

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

For complete Form 19b-4 instructions please refer to the EFFF website.

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.

1. Text of Proposed Rule Change

(a) Pursuant to the provisions of Section 19(b)(1) under the Securities Exchange Act of 1934 (“Act”),¹ and Rule 19b-4 thereunder,² Investors Exchange LLC (“IEX” or the “Exchange”) is filing with the Securities and Exchange Commission (the “Commission”) a proposed rule change 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, IEX proposes 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.

A notice of the proposed rule change for publication in the Federal Register is attached hereto as Exhibit 1. The text of the proposed rule change is attached as Exhibit 5.

(b) Not applicable.

(c) Not applicable.

2. Procedures of the Self-Regulatory Organization

Senior management has approved the proposed rule change pursuant to authority delegated to it by the Board of the Exchange. No further action is required under the Exchange’s governing documents. Therefore, the Exchange’s internal procedures with respect to the proposed rule change are complete.

The persons on the Exchange staff prepared to respond to questions and comments on the proposed rule change are:

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b-4.

Claudia Crowley
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646-343-2041

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3. Self-Regulatory Organization's Statement on the Purpose of, and Statutory Basis for, the Proposed Rule Change

a. Purpose

The Exchange is proposing to amend IEX Rule 11.350 (which is currently reserved) and IEX Rule 11.330 to adopt rules to govern 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 ("IEX Auctions").

Furthermore, the Exchange is proposing to amend Rule 11.190(a)(2)(E) to allow market orders with a time-in-force of DAY to be entered in the Pre-Market Session for queuing and participation in the Opening Auction (or Halt Auction, as applicable). The Exchange is also proposing certain amendments to IEX Rule 11.280 to provide the Exchange with the authority to declare an LULD trading pause as well as define other circumstances in which the Exchange has the authority to initiate trading halts.

The proposed rule change includes rule provisions to govern (i) the Opening, Closing, initial public offering ("IPO")³, Halt, and Volatility Auctions for IEX-listed securities; (ii) auction-related order types and modifiers; and (iii) auction-related market data. Each of the auctions will enable IEX 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. The IEX Auction process is designed

³ The term IPO refers to the initial public offering of securities registered under Section 6 of the Securities Act of 1933.

to efficiently maximize the number of shares executed at a single price during the auctions, as described more fully below. As proposed, the auctions would be available at the open and close of the Regular Market Session, for the start of trading for an IPO or launch of a new issue, and upon the resumption of trading in a security following a trading halt or a trading pause pursuant to the LULD Plan.⁴ In addition, during the auction process, IEX will calculate and disseminate IEX Auction Information via the IEX Top of Book Quote and Last Sale feed (“TOPS”), the IEX Depth of Book and Last Sale feed (“DEEP”), as well as the IEX Data Platform, which is available free of charge on the Exchange’s public website, for all auctions as more fully described below.⁵

IEX Auctions were designed based on extensive review of the auction designs of the New York Stock Exchange (“NYSE”), NYSE Arca, Inc. (“NYSE Arca”), Nasdaq Stock Market (“Nasdaq”), Bats BZX Exchange (“Bats”), and the London Stock Exchange (“LSE”) as well as discussions with a variety of buy-side and sell-side market participants, including large banks and broker dealers, electronic market makers, asset managers, and institutional investors. As described below, IEX Auctions have adopted several auction attributes that are substantially similar to existing exchange auction models, and will therefore be familiar to Members participating in IEX Auctions for securities listed on the Exchange. The Exchange believes that the proposed auction designs will provide a transparent, efficient, and robust process to aggregate trading interest submitted by a broad range of market participants to be matched at a single clearing price, consistent with the protection of investors and the public interest, and

⁴ See Rule 11.280(e)(1)(A) and Supplementary Material .01(c) to Rule 14.207.

⁵ Capitalized terms have the meaning set forth in relevant IEX rules or proposed rules, as described herein.

aligns with issuers' interests.

During the auction design process, the primary goal of the Exchange was to maximize participation in the auction, in order to provide an efficient price discovery process and greater opportunity for execution at the official auction price.⁶ The Exchange's goals were developed after extensive informal discussions with a broad range of market participants and market research, and thus the Exchange's goals are inherently in alignment with the interests of investors and issuers. As discussed by Noam Nisan in his research on mechanism design, "generally speaking, the more buyers and sellers there are in a market, the more the situation becomes close to the perfect market scenario."⁷ In an effort to garner broad participation, IEX has kept the fixed costs for trading on the Exchange lower than any US primary listing exchange, since the Exchange does not charge for market data, connectivity, or membership.⁸ Additionally, the Exchange chose to limit the number of new order types that would be eligible for IEX Auctions, thus simplifying the tools at the disposal of Users to express interest in an IEX Auction. Moreover, the Exchange chose to limit the restrictions on expressing interest in the Opening and Closing Auction, akin to the model employed by the LSE and other European exchanges during the call period.⁹

⁶ See Trading the Auctions, Richard Johnson, 2017 (<https://www.greenwich.com/equities/trading-auctions>)

⁷ See Algorithmic Game Theory, Noam Nisan, Tim Roughgarden, Eva Tardos, Vijay V. Vazirani, 2007 at 209 (<http://www.cs.cmu.edu/~sandholm/cs15-892F13/algorithmic-game-theory.pdf>)

⁸ See IEX Fee Filing (<https://iextrading.com/docs/rule-filings/SR-IEX-2016-09.pdf>)

⁹ See LSE Guide to New Trading System, Section 7.2 at 67 (<http://www.londonstockexchange.com/products-and-services/trading-services/guide-to-new-trading-system.pdf>). See also NASDAQ OMX Nordic Market Model 2.2, Section 4.2.3 at 16(105)

Research has shown that a truthful expression of each participant's limit provides the optimal mechanism for price discovery.¹⁰ Therefore, to promote price discovery in the Opening and Closing Auctions, the Exchange chose to depart from the European model by designing IEX auctions in a manner where Users cannot adjust (i.e., cancel or modify) auction-specific interest once entered. The Exchange is balancing the objective of allowing Users to express their true limit on auction-specific interest leading into Opening and Closing Auctions (with restrictions on price aggressiveness as the auction nears) with conducting Opening and Closing Auctions in a timely manner at 9:30 a.m. and 4:00 p.m., respectively. Alternatively, when conducting a Halt, IPO, and Volatility Auction, such auctions are designed to extend the price discovery process in order to establish equilibrium rather than restricting the ability to enter or adjust auction-specific interest. Finally, to maximize participation and enhance price discovery, the Exchange designed the Opening and Closing Auctions in a manner where the interest from continuous trading (itself a continuous double auction) will be effectively merged using the Exchange's standard priority mechanisms, with the interest accumulating for the periodic double auction at the start or end of the Regular Market Session. This coalescence of interest at 9:30 a.m. and 4:00 p.m. is facilitated by frequent disseminations of auction related data, including indicative prices, which allow participants to enter new auction-specific interest or adjust continuous trading behavior as participants iterate

(http://www.nasdaqomx.com/digitalAssets/73/73614_nasdaq_omx_nordic_market_mode_l_2.2_1_april_2011.pdf)

¹⁰ See Algorithmic Game Theory, Noam Nisan, Tim Roughgarden, Eva Tardos, Vijay V. Vazirani, 2007 (<http://www.cs.cmu.edu/~sandholm/cs15-892F13/algorithmic-game-theory.pdf>)

towards the clearing price (i.e., a price-adjustment mechanism).¹¹ Specifically, for all IEX Auctions, to facilitate the iterative process that arrives at a clearing price that maximizes shares at a single price, the Exchange provides a price signal (i.e., the indicative clearing price) via disseminations of auction related data, and Users submit their interest to the Exchange. Upon receipt of new auction interest, the Exchange recalculates prices utilizing the aggregate supply and demand and disseminates new auction prices each second. In each dissemination, Users are able to recalculate their demand upon receiving the newly adjusted pricing information from the Exchange and submit their new interest to the Exchange. This price discovery process continues until prices converge to an equilibrium (in the case of a Halt, IPO, or Volatility Auction), or the auction match occurs (in the case of the Opening or Closing Auctions).

IEX Auctions were strategically designed after extensive research and informal discussion with various market participants to provide unique value to fundamental investors, and the issuers that make up the subject of their investments. As with all products and functionality offered by the Exchange, research, quantitative analysis, and input from Members and the issuer community will inform future iterations of IEX Auctions, as we strive to deliver quality trading experiences for IEX Members and issuers.

Overview

The Exchange proposes adoption of definitions to govern IEX Auctions in paragraph (a) of IEX Rule 11.350. Proposed paragraph (b) sets forth IEX Auction

¹¹ Walras. Elements of Pure Economics, or the Theory of Social Wealth. Richard Irwin, 1954. (Original version published in French in 1874)

priority rules, describing how orders shall be ranked in the Opening, Closing, 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. Proposed paragraph (g) describes the priority and handling of short sale orders not

marked short exempt for covered securities when the Short Sale Price Test of Rule 201 of Regulation SHO is in effect. Proposed paragraph (h) grants the Exchange discretion to adjust the timing of or suspend IEX Auctions when, in the judgment of the Exchange, the interests of fair and orderly markets so require. Proposed paragraph (i) designates the resultant executions from IEX Auctions as single priced opening, re-opening, and closing transactions that meet the requirements of Rule 611(b)(3) of Regulation NMS and section VI(D)(6) of the plan to Implement a Tick Size Pilot Program, and may therefore trade-through or trade-at the price of any other Trading Center's protected or manual quotations. Additionally, proposed paragraph (j) makes clear that all references to a.m. and p.m. shall mean Eastern Time. The Exchange also proposes certain modifications and amendments to IEX Rule 11.330 regarding Data Products to include IEX Auction Information in certain of the Exchange's data products, as described more fully below. Furthermore, proposed Rule 11.190(a)(2)(E) allows market orders with a time-in-force of DAY to be entered in the Pre-Market Session for queuing and participation in the Opening Auction (or Halt Auction, as applicable). The Exchange is also proposing to make a conforming change to Rule 11.190(a)(1)(E)(iii) and (v) to explicitly identify that limit orders with a time-in-force of DAY or GTX for IEX-listed securities that are entered in the Pre-Market Session are queued for participation in the Opening Auction (or Halt Auction, as applicable). Lastly, the Exchange proposes certain modifications and amendments to IEX Rule 11.280 to provide the Exchange with the authority to declare an LULD trading pause as well as define other circumstances in which the Exchange has the authority to initiate trading halts, and the procedures regarding the initiation and

termination of such trading halts.¹²

Auction Specific Order Types

The Exchange proposes to offer the following new order types in connection with IEX Auctions:

- A “Market-On-Open” or “MOO” order is 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. A MOO order submitted as a pegged order will be rejected. A 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;¹³
- A “Limit-On-Open” or “LOO” order is 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;¹⁴
- A “Market-On-Close” or “MOC” order is 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). A MOC order submitted as a pegged order will be rejected. A MOC order submitted with a User instructed display quantity pursuant to Rule 11.190(b)(2) will be accepted, but the

¹² The Exchange is also proposing to rename IEX Rule 11.280 so that the name captures the expanded rule provisions.

¹³ See proposed Rule 11.350(a)(25).

¹⁴ See proposed Rule 11.350(a)(21).

instruction will not be supported;¹⁵ and

- A “Limit-On-Close” or “LOC” order is 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.¹⁶

Note, as defined above, MOO and LOO orders (“On-Open orders”) as well as MOC and LOC orders (“On-Close orders”) that are submitted as a pegged order will be rejected. Additionally, any On-open and On-close order submitted with a User instructed display quantity (e.g., as a reserve order with a quantity of shares displayed and a reserve quantity non-displayed) will be accepted; however, the instruction will not be supported, thus the order will be treated as having displayed priority for the order’s full size pursuant to proposed Rule 11.350(b)(1)(b).

The Exchange will not offer an imbalance order type (i.e., an order type that by its terms is designed to solely offset a buy or sell order imbalance in the auction), which is currently offered by Nasdaq, but not by Bats.¹⁷ However, Users who wish to offset buy or sell imbalances in an auction may do so by entering LOO, LOC, and limit orders priced less aggressive than the applicable auction collar, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book with a resting price within the Reference Price Range, which, as described further below, is

¹⁵ See proposed Rule 11.350(a)(24).

¹⁶ See proposed Rule 11.350(a)(20).

¹⁷ See, e.g., Nasdaq Rule 4702(b)(10) and (13).

eligible to offset imbalance without influencing the determination of the clearing price within the Reference Price Range.

Order Types Eligible to Participate in Auctions

Currently, the Exchange begins accepting limit orders with a time-in-force of IOC, FOK, GTT, and SYS for trading at the beginning of the Pre-Market Session and any such orders received by the Exchange are immediately eligible for execution during continuous trading. In addition, limit orders with a time-in-force of GTX or DAY and pegged orders with a time-in-force of DAY that are entered during the Pre-Market Session are queued in the System until the start of the Regular Market Session, or until the order is canceled by the User.¹⁸ The Exchange is proposing to amend Rule 11.190(a)(2)(E) to extend the queuing functionality to market orders with a time-in-force of DAY that are entered during the Pre-Market Session, allowing such orders to queue in the System for participation in the Opening Auction (or Halt Auction, as applicable), except market orders with a time-in-force of DAY that are designated to route pursuant to Rule 11.230(c). The Exchange is proposing to reject market orders with a time-in-force of DAY that are designated to route in an effort to mitigate unnecessary volatility in an IEX-listed security following an auction match where a market order imbalance remains. IEX Auctions are designed to provide Users with the ability to offset market order imbalances prior to the auction match, however in periods of market stress, all market order interest may not be offset prior to the auction match. In such cases, a market order with a time-in-force of DAY that is designated to route that is not executed (in whole or in part) in the Opening Auction would subsequently be routed out to clear all away

¹⁸ See IEX Rule 11.190.

protected quotations in the market immediately after the auction, exacerbating volatility in a market experiencing instability. Moreover, the Exchange is proposing to make a conforming change to Rule 11.190(a)(1)(E)(iii) and (v) to explicitly identify that limit orders with a time-in-force of DAY or GTX for IEX-listed securities that are entered in the Pre-Market Session are queued for participation in the Opening Auction (or Halt Auction, as applicable).

Accordingly, pursuant to proposed Rule 11.350(a)(1)(A), for an Opening Auction, On-Open orders and market orders with a time-in-force of DAY, as well as limit orders designated with a time-in-force of DAY or GTX are queued on the Opening Auction Book and are eligible for execution¹⁹ in the Opening Auction match in accordance with market conditions.²⁰ In addition, pursuant to proposed Rule 11.350(a)(2), limit orders on the Continuous Book with a time-in-force of SYS or GTT are eligible for execution in the Opening Auction in accordance with market conditions.²¹ Pegged orders queued for the Regular Market Session are not eligible to execute in the Opening Auction.²² The Exchange is excluding pegged orders from the Opening Auction because pegged orders

¹⁹ The term “eligible for execution” or “eligible to execute” is in reference to orders that are eligible for possible execution in an IEX auction, subject to the terms of the order, the applicable auction rules, and market conditions.

²⁰ Market orders with a time-in-force of DAY and limit orders with a time-in-force of DAY or GTX are not eligible for continuous trading during the Pre-Market Session, and therefore such orders are queued on the Opening Auction Book, rather than on the Continuous Book. Note, as described below, orders marked IOC or FOK do not rest on the Continuous Book, and therefore are not Auction Eligible Orders in the Opening or Closing Auction.

²¹ Limit and market orders may be marked as routable. Routable limit orders that are not fully executed in the Opening Auction are released to the Continuous Book and will be routed in accordance with IEX Rule 11.230(c) (Re-sweep Behavior), subject to the order’s instructions.

²² See proposed Rule 11.350(a)(3)(A).

are not eligible for continuous trading during the Pre-Market Session, and thus such orders do not have a booked price.

For a Closing Auction, pursuant to proposed Rule 11.350(a)(1)(B), MOC and LOC orders are queued on the Closing Auction Book and are eligible for execution in the Closing Auction match in accordance with market conditions. In addition, pursuant to proposed Rule 11.350(a)(2), limit and pegged orders on the Continuous Book with a time-in-force of DAY, GTX, GTT, or SYS, are eligible for execution in the Closing Auction in accordance with market conditions. The Exchange is including pegged orders in the Closing Auction, because such orders are active and resting on the Order Book during continuous trading, and therefore have a booked price that is reflective of the market for the security.

For an IPO Auction, pursuant to proposed Rule 11.350(a)(1)(C), LOO and MOO orders, market orders with a time-in-force of DAY, as well as limit orders with a time-in-force of DAY, SYS, GTX, GTT, FOK, or IOC are accepted during the Order Acceptance Period, queued on the IPO Auction Book, and are eligible for execution in the IPO Auction match in accordance with market conditions. Pegged orders are not eligible to execute in the IPO Auction.²³ Similar to the Opening Auction, the Exchange is excluding pegged orders from the IPO Auction because there is no continuous trading before the IPO auction, and thus pegged orders do not have a booked price.

For a Halt Auction, pursuant to proposed Rule 11.350(a)(1)(D), the following orders are eligible for execution:

- On-Open orders queued prior to Regular Market Hours if a Pre-Market Session

²³ See proposed Rule 11.350(a)(3)(B).

halt persists through the start of Regular Market Hours and the Halt Auction is scheduled to occur during the Regular Market Session;

- Limit orders with a TIF of GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- 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;
- 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;
- Market orders with a TIF of FOK or IOC received during the Order Acceptance Period within the Regular Market Session;
- 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
- Displayed portions of limit orders on the Continuous Book at the time of the halt dissemination.

All orders on the Halt Auction Book are eligible for execution in the Halt Auction in accordance with market conditions. Pegged orders and non-displayed orders (including the non-displayed portion of reserve orders) (collectively, “non-displayed interest”) that are on the Continuous Book at the time of the halt dissemination are not eligible for execution in the Halt Auction and may be canceled at any time after the halt dissemination, so that interest may be re-entered as Auction Eligible Orders during the

Order Acceptance Period as interest eligible for execution in the Halt Auction. As with the Opening and IPO Auctions, pegged orders submitted during the Order Acceptance Period are not eligible for execution in the Halt Auction.²⁴ After informal discussions with various Members, the Exchange is also proposing to exclude all non-displayed orders (including pegged orders) that were on the Continuous Book at the time of the halt dissemination from the Halt Auction because Users submitting non-displayed orders are generally entrusting the Exchange to price such orders at values that are reflective of the market for a security. In the event of a trading halt, the market is in the process of reestablishing the value of a security, and therefore including non-displayed orders that are priced against a reference price that may not reflect adjustments in valuation resulting from additional information regarding the security during the halt could potentially harm investors.

For a Volatility Auction, pursuant to proposed Rule 11.350(a)(1)(E), the following orders are eligible for execution:

- MOC and LOC 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;
- Limit orders with a TIF of GTX, GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- Limit orders with a TIF of DAY received during the Order Acceptance Period within Regular Market Hours;
- Market orders with a TIF of FOK, IOC, or DAY received during the Order

²⁴ See proposed Rule 11.350(a)(3)(C).

Acceptance Period within Regular Market Hours; and

- Displayed portions of limit orders on the Continuous Book at the time of the pause dissemination.

Non-displayed interest (i.e., pegged orders and non-displayed orders, including the non-displayed portion of reserve orders) that were on the Continuous Book at the time of the pause dissemination are not eligible for execution in the Volatility Auction and may be canceled at any time after the LULD trading pause dissemination, so that interest may be re-entered as Auction Eligible Orders during the Order Acceptance Period as interest eligible for execution in the Volatility Auction Book. Pegged orders submitted during the Order Acceptance Period are not eligible for execution in the Volatility Auction.²⁵ Similar to the Halt Auction, the Exchange is excluding non-displayed orders from the Volatility Auction because Users submitting non-displayed orders are generally entrusting the Exchange to price such orders at values that are reflective of the market for a security. In the event of a volatility trading pause, the security has just experienced sharp price volatility and the market is in the process of reestablishing the value of a security, and therefore including non-displayed orders that are priced against a reference price that may not reflect adjustments in valuation during the pause could potentially result in auction pricing that is not reflective of the current value of the security.²⁶

²⁵ See proposed Rule 11.350(a)(3)(D).

²⁶ Note, for both the Halt and Volatility Auctions, while non-displayed limit orders are not necessarily “pegged” to any particular reference price (such as a midpoint pegged order, for example), such orders are subject to the Midpoint Price Constraint pursuant to IEX Rule 11.190(h)(2), which states that non-displayed limit orders posting to the Order Book with a limit price more aggressive than the Midpoint Price is booked and ranked on the Order Book non-displayed at a price equal to the Midpoint Price. To reflect changes to the NBBO, the order is automatically re-priced by the System in response to changes

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, Closing, IPO, Halt, or Volatility Auction²⁷ match, but will be enforced on all unexecuted shares released to the Continuous Book following the auction match. The Exchange believes that not supporting AGID modifiers in IEX Auctions is consistent with the protection of investors and the public interest because within the context of the aggregated auction match process, counterparties are not considered; only the aggregate available volume for execution is considered. It is illogical to cancel an order that happens to be allocated an execution against an order entered using the same MPID, because both orders execute at the exact same price to the exact same effect where the orders happen to execute against orders of a different MPID. Furthermore, the Exchange believes that supporting AGID modifiers, as well as supporting Minimum Quantity instructions as defined in Rule 11.190(b)(11) in IEX Auctions introduces additional technical complexities to the clearing price determination process, and the Exchange believes providing simplicity in this regard is in the interest of the protection of investors and the public interest.²⁸

in the NBBO to be equal to the less aggressive of the order's limit price or the Midpoint Price. Accordingly, in volatile markets that have triggered a trading pause or halt, non-displayed limit orders resting on the Order Book that are not actively or algorithmically monitored are likely to have been restricted by the Midpoint Price Constraint. Accordingly, such orders would be priced against a reference price (i.e., the Midpoint Price) that may not reflect adjustments in valuation during the halt or pause, which could potentially harm such investors.

²⁷ See proposed Rules 11.350(c)(2)(C), 11.350(d)(2)(C), 11.350(e)(2)(D), and 11.350(f)(2)(F) and (f)(3)(B)(iii), respectively.

²⁸ The Exchange notes that Bats does not support broker self-match restrictions in an IPO auction, or on regular market and limit orders in the Opening and Closing auctions. See Bats Rule 11.23(a)(8)(C)(1) and Bats US Equities Auction Process specification at 9. See

Definitions

As proposed, IEX Rule 11.350(a) contains certain definitions relevant to IEX

Auctions, including the following:

- 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;

also NYSE Arca Rule 7.31(i)(2), which states that Orders marked with an STP modifier *will not* be prevented from interacting during any auction. (Emphasis added)

- 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”).
 - (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, 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.

- (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.
 - (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 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:
 - 1. There is both an IEX best bid and an IEX best offer for the security; and
 - 2. 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) 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, 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. 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.

IEX Auction Priority

Pursuant to proposed Rule 11.350(b), orders resting on the Order Book shall be ranked in the Opening, Closing, IPO, Halt, and Volatility Auction based on price – display – time priority, just as they are during normal trading pursuant to IEX Rule 11.220. The proposed auction priority is substantially similar to the auction priority of Nasdaq and Bats.²⁹ 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 (including MOO and MOC orders) have precedence over limit orders. 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 orders “resting price”), as follows:

- 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.
- 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

²⁹ See e.g., Nasdaq Rule 4752(d)(3)(A)-(D), and Bats Rule 11.23(b)(2)(C), describing priority for the Opening Auction.

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.

- 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.
- Non-displayed limit orders and non-displayed portions of reserve orders on the Continuous Book are ranked and eligible for execution in the Opening or Closing Auction at the less aggressive of the Midpoint Price or the order's limit price.
- Displayed limit orders on the Continuous Book are ranked and eligible for execution in the Opening or Closing Auction at the order's resting price.
- 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.

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.

Equally priced Auction Eligible Orders are ranked by display priority. On-Open and On-Close orders are ranked with display priority. Limit orders with a time-in-force of IOC or FOK are ranked with displayed priority. 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.

