the Regular Market Session, or queued prior to the Regular Market Session for securities that have not traded during the Regular Market Session on that trading day; and
- (vii) Displayed portions of limit orders on the Continuous Book at the time of the halt dissemination.

(E) For Volatility Auctions (i.e., Volatility Auction Book):

- (i) On-Close orders, if an IEX-listed security is paused pursuant to IEX Rule 11.280(e) at or after the Closing Auction Lock-in Time, or the Order Acceptance Period of a Volatility Auction for a security paused before the Closing Auction Lock-in Time pursuant to IEX Rule 11.280(e) would otherwise be extended by the Exchange to a time after the Closing Auction Lock-in Time;
- (ii) Limit orders with a TIF of GTX, GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- (iii) Limit orders with a TIF of DAY received during the Order Acceptance Period within Regular Market Hours;
- (iv) Market orders with a TIF of FOK, IOC, or DAY received during the Order Acceptance Period within Regular Market Hours; and
- (v) Displayed portions of limit orders on the Continuous Book at the time of the pause dissemination.

(2) The term “Auction Eligible Order” shall mean all orders that are eligible for

execution in the upcoming auction on the Auction Book and the Continuous Book (collectively, the Order Book) and are not Auction Ineligible Orders; such orders are used by the System to calculate IEX Auction Information and to determine the clearing price of IEX Auctions. For Opening or Closing Auctions, non-displayed buy (sell) orders on the Continuous Book with a resting price (as defined in IEX Rule 11.350(b)(1)(A)(i)) within the Reference Price Range will be priced at the Protected NBB (NBO) for the purpose of determining the clearing price, but will be ranked and eligible for execution in the Opening or Closing Auction match at the order's resting price.

(3) The term "Auction Ineligible Orders" refers to the orders specified below that are not eligible for execution in the auction, and shall mean:

(A) For Opening Auctions:

(i) Pegged orders.

(B) For IPO Auctions:

(i) Pegged orders.

(C) For Halt Auctions:

(i) Pegged orders; and

(ii) Non-displayed interest on the Continuous Book at the time of the halt.

(D) For Volatility Auctions:

(i) Pegged orders; and

(ii) Non-displayed interest on the Continuous Book at the time of the pause.

(4) The term "Continuous Book" shall be in reference to all orders resting on the Order Book that are not on the Auction Book and are available for continuous trading. Market orders and orders with a TIF of IOC or FOK do not rest on the Continuous Book. During the Pre-Market Session, Auction Ineligible Orders queued for the Regular Market Session are not on the Continuous Book. There is no Continuous Book when continuous trading in a security is halted or paused; in the event of a halt or pause, Auction Eligible Orders on the Continuous Book shall be incorporated into the Halt or Volatility Auction Book,

as applicable.

- (5) The term “Display Only Period” shall be in reference to the period of the time during which IEX disseminates IEX Auction Information for IPO, Halt, and Volatility Auctions. The Display Only Period begins thirty (30) minutes prior to the scheduled auction match for an IPO Auction, and the start of the Order Acceptance Period for Halt and Volatility Auctions. The Display Only Period shall end when the applicable auction match occurs.
- (6) The term “Final Consolidated Last Sale Eligible Trade” shall mean the last trade prior to the end of Regular Market Hours, or where applicable, prior to trading in the security being halted or paused, that is last sale eligible and reported to the Consolidated Tape System (“Consolidated Tape”), rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.
- (A) If there is no qualifying Final Consolidated Last Sale Eligible Trade for the current day, the previous official closing price; and
- (B) In the case of an IPO or launch of a new issue, the issue price.
- (7) The term “Final Last Sale Eligible Trade” shall mean the last trade on IEX prior to the end of Regular Market Hours, or where applicable, prior to trading in the security being halted or paused, that is last sale eligible and reported to the Consolidated Tape.
- (A) If there is no qualifying Final Last Sale Eligible Trade for the current day, the previous official closing price; and
- (B) In the case of an IPO or launch of a new issue, the issue price.
- (8) The term “Hyper-aggressive Auction Orders” shall mean:
- (A) For Opening Auctions, MOO orders and market orders with a TIF of DAY, as well as LOO orders and limit orders with a TIF of DAY or GTX to buy (sell) priced above (below) the latest upper (lower) threshold of the Opening/Closing Auction Collar calculated by the System.
- (B) For Closing Auctions, MOC orders and LOC orders to buy (sell) priced above (below) the latest upper (lower) threshold of the Opening/Closing Auction Collar calculated by the System.
- (9) The term “IEX Auction Information” shall mean the information disseminated

pursuant to Rule 11.330(a) regarding the current status of price, size, imbalance information, auction collar information, and other relevant information related to auctions conducted by the Exchange. IEX Auction Information shall include:

- (A) Reference Price: The single price at or within the Reference Price Range at which orders on the Auction Book would match if the IEX Auction were to occur at that time of dissemination. The Reference Price is set to the price that maximizes the number of the shares from orders on the Auction Book to be executed in the auction. If more than one price maximizes the number of shares that will execute resulting in an auction price range, the Reference Price is set to the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order. If more than one price satisfies the above conditions, the Reference Price is set to the price closest or equal to either the Volume Based Tie Breaker (if such range includes prices in the Reference Price Range) or the Reference Price Range (if such range does not include prices in the Reference Price Range) at the time of dissemination. In the case of an IPO or Halt Auction, the Reference Price shall be the same as the Auction Book Clearing Price.
- (B) Paired Shares: The number of shares from orders on the Auction Book that can be matched with other orders on the Auction Book at the Reference Price at the time of dissemination.
- (C) Imbalance Shares: The number of shares from orders on the Auction Book that may not be matched with other orders on the Auction Book at the Reference Price at the time of dissemination.
- (D) Imbalance Side: The buy/sell direction of any imbalance at the time of dissemination.
- (E) Indicative Clearing Price: The single price at or within the Opening/Closing Auction Collar at which Auction Eligible Orders would match if the IEX Auction were to occur at the time of dissemination pursuant to the procedures for determining the clearing price set forth in

the applicable auction rule. In the case of an IPO, Halt, or Volatility Auction, the Indicative Clearing Price shall be the same as the Auction Book Clearing Price.

- (F) Auction Book Clearing Price: The single price at which orders on the Auction Book would match if the IEX Auction were to occur at the time of dissemination pursuant to the procedures for determining the clearing price set forth in the applicable auction rule, but shall not be constrained by the Opening/Closing Auction Collar, as applicable. If shares from market orders would remain unexecuted, IEX shall disseminate an indicator for “market buy” or “market sell.”
 - (G) Collar Reference Price: Opening/Closing Auction Collar Reference Price for the Opening and Closing Auctions. Volatility Auction Collar Reference Price for the Volatility Auction.
 - (H) Lower Auction Collar: The lower threshold of the Opening/Closing Auction Collar for the Opening and Closing Auctions. The lower threshold of the Volatility Auction Collar for the Volatility Auction.
 - (I) Upper Auction Collar: The upper threshold of the Opening/Closing Auction Collar for the Opening and Closing Auctions. The upper threshold of the Volatility Auction Collar for the Volatility Auction.
 - (J) Scheduled Auction Time: The projected time of the auction match.
 - (K) Extension Number: The total number of automatic Order Acceptance Period extensions an IPO, Halt, or Volatility Auction has received.
- (10) The term “IEX Official Closing Price” shall mean the price disseminated by the Exchange to the Consolidated Tape as the market center official close of an IEX-listed security.
- (11) The term “IEX Official IPO Opening Price” shall mean the price disseminated by the Exchange to the Consolidated Tape following an IPO Auction as the market center official open for an initial public offering of an IEX-listed security.
- (12) The term “IEX Official Opening Price” shall mean the price disseminated by the Exchange to the Consolidated Tape as the market center official open of an

IEX-listed security.

- (13) The term “IEX Re-opening Trade” shall mean the trade resulting from a Halt Auction or Volatility Auction (conducted prior to the Closing Auction Lock-in Time) that is disseminated by the Exchange to the Consolidated Tape as the market center re-opening trade of an IEX-listed security.
- (14) Reserved.
- (15) The term “Initial Consolidated Last Sale Eligible Trade” shall mean the first trade during Regular Market Hours that is last sale eligible and reported to the Consolidated Tape, including the Closing Auction.
- (A) If there is no qualifying Initial Consolidated Last Sale Eligible Trade for the current day, the previous official closing price will be used.
- (16) The term “Initial Last Sale Eligible Trade” shall mean the first trade on IEX during Regular Market Hours that is last sale eligible and reported to the Consolidated Tape, including the Closing Auction.
- (A) If there is no qualifying Initial Last Sale Eligible Trade for the current day, the previous official closing price will be used.
- (17) The term “Impermissible Price” shall mean, for a Volatility Auction, an indeterminable auction price due to a market order imbalance, or an Indicative Clearing Price higher (lower) than the upper (lower) threshold of the Volatility Auction Collar at the scheduled auction match.
- (18) Reserved.
- (19) The term “Latest Consolidated Last Sale Eligible Trade” shall mean the last trade immediately prior to trading in the security being halted or paused that is last sale eligible and reported to the Consolidated Tape, rounded to the nearest MPV or Midpoint Price calculated by the System, whichever is closer.
- (A) If there is no qualifying Latest Consolidated Last Sale Eligible Trade for the current day, the previous official closing price.
- (20) The term “Limit-On-Close” or “LOC” shall mean a limit order that specifically requests execution at the IEX Official Closing Price and is designated for execution in the Closing Auction, or in a Volatility Auction when such auction is determining the IEX Official Closing Price pursuant to Rule 11.350(f)(3). An

LOC order submitted as a pegged order will be rejected. An LOC order submitted with a User instructed display quantity pursuant to Rule 11.190(b)(2) will be accepted, but the instruction will not be supported.