Equally priced Auction Eligible Orders with the same display priority are ranked in time priority. Where orders to buy (or sell) are ranked at the same price with the same display priority, the oldest order (determined by the order's timestamp) 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 (i) an Order on the Auction Book is incremented by the User; (ii) an Order on the Auction Book is re-priced by the User; (iii) Minimum Quantity for an order on the Auction Book is amended by the User; or (iv) any one of the events specified in IEX Rule 11.220(a)(1)(C) occurs to an order on the Continuous Book, at which time such order will receive a new timestamp.

IEX Auction Clearing Price Determination

The IEX Auction process is designed to efficiently maximize the number of shares executed at a single price for each of the Opening, Closing, IPO, Halt, and Volatility Auctions. The Exchange is proposing a uniform methodology to determine the clearing price of an auction for IEX-listed securities. Each of the Opening Auction, Closing Auction, IPO Auction, Halt Auction and Volatility Auction operated by IEX will be a double auction to match buy and sell orders at the single price at which the most shares would execute (the "clearing price," "match price," or "price of the auction"). An Opening, Closing, IPO, Halt, or Volatility Auction for an IEX-listed security will only take place if Auction Eligible Orders have overlapping prices, meaning that the highest

bid price is equal to or higher than the lowest offer price (“crossing interest”).

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, 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 exists at which shares are maximized and at which shares will remain unexecuted in the auction (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 auction shall occur at the price that minimizes the distance from the Volume Based Tie Breaker within the auction price range (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).³⁰

In the case of an Opening and Closing Auction, if the auction clearing price is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar, the official 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

³⁰ The Volume Based Tie Breaker is defined as the midpoint of the Reference Price Range, and in the case of an Opening or Closing Auction is generally the midpoint of the Protected NBBO; for Halt Auctions, it will be the price of the Latest Consolidated Last Sale Eligible Trade; for IPO Auctions it will be the issue price; and for a Volatility Auction, it will be the price of the Latest Consolidated Last Sale Eligible Trade, or the Final Consolidated Last Sale Eligible Trade if the Volatility Auction is determining the IEX Official Closing Price. See proposed Rules 11.350(a)(33) and (30).

of the Reference Price Range that best satisfies the conditions described above, and in no case will the Opening Auction match occur at a price lower (higher) than the lower (upper) threshold of the Opening/Closing Auction Collar. In the case of a Volatility Auction, if the auction clearing price is outside the Volatility Auction Collar, the Volatility Auction Order Acceptance Period shall be extended in accordance with proposed Rule 11.350(f)(2)(C)(ii). In the case of a Halt or IPO Auction, no auction collars are applied. 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, Closing, IPO, Halt, or Volatility Auction match, but will be enforced on all unexecuted shares released to the Continuous Book following the auction match.³¹

The following examples are designed to illustrate the clearing price determination process described above. Each example below assumes the Protected NBBO³² is \$10.09 by \$10.11, and includes Auction Eligible Orders on the Closing Auction Book at the time of the Closing Auction match:

- Example 1
 - The Closing Auction Book includes the following orders:
 - LOC order to buy 1,500 shares with a limit price of \$10.10; and
 - LOC order to sell 1,000 shares with a limit price of \$10.10.
 - Shares are maximized at \$10.10; therefore
 - 1,000 shares would execute at the IEX Official Closing Price of \$10.10.
- Example 2

³¹ See proposed Rules 11.350(c)(2)(C), 11.350(d)(2)(C), 11.350(e)(2)(D), and 11.350(f)(2)(F) and (f)(3)(B)(iii), respectively.

³² See Regulation NMS, Rule 600(b)(57).

- 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;
- The price at which shares will remain unexecuted in the auction is \$10.10³³; 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 or between \$10.09 and \$10.11;
 - The range of prices at or between the prices at which shares will remain unexecuted in the auction is \$10.09 and \$10.11;
 - Because a range of prices exist after evaluating the prior two conditions (i.e., an auction price range), the price closest to the Volume Based Tie Breaker (i.e., the midpoint of the Protected NBBO) within the auction price range is \$10.10; therefore

³³ Note, while shares are maximized at and between the lower threshold of the Opening/Closing Auction Collar (\$9.08) and \$10.10, the entered price at which shares will remain unexecuted in the auction is \$10.10, as \$10.10 is the resting price of the most aggressive order where shares remain unexecuted.

- 2,000 shares would execute at the IEX Official Closing Price of \$10.10.

For Opening and Closing Auctions, pursuant to proposed Rule 11.350(a)(2), the Exchange is proposing that non-displayed buy (sell) orders on the Continuous Book with a resting price (as defined in proposed 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 price³⁴, but will be ranked and eligible for execution in the Opening or Closing Auction match at the order's resting price. Thus, non-displayed orders will influence the clearing price if such price is at or outside the Reference Price Range, but not if the clearing price is within the Reference Price Range.

The proposed treatment of non-displayed interest on the Continuous Book resting within the Reference Price Range is designed to protect the anonymity of resting non-displayed interest on the Continuous Book during the dissemination of IEX Auction Information.³⁵ Specifically, the Exchange believes that without such treatment information leakage would occur if the Indicative Clearing Price is closer to the midpoint of the NBBO than the Reference Price that is disseminated via IEX Auction Information. This would indicate that there is non-displayed interest resting on the Continuous Book for at least the size of the imbalance and priced at least as aggressive as the Reference

³⁴ Note, non-displayed buy (sell) orders on the Continuous Book with a resting price (as defined in proposed 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 and the Indicative Clearing Price disseminated in IEX Auction Information as set forth in proposed Rule 11.350(a)(9)(E).

³⁵ The Exchange notes that in the case of an IPO, Halt, or Volatility Auction, there is no continuous trading and therefore no Continuous Book. Accordingly, there would be no non-displayed interest on the Continuous Book to which the proposed functionality would apply.

Price.

The following examples are designed to illustrate the clearing price determination process including non-displayed orders on the Continuous Book with a resting price within the Reference Price Range, as described above. Each example below assumes the Protected NBBO is \$20.19 by \$20.21, and includes 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:

- 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 between \$20.18 and \$20.19, and the price at which shares are left unexecuted within such range, is \$20.19; 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, and the price at which shares are left unexecuted within such range, is \$20.19; 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.
- Example 3
 - The Regular Market Continuous Book Contains the following orders:
 - Primary Peg order to buy 2,500 shares with a resting price of \$20.18, and limit 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 20.19.
 - For purposes of determining the clearing price, the Primary Peg order is priced at its resting price (\$20.18) because it is resting outside the Reference Price Range (\$20.19 to \$20.21); the Primary Peg order is eligible exercise price discretion up to the auction match price, so long as the match price is at

or below the less aggressive of the NBB or the order's limit price.

- Accordingly, shares are maximized at \$20.19; therefore
 - 2,000 shares would execute at the IEX Official Closing Price of \$20.19;
 - The LOC buy order would receive an execution of 500 shares;
 - Assuming IEX has determined the quote to be stable pursuant to IEX Rule 11.190(g), the Primary Peg buy order would exercise discretion up to the auction match price and receive an execution of 1,500 shares; and
 - Assuming IEX has determined the quote to be stable pursuant to IEX Rule 11.190(g), the LOC sell order would receive an execution of 2,000 shares. If IEX has determined the quote to be unstable pursuant to IEX Rule 11.190(g), the LOC sell order would receive an execution of 500 shares.
- Example 4
 - 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 \$20.20; and
 - LOC order to sell 2,000 shares with a limit price of \$20.20.
 - 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 \$20.20; therefore
 - 2,000 shares would execute at the IEX Official Closing Price of \$20.20;
 - The LOC buy order would receive an execution of 500 shares;
 - The Midpoint Peg buy order would receive an execution of 1,500 shares; and
 - The LOC sell order would receive an execution of 2,000 shares.

- Example 5
 - The Regular Market Continuous Book Contains the following orders:
 - Discretionary Peg order to buy 2,500 shares with a resting price of \$20.19, and limit price of \$20.21.
 - The Closing Auction Book includes the following orders:
 - LOC order to buy 500 shares with a limit price of \$20.20; and
 - LOC order to sell 2,000 shares with a limit price of \$20.20.
 - For purposes of determining the clearing price, the Discretionary Peg order is priced at its resting price (\$20.19) because it is resting at the Reference Price Range (\$20.19 to \$20.21); the Discretionary Peg order is eligible exercise price discretion up to the auction match price, so long as the match price is at or below the less aggressive of the midpoint of the NBBO or the order's limit price.
 - Accordingly, shares are maximized at \$20.20; therefore
 - 2,000 shares would execute at the IEX Official Closing Price of \$20.20;
 - The LOC buy order would receive an execution of 500 shares;
 - Assuming IEX has determined the quote to be stable pursuant to IEX Rule 11.190(g), the Discretionary Peg buy order would exercise discretion up to the auction match price and receive an execution of 1,500 shares; and
 - Assuming IEX has determined the quote to be stable pursuant to IEX Rule 11.190(g), the LOC sell order would receive an execution of 2,000 shares. If IEX has determined the quote to be unstable pursuant to IEX Rule 11.190(g), the LOC sell order would receive an execution of 500 shares.

As noted above, the Exchange will not offer an imbalance order type (i.e., an order *type* that by its terms is designed to solely offset a buy or sell order imbalance in the

auction), which is currently offered by Nasdaq, but not by Bats.³⁶ However, Users who wish to offset buy or sell imbalances in an auction may do so by entering LOO, LOC, and limit orders priced within the applicable auction collar, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book with a resting price within the Reference Price Range, which, as described further below, is eligible to offset imbalance within the Reference Price Range without influencing the determination of the clearing price.

After informal discussion with various Members, the Exchange believes that imbalance only order types are generally employed by Users deploying sophisticated auction trading strategies, and are seldom used by long-term or natural investors. Accordingly, the Exchange believes that not offering a special imbalance only order type that is unlikely to garner broad User adoption, while still offering investors the opportunity to offset imbalances using LOO, LOC, and limit orders, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book with a resting price within the Reference Price Range, will simplify the process of participating in auctions and attract more trading interest from a broad range of market participants, thereby resulting in robust price discovery for IEX Auctions, consistent with the protection of investors and the public interest.

The clearing price determination process proposed by the Exchange takes an approach similar to Nasdaq, with certain modifications as described below. Specifically, as proposed, the clearing price determination for both Nasdaq and IEX would first

³⁶ See, e.g., Nasdaq Rule 4702(b)(10) and (13).

maximize the number of shares executable in the auction at a single price. However, in the event there is more than one price at which shares are maximized, Nasdaq Rule 4752(d)(2)(B) states that the auction shall match at the price that minimizes any imbalance, and if there is more than one price at which shares are maximized and imbalance is minimized, Nasdaq Rule 4752(d)(2)(C) states that the auction shall match at the price at which shares will remain unexecuted in the auction. The Exchange believes that Nasdaq Rule 4752(d)(2)(B) and (C) often arrive at the same price, because the price at which imbalance is minimized is often also the price at which shares remain unexecuted in the auction. Accordingly, the Exchange is proposing to consolidate these two conditions, and instead utilize the price at which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order).³⁷

Moreover, in the event the clearing price determination process results in a clearing price range (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 Exchange proposes to utilize the price at or closest the Volume Based Tie Breaker within the auction price range (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

³⁷ The Exchange notes that in the rare event that Auction Eligible Orders are perfectly matched at multiple prices, the prices at which imbalance is minimized and the prices at which shares will remain unexecuted are different. In such cases, the range of prices within which the auction can occur on Nasdaq would be one (1) MPV less aggressive than the prices within which the auction can occur as proposed by the Exchange. Furthermore, in the event that Auction Eligible Orders are perfectly matched at two prices that create a one cent range, the price at which imbalance is minimized and the price at which shares remain unexecuted is the same.

Breaker).³⁸ This differs from Nasdaq in that in the event the clearing price determination process results in a clearing 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 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.³⁹

Lastly, in the event the clearing price determined pursuant to the procedures above is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Opening or Closing Auction, the official 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 described above. This differs from Nasdaq in that under Nasdaq Rule 4752(d)(2)(E), if the auction price is outside of the Nasdaq opening or closing auction collars, the auction shall occur at a price within the threshold amounts that best satisfies the conditions of Nasdaq Rule 4752(d)(2)(A) through (D). The Exchange

³⁸ See proposed Rule 11.350(a)(33).

³⁹ Note, as described in detail below, in the event the Protected NBBO is crossed, the Volume Based Tie Breaker will be the midpoint of a Valid IEX BBO. If there is not a Valid IEX BBO, the Volume Based Tie Breaker will be the higher (lower) of the Final Consolidated Last Sale Eligible Trade, or the Protected NBB (NBO), if not crossed, or the IEX best bid (offer). See proposed Rules 11.350(a)(33) and (30).

believes that the proposed rule is designed to provide greater clarity to Users regarding the range of prices within which the Opening or Closing Auction will occur (because the range of possible auction match prices is narrower) in the event the clearing price is outside of the collar.

The Exchange notes that the clearing price determination processes utilized by other primary listing markets are not homogeneous. As described above, the Exchange designed IEX Auctions with certain features that are substantially similar to current functionality offered by other listings markets, while making certain changes designed to democratize auction participation among all Members via simplification and transparency. Accordingly, the Exchange believes that the proposed auction design will provide a transparent, efficient, and robust process to aggregate trading interest submitted by a broad range of market participants to be matched at a single clearing price, consistent with the protection of investors and the public interest, and in alignment with issuers' interests.

Reference Price Range and Volume Based Tie Breaker

Each of the Opening Auction, Closing Auction, IPO Auction, Halt Auction, and Volatility Auction operated by IEX will be an auction to match buy and sell orders at the single price at which the most shares would execute. 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 auction price range that minimizes the distance from the Volume Based

Tie Breaker.⁴⁰ Similar to Bats, the Volume Based Tie Breaker for an Opening or Closing Auction will be the midpoint of the Reference Price Range.⁴¹ For a Volatility Auction, the Reference Price Range is defined in proposed Rule 11.350(a)(1)(30) as the prices between and including the applicable Volatility Auction Collar. For an Opening or Closing Auction, the Reference Price Range is defined in proposed Rule 11.350(a)(1)(30) as the prices between and including the protected national best bid (“Protected NBB”) and protected national best offer (“Protected NBO”) if the Protected NBBO is valid. The Protected NBBO is valid when there is both a Protected NBB and Protected NBO in the security, the Protected NBBO is not crossed, and the midpoint of the Protected NBBO is less than or equal to the Maximum Percentage away from both the Protected NBB and Protected NBO.⁴² The Exchange will utilize Maximum Percentage values identical to those used by Bats⁴³, which are as follows:⁴⁴

(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

⁴⁰ Generally, the Volume Based Tie breaker will be the midpoint of the Protected NBBO.

⁴¹ See proposed Rules 11.350(a)(33) and 11.350(a)(30). See also Bats Rule 11.23(a)(23).

⁴² Note, the Volume Based Tie Breaker is distinguishable from Bats in that the Exchange will utilize the midpoint of a valid *Protected* NBBO, whereas Bats utilizes the midpoint of the NBBO (emphasis added).

⁴³ Bats Rule 11.23(a)(23) states that “the Maximum Percentage will be determined by the Exchange and will be published in a circular distributed to Members with reasonable advance notice prior to initial implementation and any change thereto.” The [Bats US Equities Auction Process](#) specification (Version 1.5.1) identifies the Maximum Percentage values at 5.

⁴⁴ The Exchange anticipates modifying the Maximum Percentage values in response to market-wide events that are driving price volatility, and would therefore benefit from temporarily widening such values in the interest of allowing robust price discovery, consistent with the protection of investors and the public interest. The Exchange notes that modification of the Maximum Percentage values are subject to the provisions of Section 19(b)(1) under the Act, and Rule 19b-4 thereunder. See 15 U.S.C. 78s(b)(1), and 17 CFR 240.19b-4.

or equal to \$50.00; or

(C) 1.5% if the Protected Midpoint Price is greater than \$50.00.

In the event that the Protected NBBO is not valid, the Reference Price Range will be the IEX BBO, if the IEX BBO is a Valid IEX BBO.⁴⁵ The IEX BBO is Valid IEX BBO where there is both an IEX best bid and IEX best offer in 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 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 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.⁴⁶ 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.

⁴⁵ Nasdaq utilizes a similar volume based tie-breaker, which is defined as the bid-ask midpoint of the inside quote on the Nasdaq order book prevailing at 09:30 a.m. See e.g., Nasdaq Rule 4752(d)(2)(D).

⁴⁶ See Bats Rule 11.23(a)(23), except that Bats does not test the Final Last Sale Eligible Trade against the available quotations in the market. The proposed functionality is designed to avoid providing a reference price beyond the best protected bid or offer.

The proposed Maximum Percentage validation of the Protected NBBO (or IEX BBO, as applicable) is designed to avoid using an excessively wide spread as the Reference Price Range, or the midpoint price of such spread as the Volume Based Tie Breaker. As described above, in the event the midpoint of the Protected NBBO (or IEX BBO) is greater than the Maximum Percentage away from either the NBB (or IEX best bid) or NBO (or IEX best offer), then the Exchange will utilize prices that reflect the most recent trading or quoting activity (e.g., the Final Consolidated Last Sale Eligible Trade), in an effort for the Reference Price Range and Volume Based Tie Breaker to more closely reflect the current market for the security.

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. If no such transaction was executed in accordance with the preceding sentence, then the Final Consolidated Last Sale Eligible Trade will be the previous official closing price, or the issue price in the case of an IPO or launch of a new issue. 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. If no such transaction was executed in accordance with the preceding sentence, then the Latest Consolidated Last Sale Eligible Trade will be the previous official closing price.⁴⁷ The

⁴⁷ Collectively, the Final Consolidated Last Sale Eligible Trade and the Latest Consolidated Last Sale Eligible Trade are substantially similar in definition to the Final Last Sale Eligible Trade used by Bats pursuant to Bats Rule 11.23(a)(9), except that the

Exchange believes that utilizing the final (latest) consolidated last sale eligible trade is consistent with the protection of investors and the public interest in that such price best reflects the broader market for the security.

Auction Collars

Opening/Closing Auction Collar

Pursuant to proposed Rule 11.350(a)(27), the Opening and Closing Auction match must occur at or within the upper and lower thresholds of the Opening/Closing Auction Collar. If the clearing price determination results in a clearing price below (above) the lower (upper) threshold of the Opening/Closing Auction Collar, the price of the auction will be set to 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 clearing price determination.⁴⁸

The 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 (defined as the Volume Based Tie Breaker, which is generally the midpoint of the Protected NBBO), which shall be added to (subtracted from) the Protected NBO (NBB) to establish the upper (lower) threshold of the Opening/Closing Auction Collar. The Opening/Closing Auction Collar default

Exchange does not require that the last sale eligible trade have been executed on the Exchange within one second prior to the auction match, or where applicable, the halt, or pause. See Bats Rule 11.23(a)(9).

⁴⁸ See proposed Rules 11.350(c)(2)(B)(iv) and 11.350(d)(2)(B)(iv).

threshold is identical to the default auction collar thresholds used by Nasdaq; however, Nasdaq utilizes the midpoint of the best bid and offer on Nasdaq's book as the collar reference price.⁴⁹

The Exchange is proposing to utilize a default threshold percentage of ten percent (10%) for the Opening/Closing Auction Collar because, based on informal discussion with various Members, as well as Nasdaq's usage of identical default threshold percentage values, such values typically provide an appropriate range within which price discovery may occur to maximize the number of shares executed in the auction. Furthermore, the Exchange believes utilizing the midpoint of the Protected NBBO to establish the Opening/Closing Auction Collar Reference Price is consistent with the protection of investors and the public interest in that the Protected NBBO represents the range of prices that best reflect the market for a security. Furthermore, utilizing the midpoint of the Protected NBBO may be less susceptible to volatility and manipulation, because in order to move the midpoint of the Protected NBBO to influence the auction, one or more Users would need to sweep the entire market, rather than simply entering aggressive interest on the Exchange.⁵⁰

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

⁴⁹ See e.g., Nasdaq Rule 4752(d)(2)(E).

⁵⁰ The Exchange anticipates modifying such benchmarks and thresholds in response to market-wide events that are driving price volatility, and would therefore benefit from temporarily widening threshold values in the interest of allowing robust price discovery, consistent with the protection of investors and the public interest. The Exchange notes that modification of the default threshold percentage values for the Opening/Closing Auction Collar are subject to the provisions of Section 19(b)(1) under the Act, and Rule 19b-4 thereunder. See 15 U.S.C. 78s(b)(1), and 17 CFR 240.19b-4.

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, at or 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, and as the Protected NBBO changes, the Opening/Closing Auction Collar updates to reflect such changes.

If the Protected NBBO is crossed, the Opening/Closing Auction Collar will be 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 (defined as the Volume Based Tie Breaker, which in the case of a crossed market, is the midpoint of the IEX BBO), which shall be added to (subtracted from) the IEX best offer (bid) to establish the upper (lower) threshold of the Opening/Closing Auction Collar.⁵¹ If the Protected NBBO, or, when utilized, the IEX BBO is not two-sided (i.e., do not have both a bid and offer), the greater of fifty cents (\$0.50) or a default threshold percentage of ten percent (10%) will be applied to the Opening/Closing Auction Collar Reference Price (defined as the Volume Based Tie Breaker, which in the event the Protected NBBO or IEX BBO do not exist, is the Final Consolidated Last Sale Eligible Trade), shall be added to (subtracted from) the Opening/Closing Auction Collar Reference Price to establish the upper (lower)

⁵¹ In the event the Protected NBBO is crossed, the Exchange will utilize the midpoint of the IEX BBO, which as noted above, is substantially similar to Nasdaq. See e.g., Nasdaq Rule 4752(d)(2)(E).

threshold of the Opening/Closing Auction Collar.

Volatility Auction Collar

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 arrives at a clearing price above (below) the upper (lower) threshold of the Volatility Auction Collar, the Volatility Auction Order Acceptance Period will be extended five (5) minutes due to an Impermissible Price and the Volatility Auction Collar will be updated as described below.

If the Volatility Auction Collar Reference Price (defined in proposed Rule 11.350(a)(32)) as the Upper or Lower LULD Price Band that triggered the LULD trading pause) is the Lower (Upper) Price Band, the initial lower (upper) threshold of the Volatility Auction Collar is five percent (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. For securities with a Volatility Auction Collar Reference Price of three dollars (\$3.00) or less, the initial lower (upper) threshold of the Volatility Auction Collar is fifteen cents (\$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. The Volatility Auction Collar, as proposed, is identical to the auction collars imposed by Bats, Nasdaq, and Arca when conducting an auction to

resume a security subject to an LULD trading pause.⁵²

Furthermore, the proposed Volatility Auction Collar functionality is 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 Exchange 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.⁵³ 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%) in the direction of the Impermissible Price, rounded to the nearest passive MPV. For securities with a Volatility Auction Collar Reference Price of three dollars (\$3.00) or less, the upper (lower) threshold of the Volatility Auction Collar will be increased (decreased) in fifteen-

⁵² See 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) (File No. SR-NYSEArca-2016-130).

⁵³ 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) (File No. SR-NYSEArca-2016-130) and Securities and Exchange Act Release No. 34-79410; File No. 4-631 (Notice of Filing of the Twelfth Amendment to the National Market System Plan to Address Extraordinary Market Volatility).

cent (\$0.15) increments in the direction of the Impermissible Price, rounded to the nearest passive MPV.

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.

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 5% of the upper Volatility Auction Collar, or \$0.55 (5% of \$11.00 = \$0.55), to the upper Volatility Auction Collar.⁵⁴ The lower Volatility Auction Collar remains unchanged. In this example, it would result in an upper Volatility Auction Collar of \$11.55 ($\$11.00 + \$0.55 = \11.55) and a lower Volatility Auction Collar of \$9.50, thus creating a range of \$9.50 to \$11.55, within which the Volatility Auction can now occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.55 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 5% of the lower Volatility Auction Collar, or \$0.47 (5% of \$9.50 = \$0.47, when rounded to the nearest passive MPV), from the lower Volatility Auction Collar.⁵⁵ Thus, it would result in a lower Volatility Auction Collar of \$9.03 ($\$9.50 - \$0.47 = \9.03) and an upper Volatility Auction Collar or \$11.55, creating a range of \$9.03 to \$11.55 within which the Volatility Auction can now occur. This means \$9.03 is the lowest price at which the Volatility Auction can occur and \$11.55 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

⁵⁴ See proposed Rules 11.350(f)(2)(C)(ii), and 11.350(f)(2)(D).