- (21) The term “Limit-On-Open” or “LOO” shall mean a limit order that specifically requests execution at the IEX Official Opening Price (or the IEX Official IPO Opening Price in the case of an IPO Auction) and is designated for execution in the Opening Auction, IPO Auction, or Halt Auction when queued prior to Regular Market Hours if a Pre-Market Session halt persists through the start of Regular Market Hours. An LOO order submitted as a pegged order will be rejected. An LOO order submitted with a User instructed display quantity pursuant to Rule 11.190(b)(2) will be accepted, but the instruction will not be supported.
- (22) The term “Lock-in Time” shall mean two (2) minutes prior to the Opening Auction match (i.e., 9:28 a.m.), and ten (10) minutes prior to the Closing Auction match (i.e., 3:50 p.m., or 10 minutes prior to the end of the Regular Market Session on days that IEX is subject to an early closing), at which time:
- (A) Auction Eligible Orders on the Auction Book may not be canceled or modified prior to the auction match (i.e., locked in);
 - (B) Hyper-aggressive Auction Orders are rejected upon receipt; and
 - (C) IEX begins to disseminate IEX Auction Information.
- (23) The term “Lock-out Time” shall mean ten (10) seconds prior to the Opening and Closing Auction match, at which time any new Auction Eligible Order otherwise eligible for the Auction Book is restricted from entering the Auction Book and is rejected upon receipt (i.e., locked out). Orders must be on the Auction Book prior to the Lock-out Time to guarantee eligibility for the auction. Orders submitted to the Continuous Book after the Lock-out Time remain eligible for execution on the Continuous Book, and in the upcoming Opening or Closing Auction match.
- (24) The term “Market-On-Close” or “MOC” shall mean a market order that specifically requests execution at the IEX Official Closing Price and is designated for execution in the Closing Auction, or in a Volatility Auction when such auction is determining the IEX Official Closing Price pursuant to Rule 11.350(f)(3). An MOC order submitted as a pegged order will be rejected. An

MOC order submitted with a User instructed display quantity pursuant to Rule 11.190(b)(2) will be accepted, but the instruction will not be supported.

- (25) The term “Market-On-Open” or “MOO” shall mean a market order that specifically requests execution at the IEX Official Opening Price (or the IEX Official IPO Opening Price in the case of an IPO Auction) and is designated for execution in the Opening Auction, IPO Auction, or Halt Auction when queued prior to Regular Market Hours if a Pre-Market Session halt persists through the start of Regular Market Hours. An MOO order submitted as a pegged order will be rejected. An MOO order submitted with a User instructed display quantity pursuant to Rule 11.190(b)(2) will be accepted, but the instruction will not be supported.
- (26) The term “Maximum Percentage” will vary depending on the midpoint of the Protected NBBO (“Protected Midpoint Price”), and shall mean:
- (A) 5% if the Protected Midpoint Price is less than or equal to \$25.00;
 - (B) 2.5% if the Protected Midpoint Price is greater than \$25.00 but less than or equal to \$50.00; or
 - (C) 1.5% if the Protected Midpoint Price is greater than \$50.00.
- (27) The term “Opening/Closing Auction Collar” shall mean, collectively, the upper and lower threshold prices at or within which the Opening and Closing Auction match must occur. The Opening/Closing Auction Collar is established by taking the greater of fifty cents (\$0.50) or a default threshold percentage of ten percent (10%) applied to the Opening/Closing Auction Collar Reference Price, which shall be added to (subtracted from) the Protected NBO (NBB) to establish the upper (lower) threshold of the Opening/Closing Auction Collar.
- (A) If the Protected NBBO is crossed, the greater of fifty cents (\$0.50) or a default threshold percentage of ten percent (10%) applied to the Opening/Closing Auction Collar Reference Price, shall be added to (subtracted from) the IEX best offer (bid) to establish the upper (lower) threshold of the Opening/Closing Auction Collar.
 - (B) If the Protected NBBO, or, when utilized, the IEX best bid and best offer (“IEX BBO”), is not two-sided, the greater of fifty cents (\$0.50) or a default threshold percentage of ten percent (10%) applied to the

Opening/Closing Auction Collar Reference Price, shall be added to (subtracted from) the Opening/Closing Auction Collar Reference Price to establish the upper (lower) threshold of the Opening/Closing Auction Collar.

- (28) The term “Opening/Closing Auction Collar Reference Price” shall be the Volume Based Tie Breaker.
- (29) The term “Order Acceptance Period” shall be in reference to the period of time during which IEX accepts orders submitted for participation in an IPO, Halt, or Volatility Auction. The Order Acceptance Period shall end when the applicable auction match occurs. The Order Acceptance Period shall begin:
- (A) For an IPO Auction, 8:00 a.m., but is subject to change;
 - (B) For a Halt Auction, five (5) minutes prior to the scheduled auction match, or immediately after a Level 1 or Level 2 Market Decline pursuant to Rule 11.280(a)(1)-(3); and
 - (C) For a Volatility Auction, immediately after the pause dissemination.
- (30) The term “Reference Price Range” is in reference to, for a Volatility Auction, the prices between and including the applicable Volatility Auction Collar, or, for an Opening or Closing Auction, the prices between and including the Protected NBB and Protected NBO for a particular security where the Protected NBBO is a Valid Protected NBBO.
- (A) The Protected NBBO is a “Valid Protected NBBO” where:
 - (i) There is both a Protected NBB and Protected NBO for the security;
 - (ii) The Protected NBBO is not crossed; and
 - (iii) The midpoint of the Protected NBBO is less than or equal to the Maximum Percentage away from both the Protected NBB and the Protected NBO.
 - (B) Where the Protected NBBO is not a Valid Protected NBBO, the IEX BBO will be used where the IEX BBO is a Valid IEX BBO.
 - (i) The IEX BBO is a “Valid IEX BBO” where:
 - (a) There is both an IEX best bid and an IEX best offer for the security; and

- (b) The midpoint of the IEX BBO is less than or equal to the Maximum Percentage away from both the IEX best bid and the IEX best offer.
- (C) If there is neither a Valid Protected NBBO nor a Valid IEX BBO, the Reference Price Range is set to the higher (lower) price of the following:
- (i) the Final Consolidated Last Sale Eligible Trade; or
 - (ii) the Protected NBB (NBO), if not crossed, or the IEX best bid (offer).
- (D) If there is neither a Protected NBBO nor an IEX BBO (i.e., a zero-sided market), the Reference Price Range will be the Final Consolidated Last Sale Eligible Trade.
- (31) The term “Volatility Auction Collar” represents the range of prices at or within which the Volatility Auction match can occur, and shall mean:
- (A) If the Volatility Auction Collar Reference Price is the Lower (Upper) Price Band, the initial lower (upper) threshold of the Volatility Auction Collar is 5% less (greater) than the Volatility Auction Collar Reference Price, rounded to the nearest passive MPV, and the upper (lower) threshold of the Volatility Auction Collar is the Upper (Lower) Price Band; or
 - (B) For securities with a Volatility Auction Collar Reference Price of \$3.00 or less, the initial lower (upper) threshold of the Volatility Auction Collar is \$0.15 less (greater) than the Volatility Auction Collar Reference Price, rounded to the nearest passive MPV and the upper (lower) threshold of the Volatility Auction Collar is the Upper (Lower) Price Band.
- (32) The term “Volatility Auction Collar Reference Price” shall mean the reference price for calculating the applicable Volatility Auction Collar, and shall equal the price of the Upper or Lower Price Band that triggered the LULD trading pause.
- (33) The term “Volume Based Tie Breaker” shall mean, for an Opening or Closing Auction, the midpoint of the Reference Price Range. In an Opening or Closing Auction, when the Reference Price Range is equal to the IEX BBO for Pilot Securities in Test Groups 2 and 3 of the Tick Size Pilot Program, the Volume Based Tie Breaker will be rounded to the nearest MPV. If the Reference Price

Range is a single price, the Volume Based Tie Breaker shall be equal to the Reference Price Range. In the case of a Halt Auction, or Volatility Auction that is not determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Latest Consolidated Last Sale Eligible Trade. In the case of a Volatility Auction that is determining the IEX Official Closing Price, the Volume Based Tie Breaker shall be equal to the Final Consolidated Last Sale Eligible Trade. In the case of an IPO Auction, the Volume Based Tie Breaker shall be equal to the issue price.

••• Supplementary Material •••

.01 Opening/Closing Auction Collar

For example, if the Protected NBBO is \$10.00 x \$11.00, then the Opening/Closing Auction Collar Reference Price equals \$10.50 and the threshold percentage is 10%, resulting in a threshold value of \$1.05 (10% of \$10.50 = \$1.05). This threshold value is then added to the Protected NBO and subtracted from the Protected NBB to obtain the auction's Opening/Closing Auction Collar. In this example, it would result in a lower threshold of \$8.95 ($\$10.00 - \$1.05 = \8.95) and an upper threshold of \$12.05 ($\$11.00 + \$1.05 = \12.05), thus creating a range of \$8.95 to \$12.05, within which the auction can occur. This means \$8.95 is the lowest price at which the auction can occur and \$12.05 is the highest price at which it can occur. The Opening/Closing Auction Collar is dynamic; as the Protected NBBO changes, the Opening/Closing Auction Collar updates to reflect such changes.

.02 Volatility Auction Collar

For example, if the Lower and Upper Price Bands are \$10.00 and \$11.00, respectively, and a pause is triggered following a Limit State at the Lower Price Band, the Volatility Auction Collar Reference Price would be equal to the Lower Price Band, \$10.00. The lower threshold of the Volatility Auction Collar ("lower Volatility Auction Collar") would be calculated by subtracting 5% of the Volatility Auction Collar Reference Price, or \$0.50 ($5\% \text{ of } \$10.00 = \0.50), from the Volatility Auction Collar Reference Price. The upper threshold of the Volatility Auction Collar ("upper Volatility Auction Collar") would be equal to the Upper Price Band. In this example, it would result in a lower Volatility Auction Collar of \$9.50 ($\$10.00 - \$0.50 = \9.50) and an upper Volatility Auction Collar of \$11.00, thus creating a range of \$9.50 to \$11.00, within which the Volatility Auction can occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.00 is the highest price at which it can occur.

In this example, if the pause was triggered at 12:00 p.m., the above calculated Volatility Auction Collar would be in effect during the initial Order Acceptance

Period from 12:00 until 12:05 p.m. To continue the example, if the Indicative Clearing Price was above the upper Volatility Auction Collar at the time of the scheduled auction match, 12:05 p.m., then the Volatility Auction would receive an extension of 5 minutes (the “Initial Extension Period”) and the upper Volatility Auction Collar would be updated by adding \$0.50 to the upper Volatility Auction Collar (which is equal to 5% of the original Volatility Auction Reference Price of \$10.00). The lower Volatility Auction Collar remains unchanged. In this example, it would result in an upper Volatility Auction Collar of \$11.50 ($\$11.00 + \$0.50 = \11.50) and a lower Volatility Auction Collar of \$9.50, thus creating a range of \$9.50 to \$11.50, within which the Volatility Auction can now occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.50 is the highest price at which it can now occur at the next scheduled auction match 5 minutes from now, at 12:10 p.m.

Furthermore, continuing the example, if the Indicative Clearing Price was below the lower Volatility Auction Collar at the time of the scheduled auction match of 12:10 p.m., then the Volatility Auction would receive an extension of 5 minutes (an “Additional Extension Period”) and the lower Volatility Auction Collar would be updated by subtracting \$0.50 from the lower Volatility Auction Collar (which is equal to 5% of the original Volatility Auction Reference Price of \$10.00). In this example, it would result in a lower Volatility Auction Collar of \$9.00 ($\$9.50 - \$0.50 = \9.00) and an upper Volatility Auction Collar or \$11.50, thus creating a range of \$9.00 to \$11.50 within which the Volatility Auction can now occur. This means \$9.00 is the lowest price at which the Volatility Auction can occur and \$11.50 is the highest price at which it can now occur, and the Exchange shall attempt to conduct a Volatility Auction every one (1) second during the course of each Additional Extension Period until the clearing price falls at or within the Volatility Auction Collar.

.03 Eligibility of Market Orders and Limit Orders with a TIF of DAY Outside Regular Market Hours

If a Volatility Auction originally scheduled to occur during Regular Market Hours receives an automatic extension which causes the auction to occur in the Post-Market Session, limit orders with a TIF of DAY and market orders which were submitted during the Order Acceptance Period within Regular Market Hours are included and are only canceled by the System after the auction match or if the auction is extended to the end of Post-Market Hours.

(b) IEX Auction Priority.

(1) Orders resting on the Order Book shall be ranked and maintained for the

Opening, Closing, IPO, Halt, and Volatility Auction based on the following priority:

(A) Price. The best priced Auction Eligible Order (the highest priced resting order to buy or the lowest priced resting order to sell) has priority over all other orders to buy (or orders to sell) in all cases. Market orders have precedence over limit orders.

(i) Resting Price. Auction Eligible Orders resting on the Continuous Book are ranked by the price at which they are resting on the Continuous Book; Auction Eligible Orders resting on the Auction Book are ranked by the limit price defined by the User, if any (in either case, the order's "resting price"), as follows:

(a) Midpoint peg orders are ranked and eligible for execution in the Closing Auction at the less aggressive of the Midpoint Price or the order's limit price, if any.

(b) Primary peg orders are ranked and eligible for execution in the Closing Auction at the less aggressive of one (1) MPV below (above) the NBB (NBO) for buy (sell) orders or the order's limit price, if any, but may exercise price discretion up (down) to the auction match price, subject to the less aggressive of the NBB (NBO) or the order's limit price, if any, except during periods of quote instability, as defined in IEX Rule 11.190(g). When exercising price discretion, primary peg orders are ranked behind any non-displayed interest at the auction match price for the duration of the Closing Auction. If multiple primary peg orders are exercising price discretion during the Closing Auction, they maintain their relative time priority at the auction match price.

(c) Discretionary Peg orders are ranked and eligible for execution in the Closing Auction at the less aggressive of the NBB (NBO) for buy (sell) orders or the order's limit price, if any, but may exercise price discretion up (down) to the auction match price, subject to the less aggressive of the Midpoint Price or the order's limit price, if any, except during periods of quote

- instability, as defined in IEX Rule 11.190(g). When exercising price discretion, Discretionary Peg orders are ranked behind any non-displayed interest at the auction match price for the duration of the Closing Auction. If multiple Discretionary Peg orders are exercising price discretion during the Closing Auction, they maintain their relative time priority at the auction match price.
- (d) Non-displayed limit orders and non-displayed portions of reserve orders on the Continuous Book are ranked and eligible for execution in the Opening/Closing Auction at the less aggressive of the Midpoint Price or the order's limit price.
- (e) Displayed limit orders on the Continuous Book are ranked and eligible for execution in the Opening/Closing Auction at the order's resting price.
- (f) Limit orders, including LOO and LOC orders, on the Auction Book are ranked and eligible for execution in an auction at the order's limit price.
- (ii) Halt or Volatility Auction. Displayed portions of limit orders on the Continuous Book at the time of a halt or pause dissemination are ranked on the Auction Book by the price at which such orders were resting on the Continuous Book at the time of the halt or pause dissemination.
- (B) Display. Equally priced Auction Eligible Orders are ranked by display priority.
- (i) On-Open and On-Close orders are ranked with display priority.
- (ii) Limit orders with a TIF of IOC or FOK are ranked with display priority.
- (iii) Displayed orders (including On-Open and On-Close orders) and displayed portions of orders on the Auction Book and Continuous Book will have precedence over non-displayed orders and non-displayed portions of orders on the Auction Book and Continuous Book at a given price.

- (C) Time. Equally priced Auction Eligible Orders with the same display priority are ranked in time priority.
- (i) Where orders to buy (or sell) are ranked at the same price with the same display priority, the oldest order at such price and display shall have precedence at that price and display. Orders are ranked by the time at which they are posted to the Order Book at a given price, the first to be posted at a given price being the oldest. Orders maintain their time priority once booked until one of the following occur, at which time the order will receive a new timestamp:
- (a) An order on the Auction Book is incremented by the User;
- (b) An order on the Auction Book is re-priced by the User;
- (c) Minimum Quantity for an order on the Auction Book is amended by the User; or
- (d) Any one of the events specified in IEX Rule 11.220(a)(1)(C) occurs to an order on the Continuous Book.

(c) Opening Auction.

- (1) Order Entry and Cancellation Before Opening Auction
- (A) Users may submit orders to the Exchange at the beginning of the Pre-Market Session for participation in the Opening Auction. Any orders designated for the Opening Auction Book will be queued until the Opening Auction match. Auction Ineligible Orders that may rest on the Order Book will be queued and maintained prior to the auction match in accordance with Rule 11.220(a)(1); Auction Ineligible Orders with a TIF of IOC or FOK will be rejected prior to the auction match.
- (B) Between the Opening Auction Lock-in Time and the Opening Auction match, orders on the Opening Auction Book may not be canceled or modified, and Hyper-aggressive Auction Orders submitted to the Exchange will be rejected upon entry.
- (C) Orders eligible for the Opening Auction Book received by the Exchange between the Opening Auction Lock-out Time and the Opening Auction match will be rejected.

- (D) Orders on the Continuous Book and Auction Ineligible Orders may continue to be entered and canceled or modified at any time prior to execution.
- (2) Opening Auction Process. The Exchange will conduct an Opening Auction for all IEX-listed securities.
- (A) Publication of IEX Auction Information. Beginning at the Opening Auction Lock-in Time, and updated every one second thereafter, IEX Auction Information associated with the Opening Auction will be disseminated via electronic means.
- (B) Determination of IEX Official Opening Price. The IEX Official Opening Price will be the price of the Opening Auction. In the event that there is no Opening Auction for an IEX-listed security, the security will be released for trading pursuant to section (3) below, and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.
- (i) The Opening Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
- (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the Opening Auction shall occur at the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order;
- (iii) If more than one price exists under subparagraph (ii), the Opening Auction shall occur at the price closest or equal to the Volume Based Tie Breaker; and
- (iv) If the Opening Auction price established by subparagraphs (i) through (iii) is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Opening Auction, the IEX Official Opening Price will be the price at or within the range of prices between the lower (upper) threshold of the Opening/Closing Auction Collar and the lower (upper) threshold of the Reference Price Range that best satisfies the conditions of subparagraphs (i) through (iii).
- (C) Execution Priority. Opening Auction execution priority occurs in

accordance with IEX Auction Priority as described in section (b) above. Market and MOO orders have priority over all other Auction Eligible Orders, and to the extent there is executable contra side interest, such market and MOO orders will execute at the IEX Official Opening Price in accordance with time priority. After the execution of all market and MOO orders, the remaining Auction Eligible Orders with a resting price more aggressive than the IEX Official Opening Price will be executed in price – display – time priority at the IEX Official Opening Price. All remaining Auction Eligible Orders with a resting price equal to the IEX Official Opening Price shall execute in display – time priority at the IEX Official Opening Price. All AGID modifiers as defined in Rule 11.190(e), and Minimum Quantity instructions as defined in Rule 11.190(b)(11), will not be supported in the Opening Auction, but will be enforced on all unexecuted shares released to the Continuous Book following the Opening Auction match.