⁵⁵ See proposed Rule 11.350(f)(2)(D).

falls at or within the Volatility Auction Collar.

Opening Auction

Order Entry and Cancellation Before Opening Auction

As proposed in Rule 11.350(c)(1), the Exchange will allow Users to submit orders eligible for execution in the Opening Auction at the beginning of the Pre-Market Session, which begins at 8:00 a.m.⁵⁶ Any orders designated for the Opening Auction Book will be queued until 9:30 a.m. at which time they will be eligible to be executed in the Opening Auction. Auction Ineligible Orders with a TIF of IOC or FOK will be rejected prior to the 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). Orders on the Opening Auction Book, as proposed, would include MOO orders, LOO orders, market orders with a time-in-force of DAY⁵⁷, and limit orders with a time-in-force of DAY or GTX. In addition to orders on the Opening Auction Book, limit orders on the Continuous Book with a time-in-force of SYS or GTT are eligible to execute in the Opening Auction (“Pre-market Continuous Book”).

Pursuant to proposed Rule 11.350(c)(1)(B), beginning at the Opening Auction Lock-in Time (i.e., 9:28 a.m.), the Opening Auction will be subject to certain “lock-in” and “lock-out” restrictions. Specifically, Users may enter, cancel, or modify Auction Eligible Orders until the Opening Auction Lock-in Time, at which time orders on the

⁵⁶ All times referenced herein are Eastern Time.

⁵⁷ Market orders with a time-in-force of DAY will be functionally equivalent to MOO orders in the Opening Auction (i.e., such orders will be executable at the Opening Auction match price, and any unfilled shares will be immediately canceled following the Opening Auction match). Market orders with a time-in-force other than DAY will not be eligible for execution in the Opening Auction.

Opening Auction Book can no longer be canceled or modified before the Opening Auction match. After the Opening Auction Lock-in Time, the Exchange will begin to reject Hyper-aggressive Auction Orders upon entry. Hyper-aggressive Auction Orders, as proposed, include market and MOO orders, as well as LOO and limit orders with a time-in-force of DAY or GTX with a limit price more aggressive than the latest Opening/Closing Auction Collar calculated by the System (*i.e.*, buy (sell) orders priced above (below) the latest upper (lower) threshold of the Opening/Closing Auction Collar calculated by the System). Bats implements a similar Opening Auction cut-off time (9:28 a.m.), at which time LOO and MOO as well as market orders will be rejected (and Regular Hours Only (RHO) orders⁵⁸ are converted to Late Limit On-Open (LLOO) orders).⁵⁹ In the context of the IEX Opening Auction, such orders are similar to the order types on the Opening Auction Book. 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 canceled until the auction match.⁶⁰ Similarly, Nasdaq also applies a 9:28 a.m. cut-off time.⁶¹

The Exchange is proposing a similar approach to Bats and Nasdaq, in applying a 9:28 a.m. Lock-out Time where LOO and MOO orders are no longer accepted and may

⁵⁸ See Bats Rule 11.9(b)(7), defining Regular Hours Only (“RHO”) as a time in force applied to a limit or market order that is designated for execution only during Regular Trading Hours, which includes the Opening Auction, the Closing Auction, and IPO/Halt Auctions for BZX listed securities and the Opening Process for non-BZX-listed securities (as such terms are defined in Rule 11.23 and 11.24). Any portion of a market RHO order will be cancelled immediately following any auction in which it is not executed.

⁵⁹ See *e.g.*, Bats Rule 11.23(b)(1)(A).

⁶⁰ See *e.g.*, Bats Rule 11.23(b)(1)(A)-(B).

⁶¹ See Nasdaq Rules 4702(b)(8), (9), and (10), as well as Nasdaq Rule 4752(a)(7), which sets forth the various order types eligible to participate in the Nasdaq cross, as well as the various applicable timing restrictions.

no longer be modified or canceled; however, after informal discussion with various Members, the Exchange is proposing that LOO orders and limit orders with a time-in-force of DAY or GTX will continue to be accepted until the Opening Auction Lock-out Time (i.e., 9:29:50 a.m., ten (10) seconds prior to the Opening Auction match) so long as they are not Hyper-aggressive Auction Orders, which will allow Users to continue to express interest, and offset imbalances via orders designated for the Auction Book in the minutes leading up to the auction match. Such orders entered into the Auction Book after the Lock-in Time cannot be canceled or modified. Furthermore, Hyper-aggressive Auction Orders will be rejected, which is designed to minimize the increase of imbalances or large price swings resulting from aggressively priced orders in the Auction Book during the last two minutes of the auction process. Instead, the Exchange is proposing to allow for price discovery to occur on the Auction Book and Continuous Book within the applicable auction collars leading up to the auction match, allowing for a convergence of the Auction Book with the Continuous Book to establish equilibrium. The Exchange notes that allowing Users to offset imbalances on the Auction Book after the Lock-in Time is designed to promote stability and equilibrium leading into the auction match because such orders are not able to be canceled or modified after entry (i.e., they are locked-in), which is in direct contrast with offsetting orders on the Continuous Book that may be fleeting, because they are eligible for cancellation, modification, and execution until the auction match.

Orders eligible to join the Opening Auction Book that are received after the Opening Auction Lock-out Time will be rejected upon entry. Limit orders designated for the Pre-Market Continuous Book (as well as Auction Ineligible Orders) may continue to

be entered and modified or canceled at any time prior to execution.⁶² Pegged orders may be submitted, canceled, and/or modified beyond the Opening Auction Lock-in Time and Lock-out Time, and will not be eligible for execution in the Opening Auction. The proposed Lock-Out Time of 9:29:50 a.m., ten (10) seconds prior to the Opening Auction, is designed to freeze the Auction Book, and provide Users an opportunity to offset any remaining imbalance by submitting limit orders on the Continuous Book.

Opening Auction Process for IEX-Listed Securities

Pursuant to proposed Rule 11.350(c)(2), beginning at the Opening Auction Lock-in Time and updated every one second thereafter, the Exchange will disseminate IEX Auction Information via electronic means, as described below. Auction Eligible Orders will be ranked and maintained in accordance with IEX Auction Priority, described above. The Exchange will attempt to conduct an Opening Auction for all IEX-listed securities at the start of Regular Market Hours (i.e., 9:30 a.m.) in accordance with the clearing price determination process, described above, and set forth in proposed Rule 11.350(c)(2)(B). All orders eligible for execution in the Opening Auction (i.e., orders on the Opening Auction Book and orders on the Pre-Market Continuous Book) are Auction Eligible

⁶² Bats offers identical functionality for all Continuous Book orders eligible for execution in the Bats Pre-Opening Session. See Bats Rule 11.23(b)(1)(C). Similarly, NYSE Arca allows orders to enter the Continuous Book after the Opening and Closing Auction Imbalance Freeze. See Arca Rule 7.35(c)(3)(D). Accordingly, the Exchange believes that allowing orders to enter the Continuous Book and be eligible for execution in the auction match until immediately before the auction match does not present any unique concerns regarding attempted manipulation of the auction match. The Exchange notes that pursuant to the Regulatory Services Agreement between FINRA and the Exchange, FINRA will be running surveillance patterns to identify potentially manipulative trading activity in IEX Auctions. Furthermore, the Exchange is developing internal market quality surveillances to identify potentially manipulative trading activities.

Orders. The resting price (as defined in proposed Rule 11.350(b)(1)(A)(i)) of Auction Eligible Orders are used to calculate the Indicative Clearing Price disseminated in IEX Auction Information, and the auction match price. As described above, non-displayed buy (sell) orders on the Continuous Book with a resting price within the Reference Price Range will be priced at the Protected NBB (NBO) for the purpose of determining the clearing price (and the Indicative Clearing Price disseminated in IEX Auction Information every one second leading into the auction match), but will be ranked and eligible for execution in the Opening Auction match at the order's resting price.⁶³

Pursuant to proposed Rule 11.350(c)(2)(C), Auction Eligible Orders matched in the Opening Auction will execute in accordance with IEX Auction Priority, as described 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 (i.e., LOO orders and limit orders with a time-in-force of DAY, GTT, GTX, or SYS) 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. Upon completion of the Opening Auction for IEX-listed securities (or the IEX Halt Auction during the Regular Market Session for IEX-listed securities that have not traded during the Regular Market

⁶³ See proposed Rule 11.350(a)(2).

Session on that trading day), the IEX Official Opening Price for the security will be disseminated to the Consolidated Tape along with a bulk execution. The IEX Official Opening Price will be the price of the auction. If a security does not have an Opening Auction (e.g., there is insufficient crossing interest to conduct an Opening Auction), the security will be released for trading pursuant to proposed Rule 11.350(c)(3), described below, and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.⁶⁴

Under proposed Rule 11.350(c)(2)(D), 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 (i.e., MOO orders, LOO orders, limit orders with a time-in-force of DAY or GTX, and market orders with a time-in-force of DAY) 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. The Exchange believes that transferring orders queued on the Opening Auction Book to the Halt Auction if a halt persists through the start of Regular Market Hours is in the best interest of investors and the public interest, because Users will not

⁶⁴ See, e.g., Nasdaq Rule 4753(b)(4) regarding the official Nasdaq opening price for stocks that are subject to a pre-market halt, which is similar to the functionality proposed by the Exchange concerning the official opening price in the event there is no Opening Auction for a security due to a lack of crossing interest. See also proposed Rule 11.350(a)(16).

need to account for auction interest that is canceled back, and subsequently be required resubmit such interest during the Order Acceptance Period. The Exchange believes this process represents a simplified way for Users to submit interest for participation in the auction that is determining the IEX Official Opening Price for an IEX-listed security, and in the event the Halt Auction is determining such price, the Exchange must incorporate such On-Open interest in order to ensure robust price discovery. If there is insufficient crossing interest to complete the Halt Auction, the transition to the Regular Market Session shall be conducted pursuant to proposed Rule 11.350(e)(3), described below, no auction will occur and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.⁶⁵

Under proposed Rule 11.350(c)(2)(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. Similarly, under proposed Rule 11.350(c)(2)(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 a lack of crossing interest during the Opening Auction, there is no Initial Last Sale Eligible Trade, and the security is subsequently paused.

Opening Auction Contingency Procedures

When a disruption occurs that prevents the execution of the Opening Auction as

⁶⁵ See proposed Rule 11.350(a)(16).

set forth above, IEX shall apply the Opening Auction Contingency Procedures pursuant to proposed Rule 11.350(c)(4). Specifically, IEX will publicly announce that no Opening Auction will occur, and the price of the Initial Consolidated Last Sale Eligible Trade will be used for the IEX Official Opening Price.⁶⁶ All orders on the Order Book will be canceled, and IEX will open the security for trading without an auction. If a security's IEX Official Opening Price cannot be determined based on this procedure, IEX will not publish an Official Opening Price for the security. The Regular Market Session will begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Opening Auction Contingency Procedures. The Exchange believes that providing transparent Opening Auction Contingency Procedures is consistent with the protection of investors and the public interest in that Users will have more clarity regarding the methodology for arriving at the IEX Official Opening Price and the status of open orders, therefore allowing for such Users to resubmit such interest in the Regular Market Session, or re-route such interest to an alternate trading center after IEX has opened the security for trading. In addition, the Opening Auction Contingency Procedures are designed to ensure the orderly and timely opening of IEX-listed securities, which will help to ensure a fair and orderly market for securities listed on the Exchange.

Transition to Regular Market Session

Pursuant to proposed Rule 11.350(c)(3), LOO, MOO, and market orders that are not fully executed at the conclusion of the Opening Auction will be canceled immediately

⁶⁶ Note, the Exchange intends to disseminate a System Status Alert to publicly announce contingency plans, which automatically publishes an email alert, twitter update, and text message to all persons registered to receive such alerts, as well as publishing to the IEX public website. To register for System Status Alerts, visit <https://www.iextrading.com/status/#/>.

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.⁶⁷ 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. 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.

Closing Auction

Order Entry and Cancellation Before Closing Auction

As proposed in Rule 11.350(d)(1), the Exchange will allow Users to submit orders eligible for execution in the Closing Auction at the beginning of the Pre-Market Session, or at the beginning of the Order Acceptance Period for an IPO, which in both cases begins at 8:00 a.m. Any MOC and LOC orders designated for the Closing Auction Book will be queued until the end of the Regular Market Session (e.g., 4:00 p.m., or such earlier time as the Regular Market Session ends on days that IEX is subject to an early closing), at which time they will be eligible to be executed in the Closing Auction.

⁶⁷ The Exchange's cancellation of MOO, LOO, and market orders, as well as limit orders with a time-in-force of DAY or GTX with a limit price more aggressive than Opening Auction match price that are not executed in the auction match is identical to order handling offered by Bats pursuant to Bats Rule 11.23(b)(3)(B)-(C), which states that RHO orders queued for the Opening Auction with a limit price more aggressive than the auction match that are not executed in the auction match will be canceled following the auction match.

Orders on the Closing Auction Book, as proposed, would include and be limited to MOC and LOC orders. In addition to orders on the Closing Auction Book, limit and pegged orders on the Continuous Book with a time-in-force of DAY, GTX, GTT, or SYS are eligible for execution in the Closing Auction (“Regular Market Continuous Book”).⁶⁸ All orders eligible for execution in the Closing Auction (i.e., orders on the Closing Auction Book and orders on the Regular Market Continuous Book) are Auction Eligible Orders. The resting price (as defined in proposed Rule 11.350(b)(1)(A)(i)) of Auction Eligible Orders are used to calculate the auction match price, and the Indicative Clearing Price disseminated in IEX Auction Information. Non-displayed buy (sell) orders on the Continuous Book with a resting price within the Reference Price Range will be priced at the Protected NBB (NBO) for the purpose of determining the clearing price (and determining the Indicative Clearing Price disseminated in IEX Auction Information leading up to the auction match), but will be ranked and eligible for execution in the Closing Auction match at the order’s resting price.

Pursuant to proposed Rule 11.350(d)(1), beginning at the Closing Auction Lock-in Time (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), the Closing Auction will be subject to certain “lock-in” and “lock-out” restrictions.⁶⁹ Specifically, under proposed Rule

⁶⁸ The following types of orders are not eligible for execution in the Closing Auction: market orders (except MOC orders) and orders with a time-in-force of IOC or FOK. As described above, Market orders entered during the Regular Market Session and orders marked IOC or FOK do not rest on the Continuous Book, and therefore are not Auction Eligible Orders.

⁶⁹ Bats implements a less restrictive cut-off time, allowing LOC and MOC orders to be submitted until 3:55 p.m., but still allowing orders eligible for continuous trading and LLOC orders to be entered until immediately before the auction match. See Bats Rule

11.350(d)(1)(B), Users may enter, cancel, or modify Auction Eligible Orders until the Closing Auction Lock-in Time, at which time orders on the Closing Auction Book can no longer be canceled or modified, except that between the Closing Auction Lock-in Time and five minutes before the Closing Auction match (e.g., 3:55 p.m.), LOC and MOC orders can be canceled only if the participant requests that IEX correct a legitimate error in the order (e.g., side, size, symbol, price, or duplication of an order). LOC and MOC orders cannot be canceled or modified at or after five minutes before the Closing Auction match (e.g., 3:55 p.m.) for any reason.⁷⁰ After the Closing Auction Lock-in Time, the Exchange will begin to reject Hyper-aggressive Auction Orders upon entry.⁷¹ For the Closing Auction, Hyper-aggressive Auction Orders, as proposed, include MOC orders, and LOC orders with a limit price more aggressive than the latest Opening/Closing Auction Collar calculated by the System (*i.e.*, buy orders priced above the latest upper auction collar threshold and sell orders priced below the latest lower auction collar threshold calculated by the System). LOC orders entered with a limit price that is not more aggressive than the latest Opening/Closing Auction Collar calculated by the System will continue to be accepted until the Closing Auction Lock-out Time (i.e., 3:59:50 p.m., ten (10) seconds prior to the Closing Auction match).⁷² As noted above in the context of

11.23(C)(1)(A). Nasdaq implements an identical cut-off time (3:50 p.m.), but still allows orders eligible for continuous trading and imbalance only orders to be entered until immediately before the auction match. See Nasdaq Rules 4702(b)(11)-(13).

⁷⁰ See proposed Rule 11.350(d)(1)(C).

⁷¹ See proposed Rule 11.350(d)(1)(B).

⁷² NYSE applies a similar restriction for its closing auction under NYSE Rule 70.25, which states that d-Quotes may be entered, modified, and canceled *until* 10 seconds before the end of the Regular Market Session (emphasis added). The Exchange notes that as explained by a recent study on NYSE auctions conducted by Greenwich Associates, NYSE d-Quotes (which can be entered by broker that have relationships with NYSE

the Opening Auction, the Exchange similarly believes that rejecting Hyper-aggressive Auction Orders in the Closing Auction after the Lock-in Time, while allowing LOC orders that are priced within the applicable auction collar to be entered and be eligible for execution in the Closing Auction until the Lock-out Time will allow Users to continue to express interest and offset imbalances in the minutes leading up to the auction match, while also avoiding the increase of imbalances resulting from aggressively priced orders in the Auction Book during the last ten minutes of the auction process. Instead, the Exchange is proposing to allow for price discovery to occur on the Auction Book and Continuous Book within the applicable auction collars leading up to the auction match, allowing for a convergence of the Auction Book with the Continuous Book to establish equilibrium.⁷³ Limit orders designated for the Regular Market Continuous Book may

floor brokers, or trading algorithms that are able to enter orders directly via FIX) contribute a meaningful portion of closing auction volume, as evidenced by the significant increase and fluctuations of indicative volume taken as a percentage of realized volume in the closing auction. Specifically, NYSE's auction data feed shows a material spike in indicative volume at 3:55 p.m., when d-Quotes are first included in the NYSE auction data feed, followed by fluctuations in indicative volume as a percent of realized volume. The Exchange further notes that the proposed handling of LOO, LOC, and limit orders submitted after the Lock-in Time that are not priced beyond the Opening/Closing Auction Collars is distinguishable from NYSE d-Quotes in that d-Quotes can be entered at any price, and can be canceled. As proposed, LOO, LOC, and limit orders submitted after the Lock-in Time that are not priced beyond the Opening/Closing Auction Collars cannot be canceled. The proposed order handling and IEX Auction information dissemination is designed to reflect "locked-in" interest on the Auction Book, which is intended to stimulate price discovery, and reduce fluctuations indicative volume taken as a percentage of realized volume that are caused by Users canceling orders on the Auction Book. See Trading the Auctions, Greenwich Associates, 2017, Doc ID 16-2068 (<https://www.greenwich.com/equities/trading-auctions>).

⁷³ As discussed above, the Exchange notes that allowing Users to offset imbalances on the Auction Book after the Lock-in Time is designed to promote price discovery and stability, and establish equilibrium leading into the auction match because such orders are not able to be canceled or modified after entry (*i.e.*, they are locked-in), which is in direct contrast with offsetting orders on the Continuous Book that may be fleeting, because they

continue to be entered and modified or canceled at any time prior to execution. Similar to the Opening Auction, the proposed Lock-Out Time of 3:59:50 p.m., ten (10) seconds prior to the Closing Auction, is designed to provide Users an opportunity to offset any remaining imbalance during a period of relative stability (while the Auction Book is locked) by submitting limit orders on the Continuous Book.

Closing Auction Process for IEX-Listed Securities

Under proposed Rule 11.350(d)(2)(A), beginning at the Closing Auction Lock-in Time and updated every one second thereafter, the Exchange will disseminate IEX Auction Information via electronic means, as described below. The Exchange will attempt to conduct a Closing Auction for all IEX-listed securities at 4:00 p.m., or such earlier time as the Regular Market Session ends on days that IEX is subject to an early closing in accordance with the clearing price determination process, described above and set forth in proposed Rule 11.350(d)(2)(B). Auction Eligible Orders will be ranked in accordance with IEX Auction Priority, described above, and as set forth in proposed Rule 11.350(b).

For example, if the Continuous Book and Closing Auction Book were to contain the following orders:

are eligible for cancellation, modification, or execution until the auction match. Orders eligible for the Closing Auction Book that are received after the Closing Auction Lock-out Time will be rejected upon entry.

Buy Orders				Sell Orders			
Entry Time	Type	Size	Price	Entry Time	Type	Size	Price
3:00	MOC	8000	<u>Market</u>	2:45	MOC	5000	<u>Market</u>
2:30	LOC	3000	20.02	3:00	LOC	3000	19.98
3:31	DAY	4000	19.99	3:55	LOC	1000	19.98
3:35	LOC	1000	19.99	3:59	DAY	500	20.00
3:59	DAY	3000	19.98	3:35	LOC	1000	20.00
3:59	DAY	2000	19.97	3:48	DAY	5000	20.01
3:40	LOC	4000	19.97	3:31	GTX	3000	20.02
3:52	LOC	500	19.97	3:40	LOC	1000	20.02
3:30	DAY	10000	19.96	3:30	DAY	10000	20.04

Shares are maximized and left unexecuted \$20.01, therefore the IEX Closing Auction would execute 11,000 shares at \$20.01.

Auction Eligible Orders matched in the Closing Auction will execute in accordance with IEX Auction Priority, described above. Specifically, as set forth in proposed Rule 11.350(d)(2)(C), 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 (i.e., LOC, as well as limit and pegged orders with a time-in-force of DAY, GTT, GTX, or SYS) 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. Upon completion of the Closing Auction for IEX-listed securities, the IEX Official Closing Price for the security will be disseminated to the Consolidated Tape along with a bulk execution. The IEX Official Closing Price will be the price of the auction. If there is insufficient crossing

interest to conduct a Closing Auction, no Closing Auction will occur, and the IEX Official Closing Price will be the price of the Final Last Sale Eligible Trade.⁷⁴ In such cases, the transition to the Post-Market Session shall be conducted pursuant to proposed Rule 11.350(d)(3), described below.

Pursuant to proposed Rule 11.350(d)(2)(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 make 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, and pegged orders 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 proposed Rule 11.350(f)(3), described below.

Closing Auction Contingency Procedures

⁷⁴ See proposed Rule 11.350(a)(7).

Pursuant to proposed Rule 11.350(d)(4), when a disruption occurs that prevents the execution of the Closing Auction as set forth above, IEX proposes to apply either the Primary or Secondary Closing Auction Contingency Procedures. The proposed contingency procedures are identical 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.⁷⁵

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.

Primary Closing Contingency Procedures

⁷⁵ See, for example, Nasdaq Rule 4754(b)(8); Bats Rule 11.23(i); Arca Rule 1.1(gg).

If IEX determines to initiate the Primary Closing Auction Contingency Procedures, 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 that executable buy and sell interest exists on the Closing Auction Book. All 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 participants. If a security's IEX Official Closing Price cannot be determined by this subsection, IEX will not publish an Official Closing Price for the security and 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.

Designation of a Back-up Exchange

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, IEX shall publicly announce this determination at the earliest possible time via system status alerts and email notification directories. If the Secondary Closing Auction Contingency Procedures are implemented, IEX will designate an alternate exchange to provide an official closing price for all or a subset of IEX-listed securities. The Exchange would publicly announce the exchange designated as the alternate exchange via Trader Alert, and will confirm the designated alternate exchange via system

status alert and email notification directories at the time of announcing the implementation of Secondary Closing Auction Contingency Procedures.

Secondary Closing Contingency Procedures

If IEX determines to follow Secondary Closing Auction Contingency Procedures for one or more securities at or before 3:00 p.m., IEX will designate an alternate exchange to provide an official closing price for all or a subset of IEX-listed securities. IEX will 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. The IEX Official Closing Price will be the official closing price established for the security under the rules of the designated back-up exchange. 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 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. If there are no last sale eligible trades reported to the Consolidated Tape during the last five 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. 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. The IEX Official Closing Price will be published to the Consolidated Tape. If a security’s IEX Official Closing Price cannot be determined under this subsection, IEX will not publish an IEX Official Closing Price for

the security, and the Post-Market Session shall begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Secondary Contingency Procedures.