- (D) Pre-Market Session Halt. If an IEX-listed security is subject to a Pre-Market Session halt, all orders on the Opening Auction Book will remain open. Users may resume submission of new or modifications to existing Auction Eligible Orders for the halted security during the Order Acceptance Period. Users may cancel open Auction Eligible Orders at any time during the halt. If a halt persists through the start of Regular Market Hours, no Opening Auction will occur, orders on the Opening Auction Book will become part of the Halt Auction Book, and the Halt Auction will determine the IEX Official Opening Price in accordance with Rule 11.350(e) below.
- (E) The Halt Auction will determine the IEX Official Opening Price for an IEX-listed security pursuant to Rule 11.350(e) below if a Halt Auction is scheduled to occur during the Regular Market Session, and IEX has not determined an IEX Official Opening Price due to:
- (i) An overnight trading halt; or
 - (ii) A lack of crossing interest during the Opening Auction, there is no Initial Last Sale Eligible Trade, and the security is subsequently halted.

- (F) The Volatility Auction will determine the IEX Official Opening Price for an IEX-listed security pursuant to Rule 11.350(f) below if IEX has not determined an IEX Official Opening Price due to:
- (i) A lack of crossing interest during the Opening Auction, there is no Initial Last Sale Eligible Trade, and the security is subsequently paused.
- (3) Transition to Regular Market Session.
- (A) LOO, MOO, and market orders that are not fully executed at the conclusion of the Opening Auction will be canceled immediately after the Opening Auction match. Limit orders to buy (sell) with a TIF of DAY or GTX and a limit price above (below) the upper (lower) threshold of the Opening/Closing Auction Collar that are not fully executed at the conclusion of the Opening Auction will be canceled immediately after the Opening Auction match;
 - (B) All remaining shares from Auction Eligible Orders that are not canceled by the System immediately after the Opening Auction match, along with all Auction Ineligible Orders queued for trading in the Regular Market Session, shall be released to the Continuous Book for trading in the Regular Market Session, subject to the orders' instructions; and
 - (C) Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c)(3) (Re-Sweep Behavior), subject to the orders' instructions.
- (4) Opening Auction Contingency Procedures.
- (A) When a disruption occurs that prevents the execution of the Opening Auction as set forth above, IEX shall apply the following Opening Auction Contingency Procedures:
 - (i) IEX will publicly announce that no Opening Auction will occur. The price of the Initial Consolidated Last Sale Eligible Trade will be used for the IEX Official Opening Price. The IEX Official Opening Price will be published to the Consolidated Tape. All orders on the Order Book will be canceled, and IEX will open the security for trading without an auction.

- (ii) If a security's IEX Official Opening Price cannot be determined based on this procedure, IEX will not publish an IEX Official Opening Price for the security.
- (iii) The Regular Market Session shall begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Opening Auction Contingency Procedures.

(d) Closing Auction.

(1) Order Entry and Cancellation Before Closing Auction

- (A) Users may submit orders to the Exchange at the beginning of the Pre-Market Session, or at the beginning of the Order Acceptance Period for an IPO Auction, for participation in the Closing Auction. Any MOC and LOC orders designated for the Closing Auction Book will be queued until the Closing Auction match.
- (B) Between the Closing Auction Lock-in Time and the Closing Auction match, orders on the Closing Auction Book may not be canceled or modified, and Hyper-aggressive Auction Orders submitted to the Exchange will be rejected upon entry.
- (C) Between the Closing Auction Lock-in Time and five (5) minutes before the Closing Auction match (e.g., 3:55 p.m.), On-Close orders can be canceled only if the User requests that IEX correct a legitimate error in the order (e.g., side, size, symbol, price, or duplication of an order). On-Close orders cannot be canceled or modified at or after five (5) minutes before the Closing Auction match (e.g., 3:55 p.m.) for any reason.
- (D) Orders eligible for the Closing Auction Book received by the Exchange between the Closing Auction Lock-out Time and the Closing Auction match will be rejected.
- (E) Orders on the Continuous Book may continue to be entered and canceled or modified at any time prior to execution.

(2) Closing Auction Process. The Exchange will conduct a Closing Auction for all IEX-listed securities.

- (A) Publication of IEX Auction Information. At the beginning of the Closing Auction Lock-in Time, and updated every one second thereafter, IEX

Auction Information associated with the Closing Auction will be disseminated via electronic means.

- (B) Determination of IEX Official Closing Price. The IEX Official Closing Price will be the price of the Closing Auction. In the event that there is no Closing Auction for an IEX-listed security, the IEX Official Closing Price will be the price of the Final Last Sale Eligible Trade, and the security will be released for trading pursuant to section (3) below.
- (i) The Closing Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
 - (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the Closing Auction shall occur at the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order;
 - (iii) If more than one price exists under subparagraph (ii), the Closing Auction shall occur at the price closest or equal to the Volume Based Tie Breaker; and
 - (iv) If the Closing Auction price established by subparagraphs (i) through (iii) is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Closing Auction, the IEX Official Closing Price will be the price at or within the range of prices between the lower (upper) Opening/Closing Auction Collar and the lower (upper) threshold of the Reference Price Range that best satisfies the conditions of subparagraphs (i) through (iii).
- (C) Execution Priority. Closing Auction execution priority occurs in accordance with IEX Auction Priority as described in section (b) above. MOC orders have priority over all other Auction Eligible Orders, and to the extent there is executable contra side interest, such MOC orders will execute at the IEX Official Closing Price in accordance with time priority. After the execution of all MOC orders, the remaining Auction Eligible Orders with a resting price more aggressive than the IEX Official Closing Price will be executed in price – display – time priority at the IEX Official Closing Price. All remaining Auction Eligible Orders with a resting price equal to the IEX Official Closing Price shall execute in display – time

priority at the IEX Official Closing Price. All AGID modifiers as defined in Rule 11.190(e), and Minimum Quantity instructions as defined in Rule 11.190(b)(11), will not be supported in the Closing Auction, but will be enforced on all unexecuted shares released to the Continuous Book following the Closing Auction match.

(D) If a halt is disseminated in an IEX-listed security prior to the Closing Auction, all orders on the Auction Book will remain open. Users may resume submission of new or modifications to existing Auction Eligible Orders for the halted security during the Order Acceptance Period. Users may cancel open Auction Eligible Orders at any time during the halt. If a halt persists through the end of Regular Market Hours, no Closing Auction will occur, all On-Open orders, On-Close orders, pegged orders, market orders, and limit orders with a TIF of DAY will be canceled at the conclusion of Regular Market Hours, and the Final Last Sale Eligible Trade will be the IEX Official Closing Price. However, where an IEX-listed security is paused pursuant to IEX Rule 11.280(e) at or after the Closing Auction Lock-in Time, or the Order Acceptance Period of a Volatility Auction for a security paused before the Closing Auction Lock-in Time pursuant to IEX Rule 11.280(e) would otherwise be extended by the Exchange to a time after the Closing Auction Lock-in Time, On-Close orders are added to the Volatility Auction and such auction will be used to determine the IEX Official Closing Price for the subject security at the conclusion of Regular Market Hours in accordance with Rule 11.350(f)(3) below.

(3) Transition to Post-Market Session.

(A) LOC, MOC, and pegged orders, as well as limit orders with a TIF of DAY that are not fully executed at the conclusion of the Closing Auction will be canceled immediately after the Closing Auction match;

(B) All remaining shares from Auction Eligible Orders that are not canceled immediately by the System after the Closing Auction match will be released to the Continuous Book for trading in the Post-Market Session, subject to the orders' instructions; and

(C) Routable orders that are released to the Continuous Book will be routed in

accordance with IEX Rule 11.230(c)(3) (Re-Sweep Behavior), subject to the orders' instructions.

(4) Closing Auction Contingency Procedures.

(A) When a disruption occurs that prevents the execution of the Closing Auction as set forth above, IEX shall apply either the Primary Closing Auction Contingency Procedures pursuant to this paragraph (A), or the Secondary Closing Auction Contingency Procedures pursuant to paragraph (B) below. IEX will employ the Primary Closing Auction Contingency Procedures if at all possible, and it will employ the Secondary Closing Auction Contingency Procedures only if it determines that both the standard procedures and the Primary Closing Auction Contingency Procedures are unavailable. The determination to employ Primary or Secondary Closing Auction Contingency Procedures will be based upon all available information including the type of disruption, the system or sub-system disrupted, the availability of testing and diagnostic data, and observed Member and market impact. The determination to implement Primary or Secondary Closing Auction Contingency Procedures shall be made by the President of IEX or a senior level employee designated by the President. If such a disruption occurs, IEX shall publicly announce at the earliest possible time the initiation of Primary or Secondary Closing Auction Contingency procedures via system status alerts and email notification directories. If IEX determines to initiate the Primary Closing Auction Contingency Procedures, the following Provisions shall apply:

- (i) IEX will publicly announce that no Closing Auction will occur. The price of the Final Consolidated Last Sale Eligible Trade will be used for the IEX Official Closing Price. The IEX Official Closing Price will be published to the Consolidated Tape. IEX will execute orders on the Closing Auction Book at the IEX Official Closing Price to the extent executable buy and sell interest exists on the Closing Auction Book. All remaining orders on the Order Book will be canceled at the conclusion of the contingency process. IEX will report the resulting execution to the Consolidated Tape and deliver execution

reports to Users. If a security's IEX Official Closing Price cannot be determined by this subsection, IEX will not publish an IEX Official Closing Price for the security and will cancel all orders on the Order Book. The Post Market Session shall begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Primary Contingency Procedures.