If IEX determines to follow Secondary Closing Auction Contingency Procedures for one or more securities after 3:00 p.m., IEX will 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. The IEX Official Closing Price will be the VWAP of the last sale eligible trades reported to the Consolidated Tape during the last five 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. If there are no last sale eligible trades reported to the Consolidated Tape during the last five 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. 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. The IEX Official Closing Price will be published to the Consolidated Tape. If a security's IEX Official Closing Price cannot be determined under this subsection, IEX will not publish an IEX Official Closing Price for the security, and the Post Market Session shall begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Secondary Contingency Procedures.

Transition to the Post-Market Session

Pursuant to proposed Rule 11.350(d)(3), LOC, MOC, and pegged orders, as well

as limit orders with a time-in-force of DAY that are not fully executed at the conclusion of the Closing Auction will be canceled immediately after the Closing Auction match. All remaining shares from Auction Eligible Orders that are not canceled by the System immediately after the Closing Auction match will be released to the Continuous Book for trading in the Post-Market Session, subject to the orders' instructions. 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.

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 pursuant to proposed Rule 11.350(e), as described further below. Following a trading halt in an IEX-listed security pursuant to Supplementary Material .01 to Rule 14.207 and proposed Rule 11.280(g)(1), (4), or (5), the Exchange will conduct a Halt Auction, as described below.

Order Entry and Cancellation Before an IPO/Halt Auction

As proposed in Rule 11.350(e)(1), the Exchange will allow Users to submit orders for potential participation in an IPO or Halt Auction during the Order Acceptance Period. Similar to Bats and Nasdaq, the Order Acceptance Period for an IPO Auction begins at the start of System Hours (i.e., 8:00 a.m.), and five (5) minutes prior to the scheduled auction match for a Halt Auction.⁷⁶ Note, however, the Exchange will not execute any orders in the applicable security prior to the auction match. All Auction Eligible Orders

⁷⁶ See Bats Rule 11.23(d)(1)(A); Nasdaq Rules 4120(c)(7)(A) and 4120(c)(8)(A). Note, Nasdaq permits Users to submit orders beginning at 4:00 a.m., the start of Nasdaq System Hours.

associated with an IPO or Halt Auction will be queued until the applicable auction match, at which time they will be eligible to be executed in the associated auction. 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 with a TIF of IOC or FOK will be rejected prior to the auction match; 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 Eligible Orders associated with an IPO or Halt Auction may be canceled or modified at any time prior to the auction match. 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. In the event the Exchange cannot complete an IPO or Halt Auction before the end of Post-Market Hours (i.e., 5:00 p.m.), all open orders in the subject security on the Order Book will be canceled.⁷⁷

For an IPO Auction, Auction Eligible Orders, as proposed, would include MOO, LOO, and market orders with a time-in-force of DAY, as well as limit orders with a time-in-force of DAY, GTX, GTT, SYS, FOK, or IOC.⁷⁸ For a Halt Auction, pursuant to proposed Rule 11.350(a)(1)(D), Auction Eligible Orders would include:

- 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;

⁷⁷ The Order Acceptance Period extensions proposed by the Exchange are substantially similar to the criteria set forth in Bats Rule 11.23(d)(2)(B) regarding the extension of the Bats Quote-Only Period.

⁷⁸ Note, limit orders with a time-in-force of IOC or FOK will be executed in the same manner as LOO orders and market orders with a time-in-force of DAY, FOK, or IOC will be executed in the same manner as MOO orders in the IPO Auction, and all unexecuted shares will be canceled immediately following the auction match.

- Limit orders with a TIF of GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- 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;
- 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;
- Market orders with a TIF of FOK or IOC received during the Order Acceptance Period within the Regular Market Session;
- 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
- Displayed portions of limit orders on the Continuous Book at the time of the halt dissemination.

IPO and Halt Auctions are not subject to “lock-in” or “lock-out” restrictions.

Pegged orders and non-displayed orders on the Continuous Book at the time of the halt dissemination will not be eligible to execute in the Halt Auction. Pegged orders submitted during the Order Acceptance Period will not be eligible to execute in the IPO or Halt Auction.

IPO and Halt Auction Process for IEX-Listed Securities

Pursuant to proposed Rule 11.350(e)(2)(A), at the beginning of the Display Only Period (i.e., thirty minutes prior to the scheduled auction match for an IPO Auction, and the start of the Order Acceptance Period for a Halt Auction), and updated every one

second thereafter until the IPO or Halt Auction match, the Exchange will disseminate IEX Auction Information via electronic means, as described below.

The Order Acceptance Period may be extended at the time of the auction match pursuant to proposed Rule 11.350(e)(2)(B)(i)-(iii) automatically for five (5) minutes in an IPO Auction when there are unmatched shares from market orders on the IPO Auction Book, or when the Indicative Clearing Price at the auction match differs by the greater of five percent (5%) or fifty cents (\$0.50) from any of the previous fifteen (15) Indicative Clearing Price disseminations, automatically during the Pre-Launch Period when the clearing price is above (below) the upper (lower) price band selected by the underwriter pursuant to proposed Rule 11.280(h)(8), until the clearing price is within such bands, or a manual extension may be implemented upon request from the underwriter at any time prior to the auction match. For a Halt Auction, pursuant to Rule 11.350(e)(2)(B)(i)-(ii), the Order Acceptance Period may be extended automatically for one (1) minute when there are unmatched shares from market orders on the Halt Auction Book, or when the Indicative Clearing Price at the auction match 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 Exchange will generally attempt to conduct an auction for corporate IPOs beginning at 10:15 a.m., or 9:30 a.m. for new issues, in accordance with the clearing price determination process, described above and as set forth in proposed Rule 11.350(e)(2)(C). Auction Eligible Orders will be ranked in accordance with IEX Auction Priority, described above and as set forth in proposed Rule 11.350(b). Auction Eligible

Orders are used to calculate the auction match price. Auction Eligible Orders matched in the IPO or Halt Auction will execute in accordance with IEX Auction Priority, described above. Specifically, as set forth in proposed Rule 11.350(e)(2)(D), 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 IPO Price or the price of the IEX Re-Opening Trade 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 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 execute in display – time priority at the IEX Official IPO Price, or the price of the IEX Re-Opening Trade. Upon completion of an IPO Auction for IEX-listed securities, the IEX Official IPO Opening Price for the security will be the price of auction, and shall be disseminated to the Consolidated Tape along with a bulk execution. Upon completion of a Halt Auction for IEX-listed securities, the IEX Re-Opening Trade for the security will be the execution that resulted from the Halt Auction. If a security does not have a Halt Auction (e.g., there is insufficient crossing interest to conduct a Halt Auction), no Halt Auction will occur, and the transition to continuous trading shall be conducted pursuant to proposed Rule 11.350(e)(3), described below.

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 pursuant to proposed Rule 11.350(c)(2)(D) or (E), as applicable. If there is insufficient crossing interest to complete the Halt Auction, the transition to the Regular Market Session shall be conducted pursuant to proposed Rule 11.350(e)(3), described below, no auction will occur, and the IEX Official Opening Price will be the Initial Last Sale Eligible Trade.⁷⁹ If a security remains halted at the end of Regular Market Hours, no Closing Auction will occur, and all On-Open orders, On-Close orders, pegged orders, market orders, and limit orders with a time-in-force of DAY will be canceled at the conclusion of Regular Market Hours.⁸⁰

Contingency Procedures

When a disruption occurs that prevents the execution of an IPO or Halt Auction as set forth above, IEX shall apply the IPO or Halt Auction Contingency Procedures as set forth in proposed Rule 11.350(e)(4). Specifically, for an IPO Auction, IEX will publicly announce that the Order Acceptance Period will be reset for the subject security, at which point IEX will cancel all orders on the Order Book, and shall disseminate a new scheduled time for the Order Acceptance Period and auction match. 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.

Transition to Continuous Trading

⁷⁹ See proposed Rule 11.350(a)(16).

⁸⁰ See proposed Rule 11.350(d)(2)(D). Note, in the event the Exchange cannot complete a Halt Auction before the end of Post-Market Hours (i.e., 5:00 p.m.), all open orders in the subject security on the Order Book will be canceled pursuant to proposed Rule 11.350(e)(1)(D).

Under proposed Rule 11.350(e)(3), 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. 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. All remaining shares from Auction Eligible Orders that are not canceled by the System immediately after an IPO or Halt Auction match and Auction Ineligible Orders will be released to the Continuous Book for execution in the Pre-Market, Regular Market, or Post-Market Session, as applicable, subject to the orders instructions. 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.

Volatility Auction

IEX will conduct a Volatility Auction pursuant to proposed Rule 11.350(f) to reopen an IEX-listed security after such security is subject to an LULD trading pause pursuant to IEX Rule 11.280(e). Furthermore, as described below, IEX will close IEX-listed securities using a Volatility Auction under proposed Rule 11.350(f)(3) when an IEX-listed security is subject to an LULD trading pause 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 the LULD Plan would otherwise be extended by the Exchange to a time after the Closing Auction Lock-in Time. As noted above in the description of the proposed Volatility Auction Collars, the

proposed Volatility Auction functionality is substantially similar to the functionality proposed by Bats, Nasdaq, and NYSE Arca for conducting an auction to resume a security subject to an LULD trading pause. Furthermore, the proposed Volatility Auction functionality is 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 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.⁸¹

Order Entry and Cancellation for a Volatility Auction

As set forth in proposed Rule 11.350(f)(1), the Exchange will allow Users to submit orders for potential participation in a Volatility Auction during the Order Acceptance Period, which is generally five (5) minutes, and begins immediately after the pause dissemination. 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

⁸¹ See 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) (File No. SR-NYSEArca-2016-130) and Securities and Exchange Act Release No. 34-79410; File No. 4-631 (Notice of Filing of the Twelfth Amendment to the National Market System Plan to Address Extraordinary Market Volatility).

Session.⁸²

The Exchange will not execute any orders in the applicable security prior to the auction match. Auction Eligible Orders submitted during the Order Acceptance Period will join the Volatility Auction Book and be queued until the Volatility 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 with a TIF of IOC or FOK will be rejected prior to the auction match; 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 Eligible Orders associated with a Volatility Auction may be canceled or modified at any time prior to the auction match.⁸³ Auction Eligible Orders, as proposed, include the following.⁸⁴

- Limit orders with a TIF of GTX, GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- Limit orders with a TIF of DAY received during the Order Acceptance Period within Regular Market Hours;
- Market orders with a TIF of FOK, IOC, or DAY received during the Order Acceptance Period within Regular Market Hours; and
- Displayed portions of limit orders on the Continuous Book at the time of the pause dissemination.

⁸² See proposed Rule 11.350(f)(1)(A).

⁸³ See proposed Rule 11.350(f)(1)(B)-(C).

⁸⁴ See proposed Rules 11.350(a)(1) and 11.350(a)(2). Note, when an IEX-listed security is paused 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 would otherwise be extended by the Exchange to a time after the Closing Auction Lock-in Time, *i.e.*, when a Volatility Auction is determining the IEX Official Closing Price pursuant to proposed Rule 11.350(f)(3), the Auction Eligible Orders for the Volatility Auction include MOC and LOC orders.

Auction Eligible Orders associated with a Volatility Auction may be canceled or modified at any time prior to execution. Volatility Auctions are not subject to “lock-in” or “lock-out” restrictions. Pegged orders and non-displayed orders on the Continuous Book at the time of the pause dissemination will not be eligible for execution in the Volatility Auction. Pegged orders submitted during the Order Acceptance Period will not be eligible for execution in the Volatility Auction.

Volatility Auction Process for IEX-Listed Securities

Pursuant to proposed Rule 11.350(f)(2)(A), at the beginning of the Display Only Period (i.e., the start of the Order Acceptance Period), and updated every one second thereafter, the Exchange will disseminate IEX Auction Information via electronic means, as described below.

Pursuant to proposed Rule 11.350(a)(29)(C), the Order Acceptance Period for a Volatility Auction shall commence immediately after a trading pause dissemination. 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)(ii) 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. In addition, under proposed Rule 11.350(f)(2)(C)(iii), the Order Acceptance Period will be

extended automatically to the end of the Regular Market Session where an IEX-listed security is paused 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 would otherwise 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 proposed Rule 11.350(f)(3).

Under proposed Rule 11.350(f)(2)(D)(ii), 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”). 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)(C)(i) or (C)(ii) described above (each an “Additional Extension Period”) until a Volatility Auction occurs. The Exchange shall attempt to conduct a Volatility Auction every one 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., ten (10) minutes prior to the end of the Regular Market Session), the Volatility Auction shall be conducted pursuant to proposed Rule 11.350(f)(3), described below. 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 proposed Rules 11.350(a)(32) and 11.350(a)(31), respectively.⁸⁵ At the beginning of the Initial Extension Period the upper (lower) Volatility Auction Collar shall be increased (decreased) by five (5) percent in the

⁸⁵ See proposed Rule 11.350(f)(2)(D)(i).

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, rounded to the nearest passive MPV. At the beginning of each Additional Extension Period pursuant to proposed Rule 11.350(f)(2)(C)(ii), the Volatility Auction Collar shall be widened as described in this paragraph, in the same manner as the Initial Extension Period.

The Exchange will attempt to conduct a Volatility Auction for all IEX-listed securities to resume trading following an LULD trading pause, in accordance with the clearing price determination process described above and set forth in proposed Rule 11.350(f)(2)(E). 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). 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 pursuant to 11.350(f)(2)(C)(i).

Auction Eligible Orders matched in the Volatility Auction will execute in accordance with IEX Auction Priority, described above. Specifically, as set forth in proposed Rule 11.350(f)(2)(F), market orders have priority over all other Auction Eligible Orders, and to the extent there is executable contra side interest, such market orders will execute at the price of the IEX Re-Opening in accordance with 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 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 execute in display – time priority at the price of the IEX Re-Opening Trade. Upon completion of a Volatility Auction, the IEX Re-opening Trade for the security will be the execution that resulted from the Volatility Auction. If a security does not have a Volatility Auction (e.g., there is insufficient crossing interest to conduct a Volatility Auction), the transition to continuous trading shall be conducted pursuant to proposed Rule 11.350(f)(2)(G), described below, and no Volatility Auction will occur. 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.

Volatility Auction Contingency Procedures

When a disruption occurs that prevents the execution of a Volatility Auction as set forth above, IEX shall apply the Volatility Auction Contingency Procedures set forth in proposed Rule 11.350(f)(2)(H). Specifically, 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.

Transition to Continuous Trading

Pursuant to proposed Rule 11.350(f)(2)(G), 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. All remaining shares from Auction Eligible Orders and Auction Ineligible Orders that are not canceled by the System immediately after a Volatility Auction match will be released to the Continuous Book for trading in the Regular Market Session, subject to the orders' instructions. 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.

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 pursuant to proposed Rule 11.350(f)(3).

Order Entry and Cancellation Before Closing with a Volatility Auction

Pursuant to proposed Rule 11.350(f)(3)(A), 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. MOC and LOC orders queued for the Closing Auction will be incorporated into the Auction Book for the Volatility Auction. 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. Auction Eligible Orders associated with a Volatility Auction may be canceled or modified at any time prior to the auction match. In the event the Exchange cannot complete a Volatility Auction before the end of Post-Market Hours (i.e., 5:00 p.m.), all open orders in the subject security on the Order Book will be canceled.⁸⁶

Process for Closing with a Volatility Auction

Under proposed Rule 11.350(f)(3)(B)(i), 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. The Exchange shall execute the Volatility Auction to determine the IEX Official Closing Price of a security in accordance with the clearing price determination process described above and set forth in proposed Rule 11.350(f)(3)(B)(ii). If the Volatility Auction price established by

⁸⁶ See proposed Rule 11.350(f)(3)(A)(v).

proposed Rule 11.350(f)(3)(B)(ii) 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. If the Volatility Auction match price 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).

Auction Eligible Orders matched in the Volatility Auction will execute in accordance with IEX Auction Priority, described above. Specifically, as set forth in proposed Rule 11.350(f)(3)(B)(iii), 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. The IEX Official Closing Price will be the price of the Volatility Auction. If there is insufficient trading interest (i.e., no crossing 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 proposed Rule 11.350(f)(3)(C), described 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.

Contingency Procedures for Closing with a Volatility Auction.

Under proposed Rule 11.350(f)(3)(D), 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 proposed Rule 11.350(d)(4).

Transition to Post-Market Session.

Pursuant to proposed Rule 11.350(f)(3)(C), 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. 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. 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.

Short Sale Order Handling

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.⁸⁷ Specifically, 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 at the time of the auction match (i.e., the time of execution of orders in the auction), then such short sale orders not marked short exempt and all other short sale orders not marked short exempt with lesser priority shall not receive an execution in the auction match.

In addition, the Exchange notes that short sale orders not marked short exempt for a covered security subject to the Short Sale Price Test of Rule 201 of Regulation SHO submitted to the Continuous Book are subject to Rule 11.190(h)(4) (Short Sale Price Sliding), and will therefore not be displayed at a price at or below the current NBB. Furthermore, short sale orders submitted to the Auction Book that are not marked short exempt for a covered security subject to the Short Sale Price Test of Rule 201 of Regulation SHO submitted to the Auction Book are not displayed, and therefore will not be displayed at a price at or below the current NBB. In the case of an IPO Auction, the security will never be subject to the Short Sale Price Test of Rule 201 of Regulation SHO

⁸⁷ See Rule 201(b)(1) of Regulation SHO.

since there will have been no prior trading.⁸⁸

Accordingly, when the Short Sale Price Test of Rule 201 of Regulation SHO is in effect during an auction for a covered security, a short sale Auction Eligible Order not marked short exempt with a resting (as defined in proposed Rule 11.350(b)(1)(A)(i)) price at or below the auction match price will not participate (in whole or in part) in the clearing price determination or receive an execution (in whole or in part) in the auction match (despite such orders marketability against the auction match price) if the short sale order's participation in the clearing price determination of the auction would push the auction match price to a price at or below the current NBB price. The following describes the execution priority for auctions in a security when the Short Sale Price Test pursuant to Rule 201 of Regulation SHO is in effect:

- Auction Eligible Order that are market orders, including MOO and MOC orders, to buy, sell long, or sell short that do not push the auction match price to a price at or below the current NBB, will execute in time priority.
- All other Auction Eligible Orders priced more aggressively than the auction match price to buy, sell long, or sell short that do not push the auction match price to a price at or below the current NBB, will execute in price – display – time priority.
- All other Auction Eligible Orders priced equal to the auction match price to buy, sell long, or sell short that do not push the auction match price to a price at or

⁸⁸ Note, IPO Auctions are used to open securities that are the subject of a new security offering pursuant to Section 6 of the Securities Act of 1933 on the first day of trading on the Exchange. Pursuant to question 3.2 of the [Responses to Frequently Asked Questions Concerning Rule 201 of Regulation SHO](#), on the first day of trading of a covered security on any listing market, pursuant to a new security offering, there will not be a closing price for the covered security for the prior day. Thus, Rule 201 will not apply to such covered securities until the second day of trading.

below the current NBB, will execute in display – time priority.

Proposed Rule 11.350(h) states that whenever in the judgment of the Exchange, the interests of a fair and orderly markets so require, the Exchange may adjust the timing of or suspend the auctions set forth in this IEX Rule with prior notice to Users. The Exchange believes that reserving qualified discretion to adjust the timing or suspend IEX Auctions in the interest of fair and orderly markets is inherently consistent with the protection of investors and the public interest. The Exchange believes that this discretion is necessary to give the Exchange latitude to adapt to quickly changing, volatile market conditions that may negatively impact market participants. The Exchange further notes that Bats Rule 11.23(f) reserves identical discretion, stating “[w]henever, in the judgment of [Bats], 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 Rule with prior notice to Users”.

Proposed Rule 11.350(i) states that 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. Each of the orders executed pursuant to the Opening Auction, Closing Auction, IPO Auction, Halt Auction, and Volatility Auction are by definition a single priced opening, re-opening, or closing transactions, and therefore meet the letter and spirit of Rule 611(B)(3) of Regulation NMS and section VI(D)(6) of the plan to Implement a Tick Size Pilot Program, and are consistent with the protection of investors

and the public interest.

IEX Auction Information

In addition to the amendments to IEX Rule 11.350 to govern Exchange Auctions, the Exchange proposes to amend IEX Rule 11.330 to describe the addition of IEX Auction Information to recipients of the IEX Top of Book Quote and Last Sale feed (“TOPS”), the IEX Depth of Book and Last Sale feed (“DEEP”), as well as the IEX Data Platform, which is available on the Exchange’s public website. TOPS, DEEP, and the IEX Data Platform is available to Exchange data recipients⁸⁹ free of charge.

As defined in proposed Rule 11.350(a)(9), IEX Auction Information contains the current status of price, size, imbalance information, auction collar information, and other relevant information related to auctions conducted by the Exchange, described below.⁹⁰ IEX intends to disseminate substantially the same information through the Consolidated Quotation System operated by the Consolidated Tape Association (“CTA”) SIP, pending approval by the Operating Committee of the CTA. Following such approval, IEX will amend Rule 11.330 to reflect this additional means of dissemination.

IEX Auction Information as proposed is substantially similar to the Bats Auction Feed, and the Nasdaq Net Imbalance Order Indicator (NOII).⁹¹ However, consistent with the commitment made by each primary listing exchange set forth in Amendment 12 to the

⁸⁹ Exchange data recipients include Members of the Exchange as well as non-Members that have entered into an agreement with the Exchange that permits them to receive Exchange data.

⁹⁰ The Exchange does not charge fees for any of its data feeds or for ports used for receipt of data from the Exchange.

⁹¹ See Bats Rule 11.22(i), as well as the [Bats Auction Feed Specification](#). See also Nasdaq Rules 4752(a)(2), 4753(a)(3), and 4754(a)(7), as well as the Nasdaq [Net Order Imbalance Indicator User Guide](#).

Limit Up-Limit Down Plan, the Exchange is proposing to include the applicable auction collar values and the reference price from which the collar is derived, the scheduled time of the auction, and the number of auction extensions, if any. Furthermore, the Exchange will disseminate IEX Auction Information every one second, which is a more frequent interval than auction information is disseminated by Bats and Nasdaq, but less frequent than NYSE Arca.⁹² IEX Auction Information will contain the following data elements:

- **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, 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

⁹² See Bats Rules 11.23(b)(2)(A), 11.23(c)(2)(A), 11.23(d)(2)(A), and 11.23(e)(2)(A), which state that Bats auction information will be disseminated in 5 second intervals; See Nasdaq Rule 4752(d)(1), which states that an Order Imbalance Indicator shall be disseminated every five seconds between 9:28 a.m. and the Nasdaq Opening Cross, Nasdaq Rule 4754(b)(1), which states that an Order Imbalance Indicator shall be disseminated every five seconds between 3:50 p.m. and the Nasdaq Closing Cross, and Nasdaq Rule 4753(b)(1), which states that an Order Imbalance Indicator shall be disseminated every five seconds at the beginning the Display Only Period for a Nasdaq Halt Cross and continuing through the resumption of trading; See Arca Rule 7.35(a)(4)(A), which states that Auction Imbalance Information is updated at least every second, unless there is no change to the information, as well as the [XDP Integrated Feed Client Specification version 1.16b](#), Section 13.2 at 27, which states that Auction Imbalance Information is published in real time.

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.

- 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.
- 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.
- Imbalance Side: The buy/sell direction of any imbalance at the time of dissemination.
- 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.
- 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.”
- Collar Reference Price: Opening/Closing Auction Collar Reference Price for the Opening and Closing Auctions. Volatility Auction Collar Reference Price for the Volatility Auction.
- 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.
- 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.

- Scheduled Auction Time: The projected time of the auction match.
- Extension Number: The total number of automatic Order Acceptance Period extensions an IPO, Halt, or Volatility Auction has received.

Note that the Reference Price, Indicative Clearing Price, and Auction Book Clearing Price will show the same value during an IPO or Halt Auction since there is no Continuous Book and no applicable auction collar. In addition, if there is a market order imbalance in an IPO or Halt Auction, the Reference Price, Indicative Clearing Price, and Auction Book Clearing Price will all have a value of zero, indicating that an auction match price cannot be calculated, the Imbalance Side will indicate the side of the market order imbalance, and the Imbalance Shares will indicate the size of the market order imbalance. Lastly, if there is a market order imbalance in an Opening or Closing Auction, the Auction Book Clearing Price will all have a value of zero. IEX Auction Information will be disseminated every one second between the Lock-in Time and the auction match for Opening and Closing Auctions, and during the Display Only Period for IPO, Halt, and Volatility Auctions.