- (B) Secondary Closing Auction Contingency Procedures. When a determination to implement Secondary Closing Auction Contingency Procedures has been made by the President of IEX or a senior level employee designated by the President pursuant to paragraph (A) above, IEX shall publicly announce this determination at the earliest possible time via system status alerts and email notification directories. The following procedures shall apply:
- (i) If IEX determines to follow Secondary Closing Auction Contingency Procedures for one or more securities at or before 3:00 p.m., IEX shall cancel all open orders on the Order Book in the impacted securities to give Members the opportunity to route their orders to alternative execution venues. IEX will designate an alternate exchange, and the IEX Official Closing Price for those securities will be determined in accordance with the following procedures:
- (a) The IEX Official Closing Price will be the official closing price established for the security under the rules of the designated back-up exchange;
- (b) If there is no official closing price in a security on the designated back-up exchange, the IEX Official Closing Price will be the volume weighted average price ("VWAP") of the last sale eligible trades reported to the Consolidated Tape during the last five (5) minutes of Regular Market Hours on that trading day, including any closing transactions on an exchange and any trade breaks or corrections up to the time the VWAP is processed;

- (c) If there are no last sale eligible trades reported to the Consolidated Tape during the last five (5) minutes of Regular Market Hours, the IEX Official Closing Price of such security will be the Final Consolidated Last Sale Eligible Trade for the security on that trading day;
 - (d) If there were no last sale eligible trades reported to the Consolidated Tape on that trading day, the IEX Official Closing Price will be the previous official closing price;
 - (e) If a security's IEX Official Closing Price cannot be determined under subsection (a), (b), (c), and (d) above, IEX will not publish an IEX Official Closing Price for the security; and
 - (f) The Post Market Session shall begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Secondary Contingency Procedures.
- (ii) If IEX determines to follow Secondary Closing Auction Contingency Procedures for one or more securities after 3:00 p.m., IEX shall cancel all open orders on the Order Book in the impacted securities to give Members the opportunity to route their orders to alternative execution venues, and the IEX Official Closing Price for those securities will be:
- (a) The IEX Official Closing Price will be the VWAP of the last sale eligible trades reported to the Consolidated Tape during the last five (5) minutes of Regular Market Hours on that trading day, including any closing transactions on an exchange and any trade breaks or corrections up to the time the VWAP is processed;
 - (b) If there are no last sale eligible trades reported to the Consolidated Tape during the last five (5) minutes of Regular Market Hours, the IEX Official Closing Price of such security will be the Final Consolidated Last Sale Eligible Trade for the security on that trading day;
 - (c) If there were no last sale eligible trades reported to the Consolidated Tape on that trading day, the IEX Official

Closing Price will be the previous official closing price;

(d) If a security's IEX Official Closing Price cannot be determined under subsection (a), (b), and (c) above, IEX will not publish an IEX Official Closing Price for the security; and

(e) The Post Market Session shall begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Secondary Contingency Procedures.

(e) IPO and Halt Auctions. For trading in an IEX-listed security in an initial public offering (an "IPO"), or launch of a new issue, the Exchange will conduct an IPO Auction, as described below. Following a trading halt in an IEX-listed security pursuant to IEX Rule 11.280(g)(1), (4), or (5), the Exchange will conduct a Halt Auction, as described below.

(1) Order Entry and Cancellation Before an IPO or Halt Auction.

(A) Users may submit Auction Eligible Orders to the Exchange at the beginning of the Order Acceptance Period for participation in an IPO or Halt Auction. All Auction Eligible Orders associated with an IPO or Halt Auction will be queued until the applicable auction match. All orders associated with an IPO or Halt Auction must be received prior to the auction match in order to be eligible to execute in the auction. Auction Ineligible Orders that may rest on the Order Book will be queued and maintained during the Order Acceptance Period in accordance with Rule 11.220(a)(1); Auction Ineligible Orders with a TIF of IOC or FOK will be rejected prior to the auction match.

(B) Auction Eligible Orders associated with an IPO or Halt Auction may be canceled or modified at any time prior to the auction match.

(C) At the conclusion of Regular Market Hours, On-Open orders, On-Close orders, pegged orders, market orders, and limit orders with a TIF of DAY will be canceled automatically by the System.

(D) In the event the Exchange cannot complete an IPO or Halt Auction before the end of Post-Market Hours, all open orders in the subject security on the Order Book will be canceled.

(2) IPO and Halt Auction Process.

- (A) Publication of IEX Auction Information. At the start of the Display Only Period for a security and updated every one second thereafter, IEX Auction Information associated with the IPO or Halt Auction will be disseminated via electronic means.
- (B) Extending the Order Acceptance Period. The Order Acceptance Period will be extended:
- (i) Automatically for five (5) minutes in an IPO Auction, or one (1) minute for a Halt Auction, when there are unmatched shares from market orders on the Auction Book associated with the auction at the time of the auction match;
 - (ii) Automatically for five (5) minutes in an IPO Auction, or one (1) minute for a Halt Auction, when the Indicative Clearing Price differs by the greater of five percent (5%) or fifty cents (\$0.50) from any of the previous fifteen (15) Indicative Clearing Price disseminations at the time of the auction match;
 - (iii) Automatically in an IPO Auction during the Pre-Launch Period when the clearing price is above (below) the upper (lower) price band selected by the underwriter pursuant to Rule 11.280(h)(8), until the clearing price is within such price bands; or
 - (iv) Manually for an IPO Auction upon request for an extension from the underwriter.
- (C) Determination of IEX IPO Opening Price and IEX Re-opening Trade. The IPO Auction price will be the IEX Official IPO Opening Price. The execution resulting from the Halt Auction will be the IEX Re-opening Trade. If there is insufficient trading interest in the System to execute a Halt Auction for that security, no Halt Auction will occur, and the security will be released for trading pursuant to section (3) below. Pursuant to Rule 11.350(c)(2)(D) or (E), as applicable, if IEX has not determined the IEX Official Opening Price for an IEX-listed security, and the Halt Auction is scheduled to occur during the Regular Market Session, the IEX Official Opening Price will be the price of the Halt Auction. If there is insufficient trading interest to complete the Halt Auction, the transition to the Regular Market Session shall be conducted pursuant to Rule 11.350(e)(3) below.

no auction will occur, and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.

- (i) The auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
 - (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the auction shall occur at the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order; and
 - (iii) If more than one price exists under subparagraph (ii), the auction shall occur at the price closest or equal to the Volume Based Tie Breaker.
 - (iv) If the IPO Auction price established by subparagraphs (i) through (iii) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(e)(2)(B)(i)-(iii), the Order Acceptance Period shall be extended accordingly; or
 - (v) If the Halt Auction price established by subparagraphs (i) through (iii) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(e)(2)(B)(i)-(ii), the Order Acceptance Period shall be extended accordingly.
- (D) Execution Priority. IPO and Halt Auction execution priority occurs in accordance with IEX Auction Priority as described in section (b) above. Market and MOO orders have priority over all other Auction Eligible Orders in an IPO or Halt Auction. To the extent there is executable contra side interest, such market and MOO orders will be executed at the IEX Official IPO Price or the price of the IEX Re-Opening Trade according to time priority. After the execution of all market and MOO orders, the remaining Auction Eligible Orders with a resting price more aggressive than the IEX Official IPO Price or the price of the IEX Re-Opening Trade will be executed in price – display – time priority at the IEX Official IPO Price, or the price of the IEX Re-Opening Trade. All remaining Auction Eligible Orders with a resting price equal to the IEX Official IPO Price or the price of the IEX Re-Opening Trade shall execute in display – time priority at the IEX Official IPO Price, or the price of the IEX Re-Opening

Trade. All AGID modifiers as defined in Rule 11.190(e), and Minimum Quantity instructions as defined in Rule 11.190(b)(11), will not be supported in the IPO or Halt Auction, but will be enforced on all unexecuted shares released to the Continuous Book following the IPO or Halt Auction match.

- (3) Transition to Continuous Trading.
- (A) LOO, MOO, and market orders, as well as Auction Eligible Orders with a TIF of FOK or IOC that are not fully executed at the conclusion of the IPO Auction will be canceled immediately after the IPO Auction match.
 - (B) Auction Eligible Orders with a time-in-force of FOK or IOC and market orders (as well as On-Open orders when the Halt Auction is determining the IEX Official Opening Price) that are not fully executed at the conclusion of the Halt Auction will be canceled immediately after the Halt Auction match.
 - (C) All remaining shares from Auction Eligible Orders that are not canceled immediately by the System after an IPO or Halt Auction match and Auction Ineligible Orders will be released to the Continuous Book for trading in the applicable market session, subject to the orders' instructions; and
 - (D) Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c) (Re-Sweep Behavior), subject to the orders' instructions.
- (4) Contingency Procedures. When a disruption occurs that prevents the execution of an IPO or Halt Auction as set forth above, IEX shall apply the following Contingency Procedures:
- (A) For an IPO Auction, IEX will publicly announce that the Order Acceptance Period for the IPO Auction will reset for the subject security. At which point, IEX will cancel all orders on the Order Book and disseminate a new scheduled time for the Order Acceptance Period and auction match.
 - (B) For a Halt Auction, IEX will publicly announce that no Halt Auction will occur. All orders on the Order Book will be canceled, and IEX will open

the security for trading without an auction.