The fields proposed for dissemination in IEX Auction Information are strategically tailored to the IEX Auction model, and were developed after informal discussion with various Members, as well as reference to existing fields offered in auction data provided by other exchanges, including the Nasdaq NOII, and the Bats Auction Feed. Specifically, the Indicative Clearing Price and Auction Book Clearing Price are substantially similar to the Nasdaq “Near Clearing Price” and “Far Clearing Price” as well as the Bats “Indicative Price” and “Auction Only Price”, and should

therefore be familiar to Members that trade in the Nasdaq and Bats auctions.⁹³ Similarly, the proposed Reference Price field is substantially similar to the Reference Price utilized by Bats, and Nasdaq.⁹⁴

Moreover, as proposed, the Exchange will utilize orders on the Auction Book to calculate the Paired Shares, Imbalance Shares, and Imbalance Side fields included in IEX Auction Information (i.e., both displayed and non-displayed orders on the Continuous Book are not accounted for when determining the number of shares that can be matched or remain unexecuted at the current Reference Price). The proposed Paired Shares, Imbalance Shares, and Imbalance Side fields are designed to enhance the reliability of the fields disseminated in IEX Auction Information, and mitigate potential gaming scenarios that could negatively impact Users trading in IEX Auctions.

Specifically, the fields as proposed are designed to avoid disseminating Paired Shares and Imbalance Shares based on orders on the Continuous Book that may be fleeting. Orders on the Continuous Book are not subject to lock-in or lock-out restrictions, and may therefore be canceled or executed at any time before the auction match. Including potentially fleeting orders in the Paired Shares and Imbalance Shares fields could have negative implications for price discovery leading up to the auction match by discouraging Users from offsetting Imbalance Shares, leaving unmatched shares on the Auction Book at the time of the match when Continuous Book orders that were ostensibly offsetting the

⁹³ See the [Bats US Equities Auction Process](#) specification at 8, as well as the Nasdaq [Net Order Imbalance Indicator User Guide](#) at 4-5.

⁹⁴ See the [Bats US Equities Auction Process](#) specification at 7, and 5, which define the Reference Price as the price within the Reference Price Range that maximizes the number of shares to be executed, minimizes the imbalance, and minimizes the distance to the Volume Based Tie Breaker. See also e.g., Nasdaq Rule 4754(a)(7)(A), which defines the Current Reference Price for the Nasdaq closing cross.

Imbalance Shares (and contributing to Paired Shares) are canceled or executed prior to the auction.

Furthermore, as proposed, the Paired Shares field is designed to allow Users to determine the likelihood of their Eligible Auction Orders being executed in the auction. Specifically, because Paired Shares only reflects orders that are locked in to the auction (and therefore will be eligible for execution only in the auction), Users can assess their chances of receiving an execution in the auction match based on the marketability of their order against the Indicative Clearing Price, and the number of Paired Shares against their order size. For example, if the final Indicative Clearing Price is \$10.00, and IEX has 100,000 shares paired, a User that has a LOC order to buy 10,000 shares with a limit price of \$10.50 has a high likelihood of receiving a 10,000 share execution in the Closing Auction. To continue the example and highlight the positive effects of the proposed functionality on price discovery, if the Indicative Clearing Price were to have moved away from the participant (to \$10.50, for example), such User's chances of receiving an execution in the auction are diminished because the auction match price has moved to the order's limit price, and such order is "locked-in" (i.e., ineligible for modification or cancelation). Accordingly, Users are incentivized to express their full limit on Auction Eligible Orders in order to increase the likelihood of receiving an execution in the Opening or Closing Auction at a price they believe reflects the fundamental value of the security. This truthful representation of full limit prices is designed to enhance price discovery leading into the auction match.

The Exchange further notes that as proposed, the Paired Shares, Imbalance Shares, and Imbalance Side fields are substantially similar to the "Reference Buy Shares" and

“Reference Sell Shares” fields currently offered by Bats on the Bats Auction Feed, which provide the number of shares associated with buy (sell) side Eligible Auction Orders (which are on the Bats auction book, as defined in Bats Rule 11.23(a)(8)) that are priced equal to or greater (less) than the Reference Price. However, rather than market participants deriving the number of Paired Shares, Imbalance Shares, and the Imbalance Side, the Exchange is proposing to derive and disseminate each value independently.⁹⁵ Moreover, Paired Shares, Imbalance Shares, and Imbalance Side fields are substantially similar to the Paired Shares, Imbalance Shares, and Imbalance Side fields that are currently offered by Nasdaq in the NOII.⁹⁶

For example, in the case of a Closing Auction if the Continuous Book were to contain the following orders at the Lock-in Time, and the NBBO were to be \$19.99 x \$20.00:

Buy Orders		Sell Orders	
Size	Price	Size	Price
4000	<u>19.99</u>	500	<u>20.00</u>
3000	19.98	5000	20.01
2000	19.97	3000	20.02
10000	19.96	10000	20.04

And the Closing Auction Book at the time were to contain the following orders:

⁹⁵ Note, paired shares would be equal to the lesser of Reference Buy Shares and Reference Sell Shares; Imbalance Shares would be equal to the absolute value of Reference Sell Shares minus Reference Buy Shares; and the side of the greater between Reference Buy Shares and Reference Sell Shares is the imbalance side.

⁹⁶ See the Nasdaq [Net Order Imbalance Indicator User Guide](#) at 4-5.

Buy Orders		Sell Orders	
Size	Price	Size	Price
8000	<i>Market</i>	5000	<i>Market</i>
3000	20.02	3000	19.98
1000	19.99	1000	19.98
4000	19.97	1000	20.00
500	19.97	1000	20.02

IEX would disseminate the following IEX Auction Information:

- Reference Price: \$20.00
- Paired Shares: 10,000
- Imbalance Shares: 1,000
- Imbalance Side: Buy
- Indicative Clearing Price: \$20.01
- Auction Book Clearing Price: \$20.02
- Collar Reference Price: \$19.995
- Lower Auction Collar: \$18.00
- Upper Auction Collar: \$21.99
- Scheduled Auction Time: 16:00:00
- Extension Number: 0

Trading Halts and LULD Plan

Exchange Rule 11.280 governs trading halts due to Extraordinary Market Volatility and pursuant to the LULD Plan. In order to address the obligations of a listing market under the LULD Plan, the Exchange proposes several amendments to IEX Rule 11.280. First, the Exchange proposes to add provisions governing the manner in which auction

orders would be handled during an LULD trading pause, and how trading would be re-opened following such pause. As proposed, IEX Rule 11.280(e)(5)(F) provides that Auction Eligible Orders on the Auction Book are not price slid or canceled due to LULD price bands. This provision is substantially similar to Nasdaq Rule 4120(a)(12)(E)(5). In addition, the Exchange proposes to add paragraph (e)(7) to 11.280 to provide that the Exchange may declare an LULD trading pause for a NMS Stock listed on the Exchange during a straddle state. This provision is identical to BATS Exchange Rule 11.18(e)(7). The Exchange also proposes a clarifying change to the title to IEX Rule 11.280 to reference the Limit Up-Limit Down Plan. The Exchange believes that the revised rule title, will provide greater clarity to Members and other market participants. Lastly, proposed Rule 11.280(e)(8) provides that following a trading pause, the Exchange shall re-open trading in IEX-listed securities pursuant to the procedures set forth in IEX Rule 11.350(f), and 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. This provision is substantially similar to Bats Rule 11.18(e)(8), and is consistent with the commitment made by each primary listing exchange set forth in Amendment 12 to 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 reopening's following a Trading Pause.

The Exchange also proposes to add new paragraphs (g) and (h) to IEX Rule 11.280 governing the initiation and termination of trading halts by IEX in IEX-listed securities. Proposed paragraphs (g) and (h) to IEX Rule 11.280 are complementary to each other, and to proposed Rule 11.280(e), in that paragraph (g) sets forth the conditions under

which the Exchange can initiate trading halts in circumstances in which IEX deems it necessary to protect investors and the public interest. Furthermore, such trading halts shall be initiated and terminated pursuant to the procedures set forth in proposed paragraph (h), which sets for the various procedures the Exchange will follow to initiate and terminate trading halts, including the procedures related to IPO's on the Exchange for IEX-listed securities.

As proposed, new paragraph (g) provides that in circumstances in which IEX deems it necessary to protect investors and the public interest, IEX may halt trading in an IEX-listed security, pursuant to the procedures set forth in new paragraph (h), under the following circumstances:

- IEX Rule 11.280(g)(1) provides that the Exchange may halt trading on IEX of an IEX-listed security to permit the dissemination of material news,⁹⁷ 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 proposed Rule 11.280(g)(2). Consistent with the practices of other listing markets, IEX expects that when a listed company releases material news during the Regular Market Session, the Exchange will typically halt trading temporarily to ensure full dissemination of the news, generally referred to as a regulatory trading halt. However, and consistent with NYSE and Nasdaq rules, if an IEX-listed company were to issue material news during the Pre-Market Session the Exchange would only halt trading if the listed company requests that trading in its listed securities be halted pending dissemination of a public announcement. The Exchange believes that because of lower volume of trading generally during the Pre-Market Session, a listed company is best positioned to determine whether a trading halt is

⁹⁷ The Exchange considers material news to be any news would reasonably be expected to affect the value of a company's securities or influence investors' decisions.

appropriate given the news it intends to release.⁹⁸ This approach is comparable to the rules of the NYSE and Nasdaq.⁹⁹ When the Exchange implements a regulatory trading halt in an IEX-listed security, trading is halted on all market centers to ensure full dissemination of the news to investors.

- IEX Rule 11.280(g)(2) provides that IEX 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. This provision is designed to prevent trading on IEX in a security which is pending disclosure and dissemination of material information so that all market participants have equal access to such information prior to making a trading decision. The provision is also consistent with the rules of other exchanges.¹⁰⁰
- IEX Rule 11.280(g)(3) provides that IEX halt trading on IEX of 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 (an “operational trading halt”). Further, IEX may halt trading on IEX 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. Unlike with a regulatory trading halt, if an operational trading halt is in effect, IEX Members may commence quotations and trading otherwise than on IEX at any time following initiation of the operational trading halt, without regard to whether IEX has terminated the trading halt on IEX. These provisions are substantially similar to Nasdaq Rule 4120(a)(3) and are designed to enable IEX to provide optionality to IEX members with respect to operational trading halts.
- IEX Rule 11.280(g)(4) provides that IEX may halt trading in an American

⁹⁸ Pursuant to Exchange Rule 14.207, listed companies are required to provide notice to the Exchange’s Regulation Department at least ten minutes prior to release of specified material information if such release is made during System Hours (including the Pre-Market, Regular and Post-Market Sessions).

⁹⁹ See Section 202.06 of the NYSE Listed Company Manual and Nasdaq Rule 4120(a)(1).

¹⁰⁰ See, e.g., Nasdaq Rule 4120(a)(2).

Depository 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. This provision is designed to prevent trading on IEX in a security which is pending disclosure and dissemination of material information so that all market participants have equal access to such information prior to making a trading decision. The provision is also consistent with Nasdaq Rule 4120(a)(4).

- IEX Rule 11.280(g)(5) provides that IEX may halt trading in an IEX-listed security when IEX requests from the issuer of such security, issuer information relating to material news, the issuer’s ability to meet IEX listing qualification requirements or any other information. This provision, which is substantially similar to Nasdaq Rule 4120(a)(5) is designed to assure that market participants do not effect transactions in a security when, in the Exchange’s opinion, there is uncertainty as to whether all material information regarding the security, including its ability to meet listing requirements, has been fully disclosed to market participants.
- 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 caused by the misuse or malfunction of an electronic quotation, communication, reporting or execution system operated by, or linked to, IEX. This provision also provides that IEX may halt a security traded on IEX on an unlisted trading privileges basis that is subject to extraordinary market activity, if, after consultation with another national securities exchange or FINRA, IEX believes that such activity is caused by a misuse or malfunction of an electronic quotation, communication, reporting or execution system operated by, or linked to such other exchange or FINRA, as applicable. This provision is substantially similar to Nasdaq Rule 4120(a)(6).
- IEX Rule 11.280(g)(7) provides that IEX may halt trading in a security that is the

subject of an IPO on IEX. This provision, which is substantially similar to Nasdaq Rule 4120(a)(7), is designed to provide flexibility to enable a trading halt in the event of an unexpected system or other issue, or otherwise in connection with the start of trading in an IPO.

As noted above, proposed paragraph (h) provides the procedures for initiating and terminating a trading halt and is substantially similar to Nasdaq Rule 4120(c). As proposed, subparagraphs (h)(1), and (h)(2) provide that 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 Rule 14.207(b)(1) and directly to IEX's Regulation Department in the manner specified by IEX. Paragraph (h)(3) provides that, upon receipt of the information from 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.

Paragraph (h)(4) provides that should IEX determine that a basis exists under IEX Rule 11.280(g) or (e) for initiating a trading halt or LULD trading pause, the commencement of the trading halt or pause will be effective at the time specified by IEX in a notice posted on a publicly available IEX website. IEX would also effectuate halt notices through the Securities Information Processor ("SIP"). The Exchange notes that during any trading halt or pause for which a Halt Auction or Volatility Auction under IEX Rules 11.350(e) or (f), respectively, will not occur, orders entered during the trading halt or pause will not be accepted. Paragraph (h)(5) provides that trading in a halted security shall resume at the time specified by IEX in a notice posted on a publicly available IEX website. As with initiation of a trading halt, IEX will also effectuate

resumption notices through the SIP. These provisions are substantially similar to Nasdaq Rule 4120(c)(4) and (5), except that IEX will not accept orders with instructions to route to another exchange during any trading halt or pause for which a Halt of Volatility Auction under IEX Rules 11.350(e) or (f) will not occur.¹⁰¹

Paragraph (h)(6) specifies the process for trading halts initiated under paragraph (g)(6) based on the misuse or malfunction of an electronic quotation, communication, reporting, or execution system that is not operated by IEX. In such a situation, 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 trading halt initiated under paragraph (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. This provision is substantially similar to Nasdaq Rule 4120(c)(6).

Paragraph (h)(7) specifies that a trading halt or pause in IEX-listed securities, initiated under IEX Rule 11.280(e)(2), (7) or (g)(1), (4), or (5) shall be terminated when

¹⁰¹ See Nasdaq Rule 4120(c)(4)(B).

IEX releases the security for trading at the conclusion of the Halt or Volatility Auction pursuant to IEX Rule 11.350(e) or (f), as applicable.

Paragraph (h)(8) sets forth the process for terminating a trading halt initiated in a security that is the subject of an IPO, pursuant to IEX Rule 11.280(g)(7).¹⁰² As proposed, the trading halt shall be terminated when IEX releases the security for trading and the following conditions are satisfied:

- Users may enter orders in that security beginning at the start of the Order Acceptance Period (generally 8:00 a.m.) which will be accepted and entered into the System;
- 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 and IEX will begin to disseminate IEX Auction Information via electronic means;
- 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 will end and the security will be released for trading when the requirements of Rule 11.350(e)(2) are satisfied, and the following conditions are met:
 - 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:
 - The System must determine that all market orders will be executed in the IPO Auction; and
 - the security must pass the price validation test.¹⁰³

¹⁰² The provisions are substantially similar to Nasdaq Rule 4120(c)(8) except that IEX would provide a 30-minute Display Only Period, rather than the 15-minute period that Nasdaq provides, in order to increase transparency and price discovery.

¹⁰³ As specified in Rule 11.280(h)(8)(c)(1), the validation test is as follows: Prior to the conclusion of the Pre-Launch Period, the underwriter shall select price bands for

The failure to satisfy the above 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.

Finally, paragraph (h)(9) provides that 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

purposes of applying the price validation test. Under the price validation test, the System compares the Indicative Clearing Price approved by the underwriter under proposed Rule 11.280(h)(8)(A) with the actual price calculated by the IPO Auction. If the actual price calculated by the IPO Auction differs from the Indicative Clearing Price 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 actual price may not exceed the Indicative Clearing Price approved by the underwriter under proposed Rule 11.280(h)(8)(A)) and a lower price band (*i.e.*, an amount by which the actual price may not be lower than the Indicative Clearing Price approved by the underwriter under proposed Rule 11.280(h)(8)(A)). 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 market participants 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.

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 IPO. This provision is substantially similar to Nasdaq Rule 4120(c)(9).

b. Statutory Basis

IEX believes that the proposed rule change is consistent with the provisions of Section 6(b)¹⁰⁴ of the Act in general, and furthers the objectives of Sections 6(b)(5)¹⁰⁵ of the Act, in particular, in that it is designed to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in facilitating transactions in securities, to remove impediments to and perfect the mechanism of a free and open market and a national market system and, in general, to protect investors and the public interest. IEX believes that operation of Exchange auctions for securities listed on the Exchange will assist in the price discovery process and help to ensure a fair and orderly market for securities listed on the Exchange. In this regard, the proposed rule change is integral to its operation of a listing market pursuant to rules already approved by the Commission.¹⁰⁶ The existing U.S. exchange listing market for operating companies is essentially a duopoly of Nasdaq and NYSE. As of March 17, 2017 there were 4,767 operating companies listed on U.S. securities exchanges. All but 203, which are listed on NYSE's affiliate NYSE MKT, are listed on NYSE or Nasdaq. IEX believes that to the extent IEX's listing program is successful, it will provide a competitive

¹⁰⁴ 15 U.S.C. 78f.

¹⁰⁵ 15 U.S.C. 78f(b)(5).

¹⁰⁶ See Securities Exchange Act Release No. 34-78101 at 47 (June 17, 2016), 81 FR 41142 (June 23, 2016) (File No. 10-222).

alternative to the existing duopoly, which will thereby benefit issuers and investors, remove impediments to and perfect the mechanism of a free and open market and a national market system, consistent with the protection of investors and the public interest. Each of the existing listing markets offer auctions similar to the proposed Opening, Closing, IPO, Halt and Volatility auctions for IEX-listed securities, and the Exchange believes that offering such auctions is essential for operation of a listing market. Accordingly, the Exchange believes that the proposal will allow the Exchange to provide companies with another listing option, thereby promoting the aforementioned principles and purposes of Section 6(b)(5)¹⁰⁷ of the Act. For the same reasons, the Exchange believes that the proposal is also designed to support the principles of Section 11A(a)(1)¹⁰⁸ of the Act in that it is designed to promote fair competition among brokers and dealers and among exchange markets by offering a new listing market to compete with the existing Nasdaq and NYSE duopoly.

IEX Auctions, along with our market, are designed to incentivize and enable a broad range of market participants to enter trading interest for potential participation in the auctions. First, IEX does not impose membership, connectivity, or market data fees, in contrast to Nasdaq and NYSE, so there are no expensive barriers to entry for participation in the IEX Auctions. In addition, as proposed, IEX Auctions will utilize a simple and transparent price – display – time execution priority. Moreover, all Members are permitted to enter any type of Auction Eligible Order and there are no privileged participants (such as NYSE designated market makers and floor brokers) who receive

¹⁰⁷ 15 U.S.C. 78f(b)(5).

¹⁰⁸ 15 U.S.C. 78k-1(a)(1).

enhanced priority, access to special order types, or receive information not available to other market participants.¹⁰⁹ IEX believes that this “open access” design will result in auctions that attract meaningful trading interest that will enable robust price discovery, consistent with the protection of investors and the public interest, and in alignment with issuers’ interests.

With respect to the auction design, as described more fully below, the Exchange believes that the proposed rule change provides an auction methodology that will be a transparent, efficient, and robust process to aggregate trading interest submitted by a broad range of market participants to be matched at a single clearing price, consistent with the protection of investors and the public interest and in alignment with issuers’ interests. As proposed, the IEX Auction rules are similar to auction rules of Nasdaq, NYSE, Arca, and Bats (each of which have been approved by the Commission and found to be consistent with the protection of investors and the public interest) with several differentiators designed to enhance price discovery, transparency and participation, each of which are discussed below.

As discussed in the Purpose Section, after informal discussions with various Members, the Exchange believes that excluding all non-displayed orders (including pegged orders) that were on the Continuous Book at the time of a halt dissemination from participating in the Halt Auction is consistent with the protection of investors and the

¹⁰⁹ See NYSE Rule 72(c)(ii) which provides that Floor broker and designated market makers have enhanced priority for the purpose of share allocation in an execution as compared to orders collectively represented in NYSE systems. See also NYSE Rule 70 and Supplementary Material .25 to NYSE Rule 123C describing the availability of discretionary e-Quotes or “d-Quotes” to Floor brokers. See also NYSE Rule 123C(6)(b) which provides that between 2:00 p.m. and 3:45 p.m. Floor brokers receive an imbalance data feed not available to other market participants.

public interest because Users submitting non-displayed orders are generally entrusting the Exchange to price such orders at values that are reflective of the market for a security. In the event of a trading halt, the market is in the process of reestablishing the value of a security, and therefore including non-displayed orders that are priced against a reference price that may not reflect adjustments in valuation resulting from additional information regarding the security during the halt could potentially harm investors. Similarly, as noted above, the Exchange believes excluding non-displayed orders from the Volatility Auction is consistent with the protection of investors and the public interest because Users submitting non-displayed orders are generally entrusting the Exchange to price such orders at values that are reflective of the market for a security. In the event of a volatility trading pause, the security has just experienced sharp price volatility and the market is in the process of reestablishing the value of a security, and therefore including non-displayed orders that are priced against a reference price that may not reflect adjustments in valuation during the pause could potentially harm investors.

While non-displayed limit orders are not necessarily “pegged” to any particular reference price (such as a midpoint peg order, for example), such orders are subject to the Midpoint Price Constraint pursuant to IEX Rule 11.190(h)(2), which states that non-displayed limit orders posting to the Order Book with a limit price more aggressive than the Midpoint Price is booked and ranked on the Order Book non-displayed at a price equal to the Midpoint Price. To reflect changes to the NBBO, the order is automatically re-priced by the System in response to changes in the NBBO to be equal to the less aggressive of the order’s limit price or the Midpoint Price. Accordingly, in volatile markets that have triggered a trading pause or halt, limit orders resting on the Order Book

that are not actively or algorithmically monitored are likely to have been restricted by the Midpoint Price Constraint. Accordingly, such orders would be priced against a reference price (i.e., the Midpoint Price) that may not reflect adjustments in valuation during the halt or pause, which could potentially harm such investors.

As described in the Purpose Section, the Exchange believes that not supporting AGID modifiers in IEX Auctions is consistent with the protection of investors and the public interest because within the context of the aggregated auction match process, counterparties are not considered; only the aggregate available volume for execution is considered. It is illogical to cancel an order that happens to be allocated an execution against an order entered using the same MPID, because both orders execute at the exact same price to the exact same effect where the orders happen to execute against orders of a different MPID. Furthermore, the Exchange believes that supporting AGID modifiers and Minimum Quantity instructions as defined in Rule 11.190(b)(11) in IEX Auctions would introduce additional technical complexities to the clearing price determination process, and the Exchange believes providing simplicity in this regard is in the interest of the protection of investors and the public interest.¹¹⁰

As discussed in the Purpose section, the Exchange is proposing to utilize a default threshold percentage of ten (10) percent for the Opening/Closing Auction Collar because, based on informal discussion with various Members, as well as Nasdaq's usage of identical default threshold percentage values, such values typically provide an

¹¹⁰ The Exchange notes that Bats does not support broker self-match restrictions in an IPO auction, or on regular market and limit orders in the Opening and Closing auctions. See Bats Rule 11.23(a)(8)(C)(1) and [Bats US Equities Auction Process](#) specification at 9. See also NYSE Arca Rule 7.31(i)(2), which states that Orders marked with an STP modifier will *not* be prevented from interacting during any auction. (Emphasis added)

appropriate range within which price discovery may occur to maximize the number of shares executed in the auction. Furthermore, the Exchange believes utilizing the midpoint of the Protected NBBO to establish the Opening/Closing Auction Collar Reference Price is consistent with the protection of investors and the public interest in that the Protected NBBO represents the range of prices that best reflect the market for a security. In addition, utilizing the midpoint of the Protected NBBO may be less susceptible to volatility and manipulation, because in order to move the midpoint of the Protected NBBO to influence the auction, one or more Users would need to sweep the entire market, rather than simply entering aggressive interest on the Exchange.