(f) Volatility Auction. The Volatility Auction is used to re-open an IEX-listed security after such security is subject to an LULD trading pause pursuant to IEX Rule 11.280(e).

(1) Order Entry and Cancellation Before a Volatility Auction.

(A) Auction Eligible Orders may be submitted to the Exchange at the beginning of the five (5) minute Order Acceptance Period for participation in a Volatility Auction. However, when an IEX-listed security is paused pursuant to IEX Rule 11.280(e) at or after the Closing Auction Lock-in Time, or if the Order Acceptance Period of a Volatility Auction for a security paused before the Closing Auction Lock-in Time pursuant to IEX Rule 11.280(e) would be in effect at the Closing Auction Lock-in Time, the Order Acceptance Period shall continue to the end of the Regular Market Session.

(B) All Auction Eligible Orders will be queued until the auction match. All orders associated with a Volatility Auction must be received prior to the auction match in order to be eligible for execution in the auction. Auction Ineligible Orders that may rest on the Order Book will be queued and maintained during the Order Acceptance Period in accordance with Rule 11.220(a)(1); Auction Ineligible Orders with a TIF of IOC or FOK will be rejected prior to the auction match.

(C) Auction Eligible Orders associated with a Volatility Auction may be canceled or modified at any time prior to the auction match.

(2) Volatility Auction Process.

(A) Publication of IEX Auction Information. At the start of the Display Only Period and updated every one second thereafter, IEX Auction Information associated with the Volatility Auction will be disseminated via electronic means.

(B) Volatility Auction Collar. The Volatility Auction match must occur at a price at or within the Volatility Auction Collar.

(C) Conditions for Extending the Order Acceptance Period. The Order Acceptance Period will be extended:

- (i) Automatically for five (5) minutes when the Indicative Clearing Price differs by the greater of five percent (5%) or fifty cents (\$0.50) from any of the previous fifteen (15) Indicative Clearing Price disseminations at the time of the auction match;
 - (ii) Automatically for five (5) minutes when the Indicative Clearing Price, at the time of the auction match, is an Impermissible Price. Upon extension, the Volatility Auction Collar will be expanded in the direction of the Impermissible Price pursuant to section (D)(ii) below; the Volatility Auction will continue to be extended in five (5) minute increments and will continue to be expanded in the direction of the Impermissible Price until sufficient trading interest exists at an Indicative Clearing Price at or within the Volatility Auction Collar; or
 - (iii) Automatically to the end of Regular Market Hours where an IEX-listed security is paused pursuant to IEX Rule 11.280(e) at or after the Closing Auction Lock-in Time, or the Order Acceptance Period of a Volatility Auction for a security paused before the Closing Auction Lock-in Time pursuant to IEX Rule 11.280(e) would be in effect at the Closing Auction Lock-in Time, in which case the IEX Official Closing Price will be determined by the Volatility Auction pursuant to section (3) below.
- (D) Incremental Extensions of the Order Acceptance Period following a Trading Pause. Pursuant to section (a)(29)(C) above, the Order Acceptance Period for a Volatility Auction shall commence immediately after the Trading Pause. The Order Acceptance Period may be extended for five (5) minutes pursuant to section 11.350(f)(2)(C)(i) or (C)(ii) above (the “Initial Extension Period”). After the Initial Extension Period, the Order Acceptance Period may be extended for additional five (5) minute periods pursuant to section 11.350(f)(2)(C)(i) or (C)(ii) above (each an “Additional Extension Period”) until a Volatility Auction occurs. The Exchange shall attempt to conduct a Volatility Auction every one (1) second during the course of each Additional Extension Period. Should the Order Acceptance Period for a Volatility Auction be extended to a time past the Closing Auction Lock-in Time (i.e., 10 minutes prior to the end of the Regular Market Session), the Volatility

Auction shall be conducted pursuant to section (f)(3) of this Rule.

- i. At the beginning of the Order Acceptance Period, the Volatility Auction Collar Reference Price and the Volatility Auction Collar shall be determined in accordance with section (a)(32) and (a)(31) of the Rule, respectively.
- ii. At the beginning of the Initial Extension Period pursuant to section (C)(ii), the upper (lower) Volatility Auction Collar shall be increased (decreased) by five (5) percent of the original Volatility Auction Collar Reference Price in the direction of the Impermissible Price, rounded to the nearest passive MPV. For securities with a Volatility Auction Collar Reference Price of \$3.00 or less, the Volatility Auction Collar shall be increased (decreased) in \$0.15 increments in the direction of the Impermissible Price. At the beginning of each Additional Extension Period pursuant to section (C)(ii), the Volatility Auction Collar shall be widened in accordance with this paragraph by the same method as the Initial Extension Period.

(E) Determination of IEX Re-Opening Trade. The execution resulting from the Volatility Auction will be the IEX Re-opening Trade. If there is insufficient trading interest in the System to execute the Volatility Auction for that security, no Volatility Auction will occur, and the security will be released for trading pursuant to section (G) below. Pursuant to Rule 11.350(c)(2)(F), if IEX has not determined the IEX Official Opening Price for an IEX-listed security, and the security is subject to an LULD trading pause, the IEX Official Opening Price will be the price of the Volatility Auction.

- (i) The Volatility Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
- (ii) If more than one price exists under subparagraph (i) resulting in an auction price range, the Volatility Auction shall occur at the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order; and
- (iii) If more than one price exists under subparagraph (ii), the Volatility Auction shall occur at the price closest or equal to the Volume

Based Tie Breaker.

- (iv) If the Volatility Auction price established by subparagraphs (i) through (iii) is outside the Volatility Auction Collar, the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(C)(ii) and the Volatility Auction Collars shall be updated pursuant to Rule 11.350(f)(2)(D)(ii), described above; or
 - (v) If the Volatility Auction price established by subparagraphs (i) through (iii) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(f)(2)(C)(i), the Order Acceptance Period shall be extended accordingly.
- (F) Execution Priority. Volatility Auction execution priority occurs in accordance with IEX Auction Priority as described in section (b) above. Market orders have priority over all other Auction Eligible Orders in the Volatility Auction. To the extent there is executable contra side interest, such market orders will be executed at the price of the IEX Re-Opening Trade according to time priority. After the execution of all market orders, the remaining Auction Eligible Orders with a resting price more aggressive than the price of the IEX Re-Opening Trade will be executed in price – display – time priority at the price of the IEX Re-Opening Trade. All remaining Auction Eligible Orders with a resting price equal to the price of the IEX Re-Opening Trade shall execute in display – time priority at the price of the IEX Re-Opening Trade. All AGID modifiers as defined in Rule 11.190(e), and Minimum Quantity instructions as defined in Rule 11.190(b)(11), will not be supported in the Volatility Auction, but will be enforced on all unexecuted shares released to the Continuous Book following the Volatility Auction match.
- (G) Transition to Regular Market Session.
 - (i) Auction Eligible Orders with a TIF of FOK or IOC and market orders that are not fully executed in a Volatility Auction will be canceled immediately after the Volatility Auction match;
 - (ii) All remaining shares from Auction Eligible Orders that are not canceled immediately by the System after a Volatility Auction match and Auction Ineligible Orders will be released to the Continuous Book for trading in the Regular Market Session, subject to the

orders' instructions; and

- (iii) Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c) (Re-Sweep Behavior), subject to the orders' instructions.
- (H) Contingency Procedures. When a disruption occurs that prevents the execution of a Volatility Auction as set forth above, IEX shall apply the following Volatility Auction Contingency Procedures:
- (i) IEX will publicly announce that no Volatility Auction will occur, and the Exchange will immediately notify the single plan processor responsible for consolidation of information for the security. All orders on the Order Book will be canceled, and IEX will open the security for trading without an auction after the single plan processor responsible for consolidation of information for the security has disseminated Price Bands.
- (3) Closing with a Volatility Auction. Where an IEX-listed security is paused pursuant to IEX Rule 11.280(e) at or after the Closing Auction Lock-in Time, or the Order Acceptance Period of a Volatility Auction for a security paused before the Closing Auction Lock-in Time pursuant to IEX Rule 11.280(e) would otherwise be extended by the Exchange to a time after the Closing Auction Lock-in Time, no Closing Auction for the security will occur. Instead, the Exchange will conduct a Volatility Auction at the end of Regular Market Hours to determine the IEX Official Closing Price for the security.
- (A) Order Entry and Cancellation Before Closing with a Volatility Auction.
- (i) Auction Eligible Orders may be submitted to the Exchange at the beginning of the Order Acceptance Period for participation in a Volatility Auction. All Auction Eligible Orders will be queued until the auction match. All orders associated with a Volatility Auction must be received prior to the auction match in order to be eligible for execution in the Volatility Auction. Auction Ineligible Orders will be rejected prior to the auction match.
 - (ii) MOC and LOC orders queued for the Closing Auction will be incorporated into the Auction Book for the Volatility Auction.

- (iii) When an IEX-listed security is paused pursuant to IEX Rule 11.280(e) at or after the Closing Auction Lock-in Time, or the Order Acceptance Period of a Volatility Auction for a security paused before the Closing Auction Lock-in Time pursuant to IEX Rule 11.280(e) would otherwise be extended by the Exchange to a time after the Closing Auction Lock-in Time, non-displayed interest with a TIF of DAY and pegged orders will be immediately canceled, in order to allow Users to re-enter such interest as Auction Eligible Orders.
 - (iv) Auction Eligible Orders associated with a Volatility Auction may be canceled or modified at any time prior to the auction match.
 - (v) In the event the Exchange cannot complete a Volatility Auction before the end of Post-Market Hours, all open orders in the subject security on the Order Book will be canceled.
- (B) Process for Closing with a Volatility Auction.
- (i) Publication of IEX Auction Information. At the start of the Display Only Period and updated every one second thereafter, IEX Auction Information associated with the Volatility Auction will be disseminated via electronic means.
 - (ii) Determination of IEX Official Closing Price. The IEX Official Closing Price will be the price of the Volatility Auction. If there is insufficient trading interest in the System to execute the Volatility Auction for that security, the Final Last Sale Eligible Trade shall be used as the IEX Official Closing Price in that security, and the security will be released for trading pursuant to section (C) below. Pursuant to Rule 11.350(c)(2)(F), if IEX has not determined the IEX Official Opening Price for an IEX-listed security, and the security is subject to an LULD trading pause, the IEX Official Opening Price will be the price of the Volatility Auction.
 - (a) The Volatility Auction shall occur at the price that maximizes the number of shares of Auction Eligible Orders to be executed;
 - (b) If more than one price exists under subparagraph (a) resulting

in an auction price range, the Volatility Auction shall occur at the price at or within such range that is not lower (higher) than the most aggressive unexecuted buy (sell) order; and

- (c) If more than one price exists under subparagraph (b), the Volatility Auction shall occur at the price closest or equal to the Volume Based Tie Breaker.
 - (d) If the Volatility Auction price established by subparagraphs (a) through (c) is outside the Volatility Auction Collar, the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(C)(ii) and the Volatility Auction Collars shall be updated pursuant to Rule 11.350(f)(2)(D)(ii), described above; or
 - (e) If the Volatility Auction price established by subparagraphs (a) through (c) meets the conditions for extending the Order Acceptance Period described in Rule 11.350(f)(2)(C)(i), the Order Acceptance Period shall be extended pursuant to 11.350(f)(2)(D).
- (iii) Execution Priority. Volatility Auction execution priority occurs in accordance with IEX Auction Priority as described in section (b) above. Market and MOC orders have priority over all other Auction Eligible Orders in the Volatility Auction. To the extent there is executable contra side interest, such market and MOC orders will be executed at the IEX Official Closing Price according to time priority. After the execution of all market and MOC orders, the remaining Auction Eligible Orders with a resting price more aggressive than the IEX Official Closing Price will be executed in price – display – time priority at the IEX Official Closing Price. All remaining Auction Eligible Orders with a resting price equal to the IEX Official Closing Price shall execute in display – time priority at the IEX Official Closing Price. All AGID modifiers as defined in Rule 11.190(e), and Minimum Quantity instructions as defined in Rule 11.190(b)(11), will not be supported in the Volatility Auction, but will be enforced on all unexecuted shares released to the Continuous Book following the Volatility Auction match.

(C) Transition to Post-Market Session.

- (i) LOC, MOC, and market orders, as well as all orders with a TIF of DAY, FOK, or IOC that are not fully executed at the conclusion of the Volatility Auction will be canceled immediately after the Volatility Auction match; and
- (ii) All remaining shares from Auction Eligible Orders that are not canceled immediately by the System after the Volatility Auction match will be released to the Continuous Book for trading in the Post-Market Session, subject to the orders' instructions.
- (iii) Routable orders that are released to the Continuous Book will be routed in accordance with IEX Rule 11.230(c) (Re-Sweep Behavior), subject to the orders' instructions.

(D) Contingency Procedures for Closing with a Volatility Auction.

- (i) When a disruption occurs that prevents the execution of the Volatility Auction as set forth above, IEX will utilize the Closing Auction Contingency Procedures as defined in IEX Rule 11.350(d)(4).

(g) Short Sale Order Handling.

- (1) For Opening, Closing, Halt, and Volatility Auctions for covered securities, when the Short Sale Price Test of Rule 201 of Regulation SHO is in effect, the Exchange will not execute or display short sale orders not marked short exempt at a price at or below the current NBB.

- (A) When the Short Sale Price Test of Rule 201 of Regulation SHO is in effect during the auction match for covered securities, and the inclusion of one or more sell short orders not marked short exempt would push the auction match price to a price at or below the current NBB price at the time of the auction match (i.e., the time of execution of orders in the auction), then such sell short order not marked short exempt and all other sell short orders not marked short exempt with lesser priority shall not receive an execution in the auction match.

- (h) Whenever, in the judgment of the Exchange, the interests of a fair and orderly market so require, the Exchange may adjust the timing of or suspend the auctions set forth in

this IEX Rule with prior notice to Users.

- (i) For purposes of Rule 611(b)(3) of Regulation NMS and section VI(D)(6) of the plan to Implement a Tick Size Pilot Program, orders executed pursuant to the Opening Auction, Closing Auction, IPO Auction, Halt Auction, and Volatility Auction may trade-through or trade-at the price of any other Trading Center's Manual or Protected Quotations if the transaction that traded-at or constituted the trade-through was a single-priced opening, re-opening, or closing transaction by the trading center.
- (j) For purposes of this Rule, all references to a.m. and p.m. times shall mean Eastern Time.

Rule 11.330. Data Products

(a) No change.

- (1) TOPS. TOPS is an uncompressed data feed that offers aggregated top of book quotations for all displayed orders resting on the Order Book, [and] execution information (i.e., last sale information) for executions on the Exchange, and provides IEX Auction Information for IEX-listed securities.
- (2) IEX Data Platform. IEX Data Platform is a data feed, available through the Exchange's public website, that offers aggregated top of book quotations for all displayed orders resting on the Order Book, aggregated depth of book quotations for all displayed orders resting on the Order Book for up to ten (10) price levels, [and] execution information (i.e., last sale information) for executions on the Exchange, and provides IEX Auction Information for IEX-listed securities.
- (3) DEEP. DEEP is an uncompressed data feed that provides aggregated depth of book quotations for all displayed orders resting on the Order Book at each price level, [and] execution information (i.e., last sale information) for executions on the Exchange, and provides IEX Auction Information for IEX-listed securities.
- (4) No change.

Rule 11.190. Orders and Modifiers

Users may enter into the System the types of orders listed in this IEX Rule 11.190, subject to the limitations set forth in this IEX Rule or elsewhere in the IEX Rules. Order, modifier, and parameter combinations which are disallowed by the Exchange may be rejected, ignored, or overridden by the Exchange, as determined by the Exchange to facilitate the most orderly handling of User instructions.

(a) General Order Types.

(1) Limit Order. An order to buy or sell a stated amount of a security at a specified price (“limit price”) or better. A “marketable” limit order is a limit order to buy (sell) at or above (below) the lowest (highest) Protected Offer (Bid) for the security. A limit order:

(A)-(D) No change.

(E) May be entered during the Pre-Market Session, Regular Market Session, and Post-Market Session.

(i)-(ii) No change.

(iii) Limit orders marked DAY submitted before the open of the Regular Market Session are queued by the System until the Opening Auction (or Halt Auction, as applicable), pursuant to IEX Rule 11.350, or the Regular Market Session Opening Process, pursuant to IEX Rule 11.231. Limit orders marked DAY submitted during the Regular Market Session are accepted and begin trading or routing immediately. Limit orders entered into the System marked DAY, if not fully executed or canceled by the User, expire at the end of the Regular Market Session. Limit orders marked DAY are rejected in the Post-Market Session.

(iv) No change.

(v) Limit orders marked GTX submitted before the open of the Regular Market Session are queued by the System until the Opening Auction (or Halt Auction, as applicable), pursuant to IEX

Rule 11.350, or the Regular Market Session Opening Process, pursuant to IEX Rule 11.231. Limit orders marked GTX submitted during the Regular Market Session and Post-Market Session are accepted and begin trading or routing immediately. Limit orders entered into the System marked GTX, if not fully executed or canceled by the User, expire at the end of the Post-Market Session.

(vi) No change.

(F) - (G) No change.

(2) Market Order. An order to buy or sell a stated amount of a security that is to be executed at or better than the NBBO at the time the order reaches the Exchange. Market orders shall not trade through Protected Quotations. Any portion of a market order that is designated as “IEX Only” will be canceled if, upon receipt by the System, it cannot be executed by the Exchange in accordance with Rules 11.230 and 11.230(a). Any portion of a market order that is not designated as “IEX Only,” i.e. routable orders as described in IEX Rule 11.230(b), and that cannot be executed in full in accordance with Rule 11.230(a)(1) and 11.230(a) on the Exchange when reaching the Exchange will be eligible for routing away pursuant to IEX Rule 11.230(a)(2). A routable market order will trade at increasingly aggressive prices, fully satisfying all Protected Quotations, until the order is fully filled, reaches the LULD band, or reaches the Router Constraint, as defined in IEX Rule 11.190(f)(2). A market order:

(A) – (D) No change.

(E) May only trade during the Regular Market Session. Market orders submitted in the Pre-Market Session may queue for the Opening Process as defined below. [be submitted during the Regular Market Session.] Market orders submitted in the [Pre-Market Session or] Post-Market Session will be rejected by the System.

(i) – (ii) No change.

(iii) Market orders marked DAY, by default, are rejected. When elected by the User, Market orders marked DAY submitted by that User are accepted. Market orders marked DAY submitted before the open of the Regular Market Session are queued by the System until the Opening Auction (or Halt Auction, as applicable), pursuant to IEX Rule 11.350, except market orders marked DAY that are designated to route pursuant to Rule 11.230(c). [and eligible to trade or route during the Regular Market Session.] Market orders marked DAY are eligible to trade or route during the Regular Market Session and treated by the System as having a TIF of IOC.

Rule 11.271. Trading Halts

(a) The Exchange does not accept any orders in a security subject to a trading halt at the time of a trading halt. Any order submitted during a halt will be rejected by the System, except as set forth in Rule 11.350(e).