Moreover, the Exchange believes that the proposed Opening/Closing Auction Collars are consistent with the protection of investors and the public interest in that the default threshold is identical to the default auction collar thresholds used by Nasdaq; however, Nasdaq utilizes the midpoint of the best bid and offer on Nasdaq's book as the collar reference price.¹¹¹ The Exchange anticipates modifying such benchmarks and thresholds in response to market-wide events that are driving price volatility, and would therefore benefit from temporarily widening threshold values in the interest of allowing robust price discovery, consistent with the protection of investors and the public interest. The Exchange notes that modification of the default threshold percentage values for the Opening/Closing Auction Collar are subject to the provisions of Section 19(b)(1) under the Act, and Rule 19b-4 thereunder.¹¹²

As described above, the Exchange believes that the Volatility Auction Collar, as

¹¹¹ See Nasdaq Rule 4752(d)(2)(E).

¹¹² See 15 U.S.C. 78s(b)(1), and 17 CFR 240.19b-4.

proposed, is consistent with the protection of investors and the public interest.

Specifically, as noted above, the Volatility Auction Collar, as proposed, is identical to the auction collars imposed by Bats, Nasdaq, and Arca when conducting an auction to resume a security subject to an LULD trading pause.¹¹³ Furthermore, the proposed Volatility Auction Collar functionality is 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 reopening's following an LULD 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.¹¹⁴

As proposed, Halt and IPO Auctions will not be subject to a collar, which is substantially similar to operation of the Bats halt auction and the Nasdaq halt cross.¹¹⁵ In the case of a Halt or IPO Auction, the process for arriving at the clearing price includes methods for automatic (and in the case of an IPO, manual) extensions when there is a market order imbalance, or the clearing price experiences volatility. In addition, there is no continuous trading before a Halt or IPO Auction, and therefore there is no reference

¹¹³ See 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) (File No. SR-NYSEArca-2016-130).

¹¹⁴ See e.g., 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) (File No. SR-NYSEArca-2016-130) and Securities and Exchange Act Release No. 34-79410; File No. 4-631 (Notice of Filing of the Twelfth Amendment to the National Market System Plan to Address Extraordinary Market Volatility).

¹¹⁵ See Bats Rule 11.23(d), and Nasdaq Rule 4753.

price that is reflective of the market for the security from which to derive an appropriate collar. Accordingly, the Halt and IPO Auctions are designed to allow for additional price discovery to occur in order for supply and demand to efficiently price the security. Furthermore, Halt and IPO Auctions are not constrained to occur at a specific time like the Open and Closing Auctions (i.e., the start and end of Regular Market Hours), therefore the auction process continues until prices converge to an equilibrium and collars are not required to constrain prices before an equilibrium is reached.

As described in the purpose section, after informal discussion with various Members, in the event there is no crossing interest for an IEX Auction (and therefore no auction occurs), the Exchange proposes to utilize the initial (final) trade on IEX when the Exchange is determining the official auction price of an IEX-listed security using IEX auctions, because much of the trading interest is aggregated at the primary trading center leading into and immediately following the auction. Therefore, the initial (final) trade on the Exchange is likely to best reflect the market for a security in the event no crossing interest exists.¹¹⁶ Moreover, in the event a disruption prevents the Exchange from conducting an auction in an IEX-listed security, the Exchange is proposing to utilize the initial, latest, or final consolidated last sale eligible trade. If the Exchange is experiencing a disruption that is preventing the execution of an auction, market participants would be made aware of such disruption pursuant to the contingency procedures set forth above, and market participants are therefore likely to re-route such interest to alternative execution venues. Therefore, the initial, latest, or final consolidated last sale eligible trade

¹¹⁶ See e.g., proposed Rules 11.350(c)(2)(B) and 11.350(d)(2)(B).

is likely to best reflect the market for a security in the event of a disruption on the Exchange that is preventing the execution of an auction for an IEX-listed security.¹¹⁷

Accordingly, the Exchange believes the proposed Rule is consistent with the protection of investors and the public interest.

The Exchange also believes that the auction clearing price determination is designed to support robust price discovery in a transparent manner, consistent with the protection of investors and the public interest, and in furtherance of a free and open market and a national market system. Specifically, auctions will be matched at the price that maximizes the number of shares to be executed at a single price, with appropriate tie breakers that reflect supply and demand from Auction Eligible Orders in the security and displayed interest in the market (i.e., by considering the Protected NBBO, IEX BBO, or Final Consolidated Last Sale Eligible Trade, depending on market conditions, as the final tie breaker). As discussed below, the Exchange believes that its proposed auction clearing price determination methodology is consistent with the protection of investors and the public interest because it is designed to provide an auction clearing price based on robust price discovery that reflects supply and demand in the subject security. The clearing price determination process proposed by the Exchange is similar to Nasdaq, with certain modifications as described in the Purpose Section.

Specifically, as proposed, the clearing price determination for both Nasdaq and IEX would first attempt to maximize the number of shares executable in the auction at a single price. However, in the event there is more than one price at which shares are

¹¹⁷ See e.g., proposed Rules 11.350(c)(4)(i).

maximized, Nasdaq Rule 4752(d)(2)(B) states that the auction shall match at the price that minimizes any imbalance, and if there is more than one price at which shares are maximized and imbalance is minimized, Nasdaq Rule 4752(d)(2)(C) states that the auction shall match at the price at which shares will remain unexecuted in the auction. The Exchange believes that Nasdaq Rule 4752(d)(2)(B) and (C) are often the same price, because the price at which imbalance is minimized is often also the price at which shares remain unexecuted in the auction. Accordingly, the Exchange is proposing to consolidate these conditions, and instead utilize the price at which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order).¹¹⁸

Moreover, in the event the clearing price determination process results in a clearing price range (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 Exchange proposes to utilize the price closest the Volume Based Tie Breaker within the auction price range (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

¹¹⁸ The Exchange notes that in the rare event that Auction Eligible Orders are perfectly matched at multiple prices, the prices at which imbalance is minimized and the prices at which shares will remain unexecuted are different. In such cases, the range of prices within which the auction can occur on Nasdaq would be one (1) MPV less aggressive than the prices within which the auction can occur as proposed by the Exchange. Furthermore, in the event that Auction Eligible Orders are perfectly matched at two prices that create a one cent range, the price at which imbalance is minimized and the price at which shares remain unexecuted is the same.

Breaker).¹¹⁹ This differs from Nasdaq in that in the event the clearing price determination process results in a clearing 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 proposed rule is designed to match the auction at the Volume Based Tie Breaker (e.g., midpoint of the Protected NBBO). The Exchange believes that when 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.

Lastly, in the event the clearing price determined pursuant to the procedures above is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Opening or Closing Auction, the value 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 described above. This differs from Nasdaq in that under Nasdaq Rule 4752(d)(2)(E), if the auction price is outside of the Nasdaq opening or closing auction collars, the auction shall occur at a price within the threshold amounts that best satisfies the conditions of Nasdaq Rule 4752(d)(2)(A) through (D). The Exchange believes that the proposed rule is designed to provide greater clarity to Users regarding the range of prices within which the Opening or Closing Auction will occur (because the range is

¹¹⁹ The Volume Based Tie Breaker is generally the midpoint of the Protected NBBO. See proposed Rule 11.350(a)(33).

narrower) in the event the clearing price is outside of the collar.

The Exchange notes that the clearing price determination processes utilized by other primary listing markets are not homogeneous. As described above, the Exchange designed IEX Auctions with certain features that are substantial similar to current functionality offered by other listings markets, while making certain changes designed to democratize auction participation among all Members via simplification and transparency. Accordingly, the Exchange believes that the proposed auction design will provide a transparent, efficient, and robust process to aggregate trading interest submitted by a broad range of market participants to be matched at a single clearing price, consistent with the protection of investors and the public interest, and in alignment with issuers' interests.

As discussed in the Purpose Section, for Opening and Closing Auctions, the Exchange proposes that non-displayed buy (sell) orders on the Continuous Book with a resting price (as defined in proposed 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. Thus, non-displayed orders will influence the clearing price if such price is outside the Reference Price Range, but not if the clearing price is within the Reference Price Range. The Exchange believes that the proposed treatment of non-displayed interest on the Continuous Book resting within the Reference Price Range is designed to protect the anonymity of such resting non-displayed interest during the dissemination of IEX Auction Information.

The Exchange believes that market participants generally choose to enter non-displayed interest in order that such interest is not publicly disseminated in market data feeds or otherwise. The Exchange believes that if non-displayed interest on the Continuous Book influenced the determination of the clearing price within the Reference Price Range (i.e., generally within the Protected NBBO) for an Opening or Closing Auction then the existence of such non-displayed interest could be deciphered by market participants through IEX Auction Information, thereby leaking order information in a manner inconsistent with the terms of the order, and the protection of investors and the public interest. For example, and as discussed in the Purpose section, the Exchange believes that information leakage could occur if the Indicative Clearing Price is closer to the midpoint of the NBBO than the Reference Price. This would indicate that there is non-displayed interest resting on the Continuous Book for at least the size of the imbalance and priced at least as aggressive as the Reference Price. Thus, the Exchange proposes to price non-displayed buy (sell) orders on the Continuous Book with a resting price within the Reference Price Range to the Protected NBB (NBO) for the purpose of determining the clearing price, but allow such orders to be ranked and eligible for execution in the Opening or Closing Auction match at the order's resting price, in order to avoid leaking order information regarding such non-displayed orders, consistent with the protection of investors and the public interest.¹²⁰

¹²⁰ The Exchange notes as well that its proposed handling of non-displayed interest on the Continuous Book will not impact the accuracy or completeness of the Indicative Clearing Price because the methodology for calculating the Indicative Clearing Price is identical to the methodology used to calculate the auction match, and thus the Indicative Clearing Price will reflect the price at which the auction would occur including all Auction

Furthermore, the Exchange notes that the proposed handling of non-displayed orders on the Continuous Book with a resting price within the Reference Price Range in the Opening and Closing Auctions is functionally substantially similar to the operation of Nasdaq Imbalance Only (“IO”) orders in the Nasdaq opening and closing cross. Specifically, because IO’s are repeatedly repriced to be equal to the Nasdaq best bid for buy orders or the Nasdaq best offer for sell orders (collectively, the “Nasdaq BBO”), such orders effectively do not influence the determination of the clearing price within the Nasdaq BBO, but remain eligible for execution in the auction solely to offset imbalance, and influence the clearing price of the auction when it moves beyond the Nasdaq BBO.¹²¹ In the same manner, non-displayed buy (sell) orders on the IEX Continuous Book with a resting price within the Reference Price Range are priced to the Protected NBB (NBO) for the purpose of determining the clearing price and thus effectively do not influence the determination of the clearing price within the Reference Price Range, but are ranked and remain eligible for execution in the auction at the order’s resting price. In addition, non-displayed buy (sell) orders on the Continuous Book with a resting price within the Reference Price Range will influence the clearing price of the auction when the clearing price moves lower (higher) than the Reference Price Range. Accordingly, the Exchange believes that the proposed treatment of non-displayed orders resting within the Reference Price Range on the Continuous Book in the Opening and Closing Auction does not

Eligible Orders (including non-displayed order on the Continuous Book) as of the dissemination time.

¹²¹ See Nasdaq Rule 4702(b)(10), which states that if an imbalance only order to buy (sell) is entered with a price that is higher (lower) than the highest bid (lowest offer) on the Nasdaq Book, the price of the Imbalance Only Order will be modified repeatedly to equal the highest bid (lowest offer) on the Nasdaq Book, subject to the Users limit price.

present any new or novel functionality that has not already been considered by the Commission, and is consistent with the protection of investors and public interest.

As discussed in the Purpose Section, the Exchange does not propose to offer an imbalance order *type* (i.e., an order type that by its terms is designed to solely offset a buy or sell order imbalance in the auction), which is currently offered by Nasdaq, but not by Bats.¹²² However, Users who wish to offset buy or sell imbalances in an auction may do so by entering LOO, LOC, limit orders priced less aggressive than the applicable auction collar, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book is eligible to offset imbalance without influencing the determination of the clearing price within the Reference Price Range. After informal discussion with various Members, the Exchange believes that imbalance only order types are generally employed by Users deploying sophisticated auction trading strategies, and are seldom used by long-term or natural investors. Accordingly, the Exchange believes that not offering a special imbalance only order type that is unlikely to garner broad User adoption, while still offering investors the opportunity to offset imbalances using LOO, LOC, limit orders, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book with a resting price within the Reference Price Range will simplify the process of participating in auctions and attract more trading interest from a broad range of market participants, thereby resulting in robust price discovery for the IEX Auction, consistent with the protection of investors and the public interest.

The Exchange also believes that the proposed Lock-in and Lock-out Time is

¹²² See Nasdaq Rule 4702(b)(10) and (13).

consistent with the protection of investors and the public interest, because in the final minutes leading into the auction match, the Exchange is attempting to achieve equilibrium and stability by avoiding the increase of imbalances or large price swings resulting from aggressively priced orders in the Auction Book, while still allowing for price discovery to occur within the applicable auction collars leading up to the auction match. The Exchange notes that that Bats implements an identical Opening Auction Lock-out time (9:28 a.m.), at which time LOO and MOO orders, as well as RHO orders will be rejected. In the context of the IEX Opening Auction, such orders are the equivalent of the order types on the Opening Auction Book. Furthermore, Bats restricts Users from canceling or modifying Eligible Auction Orders between the Lock-out Time and the auction match, except for RHO limit orders, which may be modified (but not canceled) until the auction match.¹²³

The Exchange is proposing to afford Users the ability to enter auction specific interest (within the applicable auction collar) beyond the typical cutoff times employed by other exchanges, while locking-in such interest and beginning the dissemination of IEX Auction Information using a time-line that will be familiar to Users. Specifically, the proposed approach is similar to Bats and Nasdaq¹²⁴, in applying a 9:28 a.m. Lock-out Time for the Opening Auction, where LOO and MOO interest is no longer accepted and may no longer be modified; however, after informal discussion with various Members that have expressed demand for a later cut off time, the Exchange is proposing that LOO orders and limit orders with a time-in-force of DAY or GTX will continue to be accepted

¹²³ See Bats Rule 11.23(b)(1)(A)-(B).

¹²⁴ See Nasdaq Rule 4702(b)(8)-(9) and (11)-(12).

until the Opening Auction Lock-out Time (i.e., 9:29:50 a.m., ten (10) seconds prior to the Opening Auction match) so long as they are not Hyper-aggressive Auction Orders, which will allows Users to continue to express interest, and offset imbalances via orders designated for the Auction Book in the minutes leading up to the auction match.

Similarly, for the Closing Auction, the Exchange is proposing to apply a 3:50 p.m. Lock-out Time, where MOC interest is no longer accepted and Auction Eligible Orders on the Auction Book may no longer be modified or canceled, unless a user requests cancelation of an order to correct a legitimate error in the order prior to 3:55 p.m. Moreover, the Exchange is proposing that LOC orders will continue to be accepted until the Closing Auction Lock-out Time (i.e., 3:59:50 p.m., ten (10) seconds prior to the Closing Auction match) so long as they are not Hyper-aggressive Auction Orders, which will allows Users to continue to express interest, and offset imbalances via orders designated for the Auction Book in the minutes leading up to the auction match.¹²⁵

¹²⁵ The Exchange notes that as explained by a recent study on NYSE auctions conducted by Greenwich Associates, NYSE d-Quotes (which can be entered by broker that have relationships with NYSE floor brokers, or trading algorithms that are able to enter orders directly via FIX) contribute a meaningful portion of closing auction volume, as evidenced by the significant increase and fluctuations of indicative volume taken as a percentage of realized volume in the closing auction. Specifically, NYSE's auction data feed shows a material spike in indicative volume at 3:55 p.m., when d-Quotes are first included in the NYSE auction data feed, followed by fluctuations in indicative volume as a percent of realized volume. The Exchange further notes that the proposed handling of LOO, LOC, and limit orders submitted after the Lock-in Time that are not priced beyond the Opening/Closing Auction Collars is distinguishable from NYSE d-Quotes in that d-Quotes can be entered at any price, and can be canceled. As proposed, LOO, LOC, and limit orders submitted after the Lock-in Time that are not priced beyond the Opening/Closing Auction Collars cannot be canceled. The proposed order handling and IEX Auction information dissemination is designed to reflect "locked-in" interest on the Auction Book, which is intended to stimulate price discovery, and reduce fluctuations indicative volume taken as a percentage of realized volume that are caused by Users

Furthermore, for both the Opening and Closing Auctions, Hyper-aggressive Auction Orders will be rejected after the Lock-in Time, which is designed to minimize the increase of imbalances or large price swings resulting from aggressively priced orders in the Auction Book during the last minutes leading into the auction. Instead, the Exchange is proposing to allow for price discovery to occur on the Auction Book within the applicable auction collars and on the Continuous Book leading up to the auction match, allowing for a convergence of the Auction Book with the Continuous Book to establish equilibrium. The Exchange believes that allowing Users to offset imbalances on the Auction Book after the Lock-in Time is designed to promote price discovery and stability, and establish equilibrium leading into the auction match because such orders are not able to be canceled or modified after entry (i.e., they are locked-in), which is in direct contrast with offsetting orders on the Continuous Book that may be fleeting, because they are eligible for cancellation, modification, or execution until the auction match.

Furthermore, as described above, the Exchange believes that allowing Auction Eligible Orders on the Continuous Book to continue to be submitted, modified, and canceled until immediately prior to execution is consistent with the protection of investors and the public interest because such orders allow Users to offset imbalances in the auction until the auction match occurs, which will further the Exchange's intended goal of achieving equilibrium and stability prior to the auction match. In addition, the Exchange does not propose to interrupt continuous trading, and therefore believes it is

canceled orders on the Auction Book. See Trading the Auctions, Greenwich Associates, 2017, Doc ID 16-2068 (<https://www.greenwich.com/equities/trading-auctions>).

necessary to allow Continuous Book orders to remain unrestricted in the interest of maintain fair and orderly markets, and the protection of investors and the public interest. The Exchange also notes that Bats offers identical functionality for all orders eligible for execution in the Bats Pre-Opening Session.¹²⁶ Similarly, NYSE Arca allows orders to enter the Continuous Book after the Opening and Closing Auction Imbalance Freeze.¹²⁷ The Exchange does not believe that allowing orders to enter the Continuous Book and be eligible for execution in the auction match until immediately before the auction match presents any unique concerns regarding manipulation of the auction match. To the contrary, because the Exchange generally utilizes the Protected NBBO as the Reference Price Range for the auction match (rather than the midpoint of the IEX BBO), the auction process may be less susceptible to attempted manipulation, because in order to influence the auction, one or more Users would need to sweep the entire market and impact the Protected NBBO, rather than simply entering aggressive interest on the Exchange.

The Exchange believes that providing transparent Opening Auction Contingency Procedures is consistent with the protection of investors and the public interest in that Users will have more clarity regarding the status of open orders, therefore allowing for such Users to resubmit such interest in the Regular Market Session, or re-route such interest to an alternate trading center after IEX has opened the security for trading. In addition, the Opening Auction Contingency Procedures are designed to ensure the orderly and timely opening of IEX-listed securities, which will help to ensure a fair and orderly market for securities listed on the Exchange. Similarly, the Exchange believes that the

¹²⁶ See Bats Rule 11.23(b)(1)(C).

¹²⁷ See Arca Rule (c)(3)(D) and (d)(2)(C).

proposed Closing Auction Contingency Procedures are designed to ensure the orderly and timely closing of IEX-listed securities, which will help to ensure a fair and orderly market for securities listed on the Exchange. Furthermore, the proposed Closing Auction Contingency Procedures are identical to those recently proposed by Nasdaq in conjunction with NYSE and NYSE Arca, and the SIPs as part of a larger industry initiative to ensure the orderly execution and dissemination of official closing prices. Accordingly, the Exchange believes that the proposed auction contingency procedures are consistent with the protection of investors and the public interest.

The Exchange believes that the data elements proposed to be included in IEX Auction Information will provide market participants with a comprehensive range of data relevant to auction pricing that will enable market participants to make informed decisions on whether and at what prices to enter orders for potential participation in an IEX Auction.¹²⁸ The Exchange also notes that the methodology for calculating the Indicative Clearing Price is identical to the methodology used to calculate the clearing price of the auction match, and thus the Indicative Clearing Price will reflect the price at which the auction would occur as of the dissemination time. Moreover, these data elements are substantially similar to those currently provided by Nasdaq, as well as collar information proposed by Nasdaq, Arca, and Bats.¹²⁹ However, as proposed, the Exchange will disseminate IEX Auction Information data every one second between the

¹²⁸ As noted in the Purpose section, IEX intends to disseminate substantially the same information through the Consolidated Quotation System operated by the Consolidated Tape Association (“CTA”) SIP, pending approval by the Operating Committee of the CTA. Following such approval, IEX will amend Rule 11.330 to reflect this additional means of dissemination.

¹²⁹ See SR-NASDAQ-2016-131, SR-BatsBZX-2016-61, and NYSEArca-2016-130.

Lock-in Time and the auction match for the Opening and Closing Auctions, and during the Display Only Period for IPO, Halt, and Volatility Auctions. In contrast, NYSE, Nasdaq and Bats disseminate their auction data every five seconds. IEX believes that disseminating auction data every second will contribute to increased transparency regarding relevant auction information, thus leading to more robust pricing, consistent with the protection of investors and the public interest. Moreover, IEX Auction Information will be provided to Members and other recipients of Exchange data on terms that are reasonable and not unfairly discriminatory in that it will be provided free of charge. IEX Auction Information will also be made available free of charge on the Exchange's public website via the IEX Data Platform.

The fields proposed for dissemination in IEX Auction Information are strategically tailored to the IEX Auction model, and were developed after informal discussion with various Members, as well as reference to existing fields offered in auction data provided by other exchanges, including the Nasdaq NOII, and the Bats Auction Feed. Specifically, the Indicative Clearing Price and Auction Book Clearing Price are substantially similar to the Nasdaq "Near Clearing Price" and "Far Clearing Price" as well as the Bats "Indicative Price" and "Auction Only Price", and should therefore be familiar to Members that trade in the Nasdaq and Bats auctions.¹³⁰ Similarly, the proposed Reference Price field is substantially similar to the Reference Price utilized by Bats.¹³¹

¹³⁰ See the [Bats US Equities Auction Process](#) specification at 8, as well as the Nasdaq [Net Order Imbalance Indicator User Guide](#) at 4-5.

¹³¹ See the [Bats US Equities Auction Process](#) specification at 7, and 5, which define the Reference Price as the price within the Reference Price Range that maximizes the number of shares to be executed, minimizes the imbalance, and minimizes the distance to the Volume Based Tie Breaker.

Moreover, as proposed, the Exchange will utilize orders on the Auction Book to calculate the Paired Shares, Imbalance Shares, and Imbalance Side fields included in IEX Auction Information (i.e., both displayed and non-displayed orders on the Continuous Book are not accounted for when determining the number of shares that can be matched or remain unexecuted at the current Reference Price). The proposed Paired Shares, Imbalance Shares, and Imbalance Side fields are designed to enhance the reliability of the fields disseminated in IEX Auction Information, and mitigate potential gaming scenarios that could negatively impact Users trading in IEX Auctions.

Specifically, the fields as proposed are designed to avoid disseminating Paired Shares and Imbalance Shares based on orders on the Continuous Book that may be fleeting. Orders on the Continuous Book are not subject to lock-in or lock-out restrictions, and may therefore be canceled at any time before the auction match. Including potentially fleeting orders in the Paired Shares and Imbalance Shares fields could have negative implications for price discovery leading up to the auction match by discouraging Users from offsetting Imbalance Shares, leaving unmatched shares on the Auction Book at the time of the match when Continuous Book orders that were ostensibly offsetting the Imbalance Shares (and contributing to Paired Shares) are canceled prior to the auction. Accordingly, the proposed fields are consistent with the protection of investors and the public interest, in that they are designed to increase the reliability of the fields disseminated in IEX Auction Information, and mitigate potential gaming scenarios that could negatively impact Users trading in IEX Auctions.