(b) Any orders resting on the Order Book at the time of a trading halt will not be canceled by the System, except as set forth in Rule 11.350(e). All orders resting on the Order Book in a security subject to a trading halt at the time of a trading halt will be unavailable for trading or re-sweep during the trading halt, but will be available for cancellation by the submitting User.

(c) No change.

Rule 11.280. Limit Up-Limit Down Plan and Trading Halts [Trading Halts Due to Extraordinary Market Volatility]

(a) - (d) No change.

(e) Limit Up-Limit Down Mechanism.

- (1) – (4) No change.
 - (5) No change.
 - (A) – (E) No change.
 - (F) Auction Orders. Auction Eligible Orders on the Auction Book are not price slid or canceled due to LULD price bands.
 - (6) Reserved.
 - (7) Trading Pause during a Straddle State. The Exchange may declare a Trading Pause for a NMS Stock listed on the Exchange when (i) the National Best Bid (Offer) is below (above) the Lower (Upper) Price Band and the NMS Stock is not in a Limit State; and (ii) trading in that NMS Stock deviates from normal trading characteristics.
 - (8) Re-opening of Trading following a Trading Pause. At the end of the Trading Pause, the Exchange shall re-open trading in IEX-listed securities pursuant to the procedures set forth in IEX Rule 11.350(f). Trading in non-IEX-listed securities shall re-open upon receipt of the Price Bands from the single plan processor responsible for consolidation of information for the security.
- (f) No change.
- (g) Authority to Initiate Trading Halts. In circumstances in which IEX deems it necessary to protect investors and the public interest, IEX, pursuant to the procedures set forth in paragraph (h):
- (1) May halt trading on IEX of an IEX-listed security to permit the dissemination of material news, provided, however, that in the Pre-Market Session IEX will halt trading for dissemination of news only at the request of an issuer or pursuant to (g)(2) below;
 - (2) May halt trading on IEX of a security listed on another national securities exchange during a trading halt imposed by such exchange to permit the dissemination of material news;
 - (3) May halt trading on IEX: (A) in a security listed on another national securities exchange when such exchange imposes a trading halt in that security because of an order imbalance or influx (“operational trading halt”); or (B) in a security

listed on IEX, when the security is a derivative or component of a security listed on another national securities exchange and such exchange imposes an operational trading halt in that security. In the event that IEX halts trading, IEX Members may commence quotations and trading otherwise than on IEX at any time following initiation of operational trading halts, without regard to whether IEX has terminated the trading halt on IEX;

- (4) May halt trading in an American Depositary Receipt (“ADR”) or other security listed on IEX, when the IEX-listed security or the security underlying the ADR is listed on or registered with another national or foreign securities exchange or market, and the national or foreign securities exchange or market, or regulatory authority overseeing such exchange or market, halts trading in such security for regulatory reasons;
- (5) May halt trading in a security listed on IEX when IEX requests from the issuer information relating to:
 - (A) material news;
 - (B) the issuer’s ability to meet IEX listing qualification requirements, as set forth in Chapters 14 and 16; or
 - (C) any other information which is necessary to protect investors and the public interest;
- (6) May halt trading in a security listed on IEX when
 - (A) extraordinary market activity in the security is occurring, such as the execution of a series of transactions for a significant dollar value at prices substantially unrelated to the current market for the security, as measured by the national best bid and offer, and
 - (B) IEX determines that such extraordinary market activity is likely to have a material effect on the market for the security; and
 - (i) IEX believes that such extraordinary market activity is caused by the misuse or malfunction of an electronic quotation, communication, reporting, or execution system operated by, or linked to, IEX; or
 - (ii) After consultation with another national securities exchange trading

the security on an unlisted trading privileges basis, IEX believes that such extraordinary market activity is caused by the misuse or malfunction of an electronic quotation, communication, reporting, or execution system operated by, or linked to, such other national securities exchange; or

(iii) After consultation with FINRA regarding a FINRA facility trading the security, IEX believes that such extraordinary market activity is caused by the misuse or malfunction of such FINRA facility or an electronic quotation, communication, reporting, or execution systems linked to such FINRA facility.

(7) May halt trading in a security that is the subject of an IPO on IEX.

(8) Reserved.

(9) Reserved.

(10) Reserved.

(11) Reserved.

(h) Procedure for Initiating and Terminating a Trading Halt.

(1) IEX issuers are required to notify IEX of the release of certain material news prior to the release of such information to the public as required by IEX Rule 14.207(b)(1).

(2) Notification shall be provided directly to IEX's Regulation Department in the manner specified by IEX.

(3) Upon receipt of information, from the issuer or other source, IEX will promptly evaluate the information, estimate its potential impact on the market and determine whether a trading halt in the security is appropriate.

(4) Should IEX determine that a basis exists under IEX Rule 11.280(e) or (g) for initiating an LULD trading pause or trading halt, the commencement of the trading pause or halt will be effective at the time specified by IEX in a notice posted on a publicly available IEX website.

(5) Trading in a halted security shall resume at or after the time specified by IEX in

a notice posted on a publicly available IEX website.

- (6) In the case of a trading halt under IEX Rule 11.280(g)(6) based on the misuse or malfunction of an electronic order entry, communication, reporting, or execution system that is not operated by IEX, IEX will promptly contact the operator of the system in question (as well as any national securities exchange or FINRA facility to which such system is linked) to ascertain information that will assist IEX in determining whether a misuse or malfunction has occurred, what effect the misuse or malfunction is having on trading in a security, and what steps are being taken to address the misuse or malfunction. If the operator of the system is unavailable when contacted by IEX, IEX will continue efforts to contact the operator of the system to ascertain information that will assist IEX in determining whether the trading halt should be terminated.
- (A) A trading halt initiated under IEX Rule 11.280(g)(6) shall be terminated as soon as IEX determines either that the system misuse or malfunction that caused the extraordinary market activity will no longer have a material effect on the market for the security or that system misuse or malfunction is not the cause of the extraordinary market activity.
- (7) A trading halt or pause initiated under IEX Rule 11.280(e)(2), (7) or (g)(1), (4), or (5) shall be terminated when IEX releases the security for trading at the conclusion of the Halt or Volatility Auction pursuant to Rule 11.350(e) or (f), as applicable.
- (8) A trading halt initiated for a security that is the subject of an IPO on IEX pursuant to Rule 11.280(g)(7) shall be terminated when IEX releases the security for trading and the conditions described in this rule are satisfied. Beginning at the start of the Order Acceptance Period (generally, 8:00 a.m.) Users may enter orders in a security that is the subject of an IPO on IEX. Prior to terminating the halt, there will be a Display Only Period during which IEX will disseminate IEX Auction Information via electronic means, and Users may continue to enter orders in that security in the System. Thirty (30) minutes after the start of the Display Only Period, unless extended by the underwriter, the security will enter a "Pre-Launch Period" of indeterminate duration. The Pre-Launch Period and the Display Only Period shall end, and the security shall be released for trading by IEX when the conditions described in paragraphs

(g)(8)(A), (B), and (C) are all met, and the requirements of Rule 11.350(e)(2) are satisfied.

(A) IEX receives notice from the underwriter of the IPO that the security is ready to trade. The System will calculate the Indicative Clearing Price at that time and display it to the underwriter. If the underwriter then approves proceeding, the System will conduct the following validation checks:

- (i) the System must determine that all market orders will be executed in the IPO Auction; and
- (ii) the security must pass the price validation test described below:
- (iii) Prior to the conclusion of the Pre-Launch Period, the underwriter shall select price bands for purposes of applying the price validation test. Under the price validation test, the System compares the Indicative Clearing Price with the clearing price calculated by the IPO Auction. If the clearing price calculated by the IPO Auction differs from the Indicative Clearing Price approved by the underwriter under section (A) above by an amount in excess of the price band selected by the underwriter, the security will not be released for trading and the Pre-Launch Period will continue. The underwriter shall select an upper price band (i.e., an amount by which the clearing price may not be higher than the Indicative Clearing Price approved by the underwriter under section (A) above) and a lower price band (i.e., an amount by which the clearing price may not be lower than the Indicative Clearing Price approved by the underwriter under section (A) above). If a security does not pass the price validation test, the underwriter may, but is not required to, select different price bands before recommencing the process to release the security for trading. The price bands available for selection shall include \$0 but shall not be in excess of \$0.50. IEX will notify member organizations and the public of changes in available price band or increments through a notice that is widely disseminated at least one week in advance of the change. In selecting available price bands and increments, IEX will consider input from underwriters and other Users and the results of past usage of price bands to adopt price bands and increments that

promote efficiency in the initiation of trading and protect investors and the public interest.

- (B) The failure to satisfy these conditions during the process to release the security for trading will result in a delay of the release for trading of the IPO, and a continuation of the Pre-Launch Period, until all conditions have been satisfied. The underwriter, with concurrence of IEX, may determine at any point during the IPO Auction process up through the conclusion of the Pre-Launch Period to postpone and reschedule the IPO. Market participants may continue to enter orders and order cancellations for participation in the IPO Auction during the Pre-Launch Period until the auction match.
- (9) For purposes of this IEX Rule and IEX Rule 11.350(e), the process for halting and initial pricing of a security that is the subject of an IPO shall also be available for the initial pricing of any other security that has not been listed on a national securities exchange or traded in the over-the-counter market pursuant to FINRA Form 211 immediately prior to the initial pricing, provided that a broker-dealer serving in the role of financial advisor to the issuer of the securities being listed is willing to perform the functions under IEX Rule 11.280(h)(8) that are performed by an underwriter with respect to an initial public offering.