Furthermore, as proposed, the Paired Shares field is designed to allow Users to determine the likelihood of their Eligible Auction Orders being executed in the auction.

Specifically, because Paired Shares only reflect orders that are locked in to the auction (and therefore will be eligible for execution in the auction), Users can assess their chances of receiving an execution in the auction match based on the marketability of their order against the Indicative Clearing Price, and the number of Paired Shares against their order size. For example, if the final Indicative Clearing Price is \$10.00, and IEX has 100,000 shares paired, a User that has a LOC order to buy 10,000 shares with a limit price of \$10.50 has a high likelihood of receiving a 10,000 share execution in the Closing Auction. To continue the example and highlight the positive effects of the proposed functionality on price discovery, if the Indicative Clearing Price were to have moved away from the participant (to \$10.50, for example), such User's chances of receiving an execution in the auction are diminished because the auction match price has moved to the order's limit price, and such order is "locked-in" (i.e., ineligible for modification or cancelation). Accordingly, Users are incentivized to express their full limit on Auction Eligible Orders in order to increase the likelihood of receiving an execution in the Closing Auction at a price they believe reflects the fundamental value of the security. This truthful representation of full limit prices is designed to enhance price discovery leading into the auction match, consistent with the protection of investors and the public interest.

The Exchange further notes that as proposed, the Paired Shares, Imbalance Shares, and Imbalance Side fields are substantially similar to the "Reference Buy Shares" and "Reference Sell Shares" fields currently offered by Bats on the Bats Auction Feed, which provide the number of shares associated with buy (sell) side Eligible Auction Orders (which are on the Bats auction book, as defined in Bats Rule 11.23(a)(8)) that are

priced equal to or greater (less) than the Reference Price. However, rather than market participants deriving the number of Paired Shares, Imbalance Shares, and the Imbalance Side, the Exchange is proposing to derive and disseminate each value independently.¹³² Moreover, Paired Shares, Imbalance Shares, and Imbalance Side fields are substantially similar to the Paired Shares, Imbalance Shares, and Imbalance Side fields that are currently offered by Nasdaq in the NOII.¹³³ Accordingly, IEX Auction Information, including the proposed Paired Shares, Imbalance Shares, and Imbalance Side fields do not present any new or novel issues not already considered by the Commission and approved as consistent with the protection of investors and the public interest.

The Exchange also believes that the proposed trading halt and LULD trading pause rule provisions are consistent with the protection of investors and the public interest because such provisions provide for the imposition of a regulatory trading halt in an IEX-listed security in order to prevent trading from occurring in such security when all market participants do not have equal access to material news or other information necessary to make an informed trading decision. With respect to operational trading halts, proposed IEX Rule 11.280(g)(3) provides appropriate optionality to Members and market makers in determining whether to continue trading when there is an order imbalance or influx on another market. As discussed in the Purpose section, the proposed trading halt and LULD trading pause rules are substantially similar to Nasdaq rules approved by the Commission (described above) and thus do not raise any new or novel issues. Moreover,

¹³² Note, paired shares would be equal to the lesser of Reference Buy Shares and Reference Sell Shares; Imbalance Shares would be equal to the absolute value of Reference Sell Shares minus Reference Buy Shares; and the side of the greater between Reference Buy Shares and Reference Sell Shares is the imbalance side.

¹³³ See the Nasdaq [Net Order Imbalance Indicator User Guide](#) at 4-5.

the proposed LULD trading pause provisions are consistent with the LULD Plan as well as Nasdaq rules.

Lastly, the Exchange believes that the proposed operational rules regarding IPO's conducted on the Exchange are consistent with the protection of investors and the public interest because the process is designed to provide underwriters with the necessary tools to ensure the IPO Auction as well as continuous trading following the auction operate in an orderly manner, consistent with the protections of investors and the public interest. In addition, as noted above, the proposed operational rules regarding IPO's are substantially similar to Nasdaq Rule 4120(c)(8), and therefore do not present any novel issues the Commission has not already considered.

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

IEX does not believe that the proposed rule change will result in any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. To the contrary, and as discussed in the Statutory Basis section, the Exchange believes that offering auctions is essential for operation of a listing market which will allow the Exchange to provide companies with another listing option, thereby promoting intermarket competition between exchanges in furtherance of the principles of Section 11A(a)(1)¹³⁴ of the Act in that it is designed to promote fair competition among brokers and dealers and among exchange markets by offering a new listing market to compete with the existing Nasdaq and NYSE duopoly.

With respect to the auction design, the Exchange does not believe that the proposal will impose any burden on intermarket or intramarket competition that is not

¹³⁴ 15 U.S.C. 78k-1(a)(1).

necessary or appropriate in furtherance of the purposes of the Act. With respect to intermarket competition, as a new listing venue, IEX expects to face intense competition from existing exchanges. Consequently, the degree to which the IEX auction design could impose any burden on intermarket competition is extremely limited, and IEX does not believe that the auction design would impose any burden on competing venues that is not necessary or appropriate in furtherance of the purposes of the Act.

With respect to intramarket competition, the auction design will apply equally to all IEX Members and market participants that send orders to IEX through IEX Members. Moreover, IEX believes that the “open access” auction design will result in auctions that attract meaningful trading interest that will enable robust price discovery, and enhance intramarket competition. All Members are permitted to enter any type of Auction Eligible Order and there are no privileged participants who receive enhanced priority, have access to special order types, or receive information not available to other market participants. Consequently, IEX does not believe that the proposal will impose any burden on intramarket competition that is not necessary or appropriate in furtherance of the purposes of the Act.

The Exchange also does not think that the content and manner by which IEX Auction Information will be disseminated will impose any burden on competition, since the data will be provided to all Members and market participants free of charge and on terms that are not unreasonably discriminatory.

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

IEX requested comments from Members and other market participants regarding the proposed auction design. The “Request for Comment Regarding Auctions for IEX-

listed Securities” was disseminated to IEX Members and other market participants¹³⁵ on November 14, 2016 (see Exhibit 2). No written or verbal comments were received.

However, as discussed in the Purpose Section, in designing the proposed auctions, the Exchange held discussions with a variety of buy-side and sell-side market participants, including large banks and broker dealers that provide a variety of services with diverse customer bases and trading strategies, electronic market makers, asset managers, issuers and institutional investors.

6. Extension of Time Period for Commission Action

IEX does not consent at this time to an extension of the time period for Commission action specified in Section 19(b)(2) of the Act.

7. Basis for Summary Effectiveness Pursuant to Section 19(b)(3) or for Accelerated Effectiveness Pursuant to Section 19(b)(2)

Not applicable.

8. Proposed Rule Change Based on the Rules of Another Self-Regulatory Organization or of the Commission

The proposed rule change is based in part on Nasdaq, Bats, NYSE and Arca rules as discussed herein.

9. Security-Based Swap Submissions Filed Pursuant to Section 3 C of the Act

Not applicable.

10. Advance Notices Filed Pursuant to Section 806(e) of the Payment, Clearing and Settlement Supervision Act

Not applicable.

11. Exhibits

¹³⁵ Market participants that are not Members, but had previously requested to be included in IEX communications were included.

Exhibit 1 – Form of Notice of the Proposed Rule Change for Publication in the
Federal Register.

Exhibit 2 – Copy of Notice Soliciting Comment on the Proposed Rule Change.

Exhibit 5 – Text of Proposed Rule Change.

EXHIBIT 1

SECURITIES AND EXCHANGE COMMISSION
(Release No. 34 -); File No. SR-IEX-2017-10)

Self-Regulatory Organizations: Investors Exchange LLC; Notice of Filing of Proposed Rule Change Related to Auctions in IEX-Listed Securities, Dissemination of Auction-Related Market Data, and Provisions Governing Trading Halts and Pauses.

Pursuant to Section 19(b)(1)¹ of the Securities Exchange Act of 1934 (the “Act”)² and Rule 19b-4 thereunder,³ notice is hereby given that, on (date), the Investors Exchange LLC (“IEX” or the “Exchange”) filed with the Securities and Exchange Commission (the “Commission”) the proposed rule change as described in Items I, II and III below, which Items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

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

Pursuant to the provisions of Section 19(b)(1) under the Securities Exchange Act of 1934 (“Act”), and Rule 19b-4 thereunder, Investors Exchange LLC (“IEX” or the “Exchange”) is filing with the Securities and Exchange Commission (the “Commission”) a proposed rule change 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, IEX proposes to amend IEX Rule 11.280 to add provisions governing trading halts and trading pauses

¹ 15 U.S.C. 78s(b)(1).

² 15 U.S.C. 78a.

³ 17 CFR 240.19b-4.

pursuant to the Limit Up-Limit Down Plan (“LULD” or the “LULD Plan”) in IEX-listed securities. The text of the proposed rule change is available at the Exchange’s website at www.iextrading.com, at the principal office of the Exchange, and at the Commission’s Public Reference Room.

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

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The self-regulatory organization has prepared summaries, set forth in Sections A, B, and C below, of the most significant aspects of such statements.

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

1. Purpose

The Exchange is proposing to amend IEX Rule 11.350 (which is currently reserved) and IEX Rule 11.330 to adopt rules to govern 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 (“IEX Auctions”). Furthermore, the Exchange is proposing to amend Rule 11.190(a)(2)(E) to allow market orders with a time-in-force of DAY to be entered in the Pre-Market Session for queuing and participation in the Opening Auction (or Halt Auction, as applicable). The Exchange is also proposing certain amendments to IEX Rule 11.280 to provide the Exchange with the authority to declare an LULD trading pause as well as define other circumstances in

which the Exchange has the authority to initiate trading halts.

The proposed rule change includes rule provisions to govern (i) the Opening, Closing, initial public offering (“IPO”)⁴, Halt, and Volatility Auctions for IEX-listed securities; (ii) auction-related order types and modifiers; and (iii) auction-related market data. Each of the auctions will enable IEX 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. The IEX Auction process is designed to efficiently maximize the number of shares executed at a single price during the auctions, as described more fully below. As proposed, the auctions would be available at the open and close of the Regular Market Session, for the start of trading for an IPO or launch of a new issue, and upon the resumption of trading in a security following a trading halt or a trading pause pursuant to the LULD Plan.⁵ In addition, during the auction process, IEX will calculate and disseminate IEX Auction Information via the IEX Top of Book Quote and Last Sale feed (“TOPS”), the IEX Depth of Book and Last Sale feed (“DEEP”), as well as the IEX Data Platform, which is available free of charge on the Exchange’s public website, for all auctions as more fully described below.⁶

IEX Auctions were designed based on extensive review of the auction designs of the New York Stock Exchange (“NYSE”), NYSE Arca, Inc. (“NYSE Arca”), Nasdaq Stock Market (“Nasdaq”), Bats BZX Exchange (“Bats”), and the London Stock Exchange (“LSE”) as well as discussions with a variety of buy-side and sell-side market

⁴ The term IPO refers to the initial public offering of securities registered under Section 6 of the Securities Act of 1933.

⁵ See Rule 11.280(e)(1)(A) and Supplementary Material .01(c) to Rule 14.207.

⁶ Capitalized terms have the meaning set forth in relevant IEX rules or proposed rules, as described herein.

participants, including large banks and broker dealers, electronic market makers, asset managers, and institutional investors. As described below, IEX Auctions have adopted several auction attributes that are substantially similar to existing exchange auction models, and will therefore be familiar to Members participating in IEX Auctions for securities listed on the Exchange. The Exchange believes that the proposed auction designs will provide a transparent, efficient, and robust process to aggregate trading interest submitted by a broad range of market participants to be matched at a single clearing price, consistent with the protection of investors and the public interest, and aligns with issuers' interests.

During the auction design process, the primary goal of the Exchange was to maximize participation in the auction, in order to provide an efficient price discovery process and greater opportunity for execution at the official auction price.⁷ The Exchange's goals were developed after extensive informal discussions with a broad range of market participants and market research, and thus the Exchange's goals are inherently in alignment with the interests of investors and issuers. As discussed by Noam Nisan in his research on mechanism design, "generally speaking, the more buyers and sellers there are in a market, the more the situation becomes close to the perfect market scenario."⁸ In an effort to garner broad participation, IEX has kept the fixed costs for trading on the Exchange lower than any US primary listing exchange, since the Exchange does not

⁷ See Trading the Auctions, Richard Johnson, 2017 (<https://www.greenwich.com/equities/trading-auctions>)

⁸ See Algorithmic Game Theory, Noam Nisan, Tim Roughgarden, Eva Tardos, Vijay V. Vazirani, 2007 at 209 (<http://www.cs.cmu.edu/~sandholm/cs15-892F13/algorithmic-game-theory.pdf>)

charge for market data, connectivity, or membership.⁹ Additionally, the Exchange chose to limit the number of new order types that would be eligible for IEX Auctions, thus simplifying the tools at the disposal of Users to express interest in an IEX Auction. Moreover, the Exchange chose to limit the restrictions on expressing interest in the Opening and Closing Auction, akin to the model employed by the LSE and other European exchanges during the call period.¹⁰

Research has shown that a truthful expression of each participant's limit provides the optimal mechanism for price discovery.¹¹ Therefore, to promote price discovery in the Opening and Closing Auctions, the Exchange chose to depart from the European model by designing IEX auctions in a manner where Users cannot adjust (i.e., cancel or modify) auction-specific interest once entered. The Exchange is balancing the objective of allowing Users to express their true limit on auction-specific interest leading into Opening and Closing Auctions (with restrictions on price aggressiveness as the auction nears) with conducting Opening and Closing Auctions in a timely manner at 9:30 a.m. and 4:00 p.m., respectively. Alternatively, when conducting a Halt, IPO, and Volatility Auction, such auctions are designed to extend the price discovery process in order to establish equilibrium rather than restricting the ability to enter or adjust auction-specific interest. Finally, to maximize participation and enhance price discovery, the Exchange

⁹ See IEX Fee Filing (<https://iextrading.com/docs/rule-filings/SR-IEX-2016-09.pdf>)

¹⁰ See LSE Guide to New Trading System, Section 7.2 at 67

(<http://www.londonstockexchange.com/products-and-services/trading-services/guide-to-new-trading-system.pdf>). See also NASDAQ OMX Nordic Market Model 2.2, Section 4.2.3 at 16(105)

(http://www.nasdaqomx.com/digitalAssets/73/73614_nasdaq_omx_nordic_market_model_2.2_1_april_2011.pdf)

¹¹ See Algorithmic Game Theory, Noam Nisan, Tim Roughgarden, Eva Tardos, Vijay V. Vazirani, 2007 (<http://www.cs.cmu.edu/~sandholm/cs15-892F13/algorithmic-game-theory.pdf>)

designed the Opening and Closing Auctions in a manner where the interest from continuous trading (itself a continuous double auction) will be effectively merged using the Exchange's standard priority mechanisms, with the interest accumulating for the periodic double auction at the start or end of the Regular Market Session. This coalescence of interest at 9:30 a.m. and 4:00 p.m. is facilitated by frequent disseminations of auction related data, including indicative prices, which allow participants to enter new auction-specific interest or adjust continuous trading behavior as participants iterate towards the clearing price (i.e., a price-adjustment mechanism).¹² Specifically, for all IEX Auctions, to facilitate the iterative process that arrives at a clearing price that maximizes shares at a single price, the Exchange provides a price signal (i.e., the indicative clearing price) via disseminations of auction related data, and Users submit their interest to the Exchange. Upon receipt of new auction interest, the Exchange recalculates prices utilizing the aggregate supply and demand and disseminates new auction prices each second. In each dissemination, Users are able to recalculate their demand upon receiving the newly adjusted pricing information from the Exchange and submit their new interest to the Exchange. This price discovery process continues until prices converge to an equilibrium (in the case of a Halt, IPO, or Volatility Auction), or the auction match occurs (in the case of the Opening or Closing Auctions).

IEX Auctions were strategically designed after extensive research and informal discussion with various market participants to provide unique value to fundamental investors, and the issuers that make up the subject of their investments. As with all products and functionality offered by the Exchange, research, quantitative analysis, and

¹² Walras. *Elements of Pure Economics, or the Theory of Social Wealth*. Richard Irwin, 1954. (Original version published in French in 1874)

input from Members and the issuer community will inform future iterations of IEX Auctions, as we strive to deliver quality trading experiences for IEX Members and issuers.

Overview

The Exchange proposes 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, 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. Proposed paragraph (g) describes the priority and handling of short sale orders not marked short exempt for covered securities when the Short Sale Price Test of Rule 201 of Regulation SHO is in effect. Proposed paragraph (h) grants the Exchange discretion to adjust the timing of or suspend IEX Auctions when, in the judgment of the Exchange, the interests of fair and orderly markets so require. Proposed paragraph (i) designates the resultant executions from IEX Auctions as single priced opening, re-opening, and closing transactions that meet the requirements of Rule 611(b)(3) of Regulation NMS and section VI(D)(6) of the plan to Implement a Tick Size Pilot Program, and may therefore trade-through or trade-at the price of any other Trading Center's protected or manual quotations. Additionally, proposed paragraph (j) makes clear that all references to a.m. and p.m. shall mean Eastern Time. The Exchange also proposes certain modifications and amendments to IEX Rule 11.330 regarding Data Products to include IEX Auction Information in certain of the Exchange's data products, as described more fully below. Furthermore, proposed Rule 11.190(a)(2)(E) allows market orders with a time-in-force of DAY to be entered in the Pre-Market Session for queuing and participation in the Opening Auction (or Halt Auction, as applicable). The Exchange is also proposing to make a conforming change to Rule 11.190(a)(1)(E)(iii) and (v) to explicitly identify that limit orders with a time-in-force of DAY or GTX for IEX-listed securities that are

entered in the Pre-Market Session are queued for participation in the Opening Auction (or Halt Auction, as applicable). Lastly, the Exchange proposes certain modifications and amendments to IEX Rule 11.280 to provide the Exchange with the authority to declare an LULD trading pause as well as define other circumstances in which the Exchange has the authority to initiate trading halts, and the procedures regarding the initiation and termination of such trading halts.¹³

Auction Specific Order Types

The Exchange proposes to offer the following new order types in connection with IEX Auctions:

- A “Market-On-Open” or “MOO” order is 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. A MOO order submitted as a pegged order will be rejected. A 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;¹⁴
- A “Limit-On-Open” or “LOO” order is 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

¹³ The Exchange is also proposing to rename IEX Rule 11.280 so that the name captures the expanded rule provisions.

¹⁴ See proposed Rule 11.350(a)(25).

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;¹⁵

- A “Market-On-Close” or “MOC” order is 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). A MOC order submitted as a pegged order will be rejected. A 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;¹⁶ and
- A “Limit-On-Close” or “LOC” order is 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.¹⁷

Note, as defined above, MOO and LOO orders (“On-Open orders”) as well as MOC and LOC orders (“On-Close orders”) that are submitted as a pegged order will be

¹⁵ See proposed Rule 11.350(a)(21).

¹⁶ See proposed Rule 11.350(a)(24).

¹⁷ See proposed Rule 11.350(a)(20).

rejected. Additionally, any On-open and On-close order submitted with a User instructed display quantity (e.g., as a reserve order with a quantity of shares displayed and a reserve quantity non-displayed) will be accepted; however, the instruction will not be supported, thus the order will be treated as having displayed priority for the order's full size pursuant to proposed Rule 11.350(b)(1)(b).

The Exchange will not offer an imbalance order type (i.e., an order type that by its terms is designed to solely offset a buy or sell order imbalance in the auction), which is currently offered by Nasdaq, but not by Bats.¹⁸ However, Users who wish to offset buy or sell imbalances in an auction may do so by entering LOO, LOC, and limit orders priced less aggressive than the applicable auction collar, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book with a resting price within the Reference Price Range, which, as described further below, is eligible to offset imbalance without influencing the determination of the clearing price within the Reference Price Range.

Order Types Eligible to Participate in Auctions

Currently, the Exchange begins accepting limit orders with a time-in-force of IOC, FOK, GTT, and SYS for trading at the beginning of the Pre-Market Session and any such orders received by the Exchange are immediately eligible for execution during continuous trading. In addition, limit orders with a time-in-force of GTX or DAY and pegged orders with a time-in-force of DAY that are entered during the Pre-Market Session are queued in the System until the start of the Regular Market Session, or until

¹⁸ See, e.g., Nasdaq Rule 4702(b)(10) and (13).

the order is canceled by the User.¹⁹ The Exchange is proposing to amend Rule 11.190(a)(2)(E) to extend the queuing functionality to market orders with a time-in-force of DAY that are entered during the Pre-Market Session, allowing such orders to queue in the System for participation in the Opening Auction (or Halt Auction, as applicable), except market orders with a time-in-force of DAY that are designated to route pursuant to Rule 11.230(c). The Exchange is proposing to reject market orders with a time-in-force of DAY that are designated to route in an effort to mitigate unnecessary volatility in an IEX-listed security following an auction match where a market order imbalance remains. IEX Auctions are designed to provide Users with the ability to offset market order imbalances prior to the auction match, however in periods of market stress, all market order interest may not be offset prior to the auction match. In such cases, a market order with a time-in-force of DAY that is designated to route that is not executed (in whole or in part) in the Opening Auction would subsequently be routed out to clear all away protected quotations in the market immediately after the auction, exacerbating volatility in a market experiencing instability. Moreover, the Exchange is proposing to make a conforming change to Rule 11.190(a)(1)(E)(iii) and (v) to explicitly identify that limit orders with a time-in-force of DAY or GTX for IEX-listed securities that are entered in the Pre-Market Session are queued for participation in the Opening Auction (or Halt Auction, as applicable).

Accordingly, pursuant to proposed Rule 11.350(a)(1)(A), for an Opening Auction, On-Open orders and market orders with a time-in-force of DAY, as well as limit orders designated with a time-in-force of DAY or GTX are queued on the Opening Auction

¹⁹ See IEX Rule 11.190.

Book and are eligible for execution²⁰ in the Opening Auction match in accordance with market conditions.²¹ In addition, pursuant to proposed Rule 11.350(a)(2), limit orders on the Continuous Book with a time-in-force of SYS or GTT are eligible for execution in the Opening Auction in accordance with market conditions.²² Pegged orders queued for the Regular Market Session are not eligible to execute in the Opening Auction.²³ The Exchange is excluding pegged orders from the Opening Auction because pegged orders are not eligible for continuous trading during the Pre-Market Session, and thus such orders do not have a booked price.

For a Closing Auction, pursuant to proposed Rule 11.350(a)(1)(B), MOC and LOC orders are queued on the Closing Auction Book and are eligible for execution in the Closing Auction match in accordance with market conditions. In addition, pursuant to proposed Rule 11.350(a)(2), limit and pegged orders on the Continuous Book with a time-in-force of DAY, GTX, GTT, or SYS, are eligible for execution in the Closing Auction in accordance with market conditions. The Exchange is including pegged orders in the Closing Auction, because such orders are active and resting on the Order Book during continuous trading, and therefore have a booked price that is reflective of the

²⁰ The term “eligible for execution” or “eligible to execute” is in reference to orders that are eligible for possible execution in an IEX auction, subject to the terms of the order, the applicable auction rules, and market conditions.

²¹ Market orders with a time-in-force of DAY and limit orders with a time-in-force of DAY or GTX are not eligible for continuous trading during the Pre-Market Session, and therefore such orders are queued on the Opening Auction Book, rather than on the Continuous Book. Note, as described below, orders marked IOC or FOK do not rest on the Continuous Book, and therefore are not Auction Eligible Orders in the Opening or Closing Auction.

²² Limit and market orders may be marked as routable. Routable limit orders that are not fully executed in the Opening Auction are released to the Continuous Book and will be routed in accordance with IEX Rule 11.230(c) (Re-sweep Behavior), subject to the order’s instructions.

²³ See proposed Rule 11.350(a)(3)(A).

market for the security.

For an IPO Auction, pursuant to proposed Rule 11.350(a)(1)(C), LOO and MOO orders, market orders with a time-in-force of DAY, as well as limit orders with a time-in-force of DAY, SYS, GTX, GTT, FOK, or IOC are accepted during the Order Acceptance Period, queued on the IPO Auction Book, and are eligible for execution in the IPO Auction match in accordance with market conditions. Pegged orders are not eligible to execute in the IPO Auction.²⁴ Similar to the Opening Auction, the Exchange is excluding pegged orders from the IPO Auction because there is no continuous trading before the IPO auction, and thus pegged orders do not have a booked price.

For a Halt Auction, pursuant to proposed Rule 11.350(a)(1)(D), the following orders are eligible for execution:

- 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;
- Limit orders with a TIF of GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- 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;
- 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

²⁴ See proposed Rule 11.350(a)(3)(B).

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

- Market orders with a TIF of FOK or IOC received during the Order Acceptance Period within the Regular Market Session;
- 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
- Displayed portions of limit orders on the Continuous Book at the time of the halt dissemination.

All orders on the Halt Auction Book are eligible for execution in the Halt Auction in accordance with market conditions. Pegged orders and non-displayed orders (including the non-displayed portion of reserve orders) (collectively, “non-displayed interest”) that are on the Continuous Book at the time of the halt dissemination are not eligible for execution in the Halt Auction and may be canceled at any time after the halt dissemination, so that interest may be re-entered as Auction Eligible Orders during the Order Acceptance Period as interest eligible for execution in the Halt Auction. As with the Opening and IPO Auctions, pegged orders submitted during the Order Acceptance Period are not eligible for execution in the Halt Auction.²⁵ After informal discussions with various Members, the Exchange is also proposing to exclude all non-displayed orders (including pegged orders) that were on the Continuous Book at the time of the halt dissemination from the Halt Auction because Users submitting non-displayed orders are

²⁵ See proposed Rule 11.350(a)(3)(C).

generally entrusting the Exchange to price such orders at values that are reflective of the market for a security. In the event of a trading halt, the market is in the process of reestablishing the value of a security, and therefore including non-displayed orders that are priced against a reference price that may not reflect adjustments in valuation resulting from additional information regarding the security during the halt could potentially harm investors.

For a Volatility Auction, pursuant to proposed Rule 11.350(a)(1)(E), the following orders are eligible for execution:

- MOC and LOC 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;
- Limit orders with a TIF of GTX, GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- Limit orders with a TIF of DAY received during the Order Acceptance Period within Regular Market Hours;
- Market orders with a TIF of FOK, IOC, or DAY received during the Order Acceptance Period within Regular Market Hours; and
- Displayed portions of limit orders on the Continuous Book at the time of the pause dissemination.

Non-displayed interest (i.e., pegged orders and non-displayed orders, including the non-displayed portion of reserve orders) that were on the Continuous Book at the time of the pause dissemination are not eligible for execution in the Volatility Auction and may be canceled at any time after the LULD trading pause dissemination, so that interest may be re-entered as Auction Eligible Orders during the Order Acceptance Period as interest eligible for execution in the Volatility Auction Book. Pegged orders submitted during the Order Acceptance Period are not eligible for execution in the Volatility Auction.²⁶ Similar to the Halt Auction, the Exchange is excluding non-displayed orders from the Volatility Auction because Users submitting non-displayed orders are generally entrusting the Exchange to price such orders at values that are reflective of the market for a security. In the event of a volatility trading pause, the security has just experienced sharp price volatility and the market is in the process of reestablishing the value of a security, and therefore including non-displayed orders that are priced against a reference price that may not reflect adjustments in valuation during the pause could potentially result in auction pricing that is not reflective of the current value of the security.²⁷

²⁶ See proposed Rule 11.350(a)(3)(D).

²⁷ Note, for both the Halt and Volatility Auctions, while non-displayed limit orders are not necessarily “pegged” to any particular reference price (such as a midpoint pegged order, for example), such orders are subject to the Midpoint Price Constraint pursuant to IEX Rule 11.190(h)(2), which states that non-displayed limit orders posting to the Order Book with a limit price more aggressive than the Midpoint Price is booked and ranked on the Order Book non-displayed at a price equal to the Midpoint Price. To reflect changes to the NBBO, the order is automatically re-priced by the System in response to changes in the NBBO to be equal to the less aggressive of the order’s limit price or the Midpoint Price. Accordingly, in volatile markets that have triggered a trading pause or halt, non-displayed limit orders resting on the Order Book that are not actively or algorithmically monitored are likely to have been restricted by the Midpoint Price Constraint. Accordingly, such orders would be priced against a reference price (i.e., the Midpoint Price) that may not reflect adjustments in valuation during the halt or pause, which could potentially harm such investors.

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, Closing, IPO, Halt, or Volatility Auction²⁸ match, but will be enforced on all unexecuted shares released to the Continuous Book following the auction match. The Exchange believes that not supporting AGID modifiers in IEX Auctions is consistent with the protection of investors and the public interest because within the context of the aggregated auction match process, counterparties are not considered; only the aggregate available volume for execution is considered. It is illogical to cancel an order that happens to be allocated an execution against an order entered using the same MPID, because both orders execute at the exact same price to the exact same effect where the orders happen to execute against orders of a different MPID. Furthermore, the Exchange believes that supporting AGID modifiers, as well as supporting Minimum Quantity instructions as defined in Rule 11.190(b)(11) in IEX Auctions introduces additional technical complexities to the clearing price determination process, and the Exchange believes providing simplicity in this regard is in the interest of the protection of investors and the public interest.²⁹

Definitions

As proposed, IEX Rule 11.350(a) contains certain definitions relevant to IEX Auctions, including the following:

²⁸ See proposed Rules 11.350(c)(2)(C), 11.350(d)(2)(C), 11.350(e)(2)(D), and 11.350(f)(2)(F) and (f)(3)(B)(iii), respectively.

²⁹ The Exchange notes that Bats does not support broker self-match restrictions in an IPO auction, or on regular market and limit orders in the Opening and Closing auctions. See Bats Rule 11.23(a)(8)(C)(1) and Bats US Equities Auction Process specification at 9. See also NYSE Arca Rule 7.31(i)(2), which states that Orders marked with an STP modifier *will not* be prevented from interacting during any auction. (Emphasis added)

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”).

(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, 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.
- (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.

(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 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:

- 1. There is both an IEX best bid and an IEX best offer for the

security; and

2. 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) 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, 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. 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.

IEX Auction Priority

Pursuant to proposed Rule 11.350(b), orders resting on the Order Book shall be ranked in the Opening, Closing, IPO, Halt, and Volatility Auction based on price – display – time priority, just as they are during normal trading pursuant to IEX Rule 11.220. The proposed auction priority is substantially similar to the auction priority of Nasdaq and Bats.³⁰ 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 (including MOO and MOC orders) have

³⁰ See e.g., Nasdaq Rule 4752(d)(3)(A)-(D), and Bats Rule 11.23(b)(2)(C), describing priority for the Opening Auction.

precedence over limit orders. 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 orders “resting price”), as follows:

- 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.
- 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.
- 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.

- Non-displayed limit orders and non-displayed portions of reserve orders on the Continuous Book are ranked and eligible for execution in the Opening or Closing Auction at the less aggressive of the Midpoint Price or the order's limit price.
- Displayed limit orders on the Continuous Book are ranked and eligible for execution in the Opening or Closing Auction at the order's resting price.
- 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.

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.

Equally priced Auction Eligible Orders are ranked by display priority. On-Open and On-Close orders are ranked with display priority. Limit orders with a time-in-force of IOC or FOK are ranked with displayed priority. 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.

Equally priced Auction Eligible Orders with the same display priority are ranked in time priority. Where orders to buy (or sell) are ranked at the same price with the same display priority, the oldest order (determined by the order's timestamp) 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 (i) an Order on the Auction Book is incremented by the User; (ii) an Order on the Auction Book is re-priced by the User; (iii) Minimum Quantity for an order on the Auction Book is amended by the User; or (iv) any one of the events specified in IEX Rule 11.220(a)(1)(C) occurs to an order on the Continuous Book, at which time such order will receive a new timestamp.

IEX Auction Clearing Price Determination

The IEX Auction process is designed to efficiently maximize the number of shares executed at a single price for each of the Opening, Closing, IPO, Halt, and Volatility Auctions. The Exchange is proposing a uniform methodology to determine the clearing price of an auction for IEX-listed securities. Each of the Opening Auction, Closing Auction, IPO Auction, Halt Auction and Volatility Auction operated by IEX will be a double auction to match buy and sell orders at the single price at which the most shares would execute (the “clearing price,” “match price,” or “price of the auction”). An Opening, Closing, IPO, Halt, or Volatility Auction for an IEX-listed security will only take place if Auction Eligible Orders have overlapping prices, meaning that the highest bid price is equal to or higher than the lowest offer price (“crossing interest”).

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, 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 exists at which

shares are maximized and at which shares will remain unexecuted in the auction (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 auction shall occur at the price that minimizes the distance from the Volume Based Tie Breaker within the auction price range (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).³¹

In the case of an Opening and Closing Auction, if the auction clearing price is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar, the official 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 described above, and in no case will the Opening Auction match occur at a price lower (higher) than the lower (upper) threshold of the Opening/Closing Auction Collar. In the case of a Volatility Auction, if the auction clearing price is outside the Volatility Auction Collar, the Volatility Auction Order Acceptance Period shall be extended in accordance with proposed Rule 11.350(f)(2)(C)(ii). In the case of a Halt or IPO Auction, no auction collars are applied. All AGID modifiers as defined in Rule 11.190(e), and Minimum

³¹ The Volume Based Tie Breaker is defined as the midpoint of the Reference Price Range, and in the case of an Opening or Closing Auction is generally the midpoint of the Protected NBBO; for Halt Auctions, it will be the price of the Latest Consolidated Last Sale Eligible Trade; for IPO Auctions it will be the issue price; and for a Volatility Auction, it will be the price of the Latest Consolidated Last Sale Eligible Trade, or the Final Consolidated Last Sale Eligible Trade if the Volatility Auction is determining the IEX Official Closing Price. See proposed Rules 11.350(a)(33) and (30).

Quantity instructions as defined in Rule 11.190(b)(11), will not be supported in the Opening, Closing, IPO, Halt, or Volatility Auction match, but will be enforced on all unexecuted shares released to the Continuous Book following the auction match.³²

The following examples are designed to illustrate the clearing price determination process described above. Each example below assumes the Protected NBBO³³ is \$10.09 by \$10.11, and includes Auction Eligible Orders on the Closing Auction Book at the time of the Closing Auction match:

- Example 1
 - The Closing Auction Book includes the following orders:
 - LOC order to buy 1,500 shares with a limit price of \$10.10; and
 - LOC order to sell 1,000 shares with a limit price of \$10.10.
 - Shares are maximized at \$10.10; therefore
 - 1,000 shares would execute at the IEX Official Closing Price of \$10.10.
- 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;

³² See proposed Rules 11.350(c)(2)(C), 11.350(d)(2)(C), 11.350(e)(2)(D), and 11.350(f)(2)(F) and (f)(3)(B)(iii), respectively.

³³ See Regulation NMS, Rule 600(b)(57).

- The price at which shares will remain unexecuted in the auction is \$10.10³⁴;
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 or between \$10.09 and \$10.11;
 - The range of prices at or between the prices at which shares will remain unexecuted in the auction is \$10.09 and \$10.11;
 - Because a range of prices exist after evaluating the prior two conditions (i.e., an auction price range), the price closest to the Volume Based Tie Breaker (i.e., the midpoint of the Protected NBBO) within the auction price range is \$10.10; therefore
 - 2,000 shares would execute at the IEX Official Closing Price of \$10.10.

For Opening and Closing Auctions, pursuant to proposed Rule 11.350(a)(2), the

³⁴ Note, while shares are maximized at and between the lower threshold of the Opening/Closing Auction Collar (\$9.08) and \$10.10, the entered price at which shares will remain unexecuted in the auction is \$10.10, as \$10.10 is the resting price of the most aggressive order where shares remain unexecuted.

Exchange is proposing that non-displayed buy (sell) orders on the Continuous Book with a resting price (as defined in proposed 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 price³⁵, but will be ranked and eligible for execution in the Opening or Closing Auction match at the order's resting price. Thus, non-displayed orders will influence the clearing price if such price is at or outside the Reference Price Range, but not if the clearing price is within the Reference Price Range.

The proposed treatment of non-displayed interest on the Continuous Book resting within the Reference Price Range is designed to protect the anonymity of resting non-displayed interest on the Continuous Book during the dissemination of IEX Auction Information.³⁶ Specifically, the Exchange believes that without such treatment information leakage would occur if the Indicative Clearing Price is closer to the midpoint of the NBBO than the Reference Price that is disseminated via IEX Auction Information. This would indicate that there is non-displayed interest resting on the Continuous Book for at least the size of the imbalance and priced at least as aggressive as the Reference Price.

The following examples are designed to illustrate the clearing price determination process including non-displayed orders on the Continuous Book with a resting price

³⁵ Note, non-displayed buy (sell) orders on the Continuous Book with a resting price (as defined in proposed 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 and the Indicative Clearing Price disseminated in IEX Auction Information as set forth in proposed Rule 11.350(a)(9)(E).

³⁶ The Exchange notes that in the case of an IPO, Halt, or Volatility Auction, there is no continuous trading and therefore no Continuous Book. Accordingly, there would be no non-displayed interest on the Continuous Book to which the proposed functionality would apply.

within the Reference Price Range, as described above. Each example below assumes the Protected NBBO is \$20.19 by \$20.21, and includes 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:

- 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 between \$20.18 and \$20.19, and the price at which shares are left unexecuted within such range, is \$20.19; 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, and the price at which shares are left unexecuted within such range, is \$20.19; 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.
- Example 3
 - The Regular Market Continuous Book Contains the following orders:

- Primary Peg order to buy 2,500 shares with a resting price of \$20.18, and limit 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 20.19.
- For purposes of determining the clearing price, the Primary Peg order is priced at its resting price (\$20.18) because it is resting outside the Reference Price Range (\$20.19 to \$20.21); the Primary Peg order is eligible exercise price discretion up to the auction match price, so long as the match price is at or below the less aggressive of the NBB or the order's limit price.
- Accordingly, shares are maximized at \$20.19; therefore
 - 2,000 shares would execute at the IEX Official Closing Price of \$20.19;
 - The LOC buy order would receive an execution of 500 shares;
 - Assuming IEX has determined the quote to be stable pursuant to IEX Rule 11.190(g), the Primary Peg buy order would exercise discretion up to the auction match price and receive an execution of 1,500 shares; and
 - Assuming IEX has determined the quote to be stable pursuant to IEX Rule 11.190(g), the LOC sell order would receive an execution of 2,000 shares. If IEX has determined the quote to be unstable pursuant to IEX Rule 11.190(g), the LOC sell order would receive an execution of 500 shares.

- Example 4
 - 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 \$20.20; and
 - LOC order to sell 2,000 shares with a limit price of \$20.20.
 - 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 \$20.20; therefore
 - 2,000 shares would execute at the IEX Official Closing Price of \$20.20;
 - The LOC buy order would receive an execution of 500 shares;
 - The Midpoint Peg buy order would receive an execution of 1,500 shares; and
 - The LOC sell order would receive an execution of 2,000 shares.
- Example 5
 - The Regular Market Continuous Book Contains the following orders:
 - Discretionary Peg order to buy 2,500 shares with a resting price of \$20.19, and limit price of \$20.21.
 - The Closing Auction Book includes the following orders:
 - LOC order to buy 500 shares with a limit price of \$20.20; and

- LOC order to sell 2,000 shares with a limit price of \$20.20.
- For purposes of determining the clearing price, the Discretionary Peg order is priced at its resting price (\$20.19) because it is resting at the Reference Price Range (\$20.19 to \$20.21); the Discretionary Peg order is eligible exercise price discretion up to the auction match price, so long as the match price is at or below the less aggressive of the midpoint of the NBBO or the order's limit price.
- Accordingly, shares are maximized at \$20.20; therefore
 - 2,000 shares would execute at the IEX Official Closing Price of \$20.20;
 - The LOC buy order would receive an execution of 500 shares;
 - Assuming IEX has determined the quote to be stable pursuant to IEX Rule 11.190(g), the Discretionary Peg buy order would exercise discretion up to the auction match price and receive an execution of 1,500 shares; and
 - Assuming IEX has determined the quote to be stable pursuant to IEX Rule 11.190(g), the LOC sell order would receive an execution of 2,000 shares. If IEX has determined the quote to be unstable pursuant to IEX Rule 11.190(g), the LOC sell order would receive an execution of 500 shares.

As noted above, the Exchange will not offer an imbalance order type (i.e., an order *type* that by its terms is designed to solely offset a buy or sell order imbalance in the

auction), which is currently offered by Nasdaq, but not by Bats.³⁷ However, Users who wish to offset buy or sell imbalances in an auction may do so by entering LOO, LOC, and limit orders priced within the applicable auction collar, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book with a resting price within the Reference Price Range, which, as described further below, is eligible to offset imbalance within the Reference Price Range without influencing the determination of the clearing price.

After informal discussion with various Members, the Exchange believes that imbalance only order types are generally employed by Users deploying sophisticated auction trading strategies, and are seldom used by long-term or natural investors. Accordingly, the Exchange believes that not offering a special imbalance only order type that is unlikely to garner broad User adoption, while still offering investors the opportunity to offset imbalances using LOO, LOC, and limit orders, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book with a resting price within the Reference Price Range, will simplify the process of participating in auctions and attract more trading interest from a broad range of market participants, thereby resulting in robust price discovery for IEX Auctions, consistent with the protection of investors and the public interest.

The clearing price determination process proposed by the Exchange takes an approach similar to Nasdaq, with certain modifications as described below. Specifically, as proposed, the clearing price determination for both Nasdaq and IEX would first maximize the number of shares executable in the auction at a single price. However, in

³⁷ See, e.g., Nasdaq Rule 4702(b)(10) and (13).

the event there is more than one price at which shares are maximized, Nasdaq Rule 4752(d)(2)(B) states that the auction shall match at the price that minimizes any imbalance, and if there is more than one price at which shares are maximized and imbalance is minimized, Nasdaq Rule 4752(d)(2)(C) states that the auction shall match at the price at which shares will remain unexecuted in the auction. The Exchange believes that Nasdaq Rule 4752(d)(2)(B) and (C) often arrive at the same price, because the price at which imbalance is minimized is often also the price at which shares remain unexecuted in the auction. Accordingly, the Exchange is proposing to consolidate these two conditions, and instead utilize the price at which shares will remain unexecuted in the auction (i.e., the price of the most aggressive unexecuted order).³⁸

Moreover, in the event the clearing price determination process results in a clearing price range (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 Exchange proposes to utilize the price at or closest the Volume Based Tie Breaker within the auction price range (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).³⁹ This differs from Nasdaq in that in the event the clearing price determination

³⁸ The Exchange notes that in the rare event that Auction Eligible Orders are perfectly matched at multiple prices, the prices at which imbalance is minimized and the prices at which shares will remain unexecuted are different. In such cases, the range of prices within which the auction can occur on Nasdaq would be one (1) MPV less aggressive than the prices within which the auction can occur as proposed by the Exchange. Furthermore, in the event that Auction Eligible Orders are perfectly matched at two prices that create a one cent range, the price at which imbalance is minimized and the price at which shares remain unexecuted is the same.

³⁹ See proposed Rule 11.350(a)(33).

process results in a clearing 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 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.⁴⁰

Lastly, in the event the clearing price determined pursuant to the procedures above is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Opening or Closing Auction, the official 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 described above. This differs from Nasdaq in that under Nasdaq Rule 4752(d)(2)(E), if the auction price is outside of the Nasdaq opening or closing auction collars, the auction shall occur at a price within the threshold amounts that best satisfies the conditions of Nasdaq Rule 4752(d)(2)(A) through (D). The Exchange believes that the proposed rule is designed to provide greater clarity to Users regarding the range of prices within which the Opening or Closing Auction will occur (because the

⁴⁰ Note, as described in detail below, in the event the Protected NBBO is crossed, the Volume Based Tie Breaker will be the midpoint of a Valid IEX BBO. If there is not a Valid IEX BBO, the Volume Based Tie Breaker will be the higher (lower) of the Final Consolidated Last Sale Eligible Trade, or the Protected NBB (NBO), if not crossed, or the IEX best bid (offer). See proposed Rules 11.350(a)(33) and (30).

range of possible auction match prices is narrower) in the event the clearing price is outside of the collar.

The Exchange notes that the clearing price determination processes utilized by other primary listing markets are not homogeneous. As described above, the Exchange designed IEX Auctions with certain features that are substantially similar to current functionality offered by other listings markets, while making certain changes designed to democratize auction participation among all Members via simplification and transparency. Accordingly, the Exchange believes that the proposed auction design will provide a transparent, efficient, and robust process to aggregate trading interest submitted by a broad range of market participants to be matched at a single clearing price, consistent with the protection of investors and the public interest, and in alignment with issuers' interests.

Reference Price Range and Volume Based Tie Breaker

Each of the Opening Auction, Closing Auction, IPO Auction, Halt Auction, and Volatility Auction operated by IEX will be an auction to match buy and sell orders at the single price at which the most shares would execute. 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 auction price range that minimizes the distance from the Volume Based Tie Breaker.⁴¹ Similar to Bats, the Volume Based Tie Breaker for an Opening or Closing Auction will be the midpoint of the Reference Price Range.⁴² For a Volatility Auction, the Reference Price Range is defined in proposed Rule 11.350(a)(1)(30) as the prices

⁴¹ Generally, the Volume Based Tie breaker will be the midpoint of the Protected NBBO.

⁴² See proposed Rules 11.350(a)(33) and 11.350(a)(30). See also Bats Rule 11.23(a)(23).

between and including the applicable Volatility Auction Collar. For an Opening or Closing Auction, the Reference Price Range is defined in proposed Rule 11.350(a)(1)(30) as the prices between and including the protected national best bid (“Protected NBB”) and protected national best offer (“Protected NBO”) if the Protected NBBO is valid. The Protected NBBO is valid when there is both a Protected NBB and Protected NBO in the security, the Protected NBBO is not crossed, and the midpoint of the Protected NBBO is less than or equal to the Maximum Percentage away from both the Protected NBB and Protected NBO.⁴³ The Exchange will utilize Maximum Percentage values identical to those used by Bats⁴⁴, which are as follows:⁴⁵

- (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.

In the event that the Protected NBBO is not valid, the Reference Price Range will

⁴³ Note, the Volume Based Tie Breaker is distinguishable from Bats in that the Exchange will utilize the midpoint of a valid *Protected* NBBO, whereas Bats utilizes the midpoint of the NBBO (emphasis added).

⁴⁴ Bats Rule 11.23(a)(23) states that “the Maximum Percentage will be determined by the Exchange and will be published in a circular distributed to Members with reasonable advance notice prior to initial implementation and any change thereto.” The [Bats US Equities Auction Process](#) specification (Version 1.5.1) identifies the Maximum Percentage values at 5.

⁴⁵ The Exchange anticipates modifying the Maximum Percentage values in response to market-wide events that are driving price volatility, and would therefore benefit from temporarily widening such values in the interest of allowing robust price discovery, consistent with the protection of investors and the public interest. The Exchange notes that modification of the Maximum Percentage values are subject to the provisions of Section 19(b)(1) under the Act, and Rule 19b-4 thereunder. See 15 U.S.C. 78s(b)(1), and 17 CFR 240.19b-4.

be the IEX BBO, if the IEX BBO is a Valid IEX BBO.⁴⁶ The IEX BBO is Valid IEX BBO where there is both an IEX best bid and IEX best offer in 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 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 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.⁴⁷ 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 proposed Maximum Percentage validation of the Protected NBBO (or IEX BBO, as applicable) is designed to avoid using an excessively wide spread as the Reference Price Range, or the midpoint price of such spread as the Volume Based Tie Breaker. As described above, in the event the midpoint of the Protected NBBO (or IEX BBO) is greater than the Maximum Percentage away from either the NBB (or IEX best

⁴⁶ Nasdaq utilizes a similar volume based tie-breaker, which is defined as the bid-ask midpoint of the inside quote on the Nasdaq order book prevailing at 09:30 a.m. See e.g., Nasdaq Rule 4752(d)(2)(D).

⁴⁷ See Bats Rule 11.23(a)(23), except that Bats does not test the Final Last Sale Eligible Trade against the available quotations in the market. The proposed functionality is designed to avoid providing a reference price beyond the best protected bid or offer.

bid) or NBO (or IEX best offer), then the Exchange will utilize prices that reflect the most recent trading or quoting activity (e.g., the Final Consolidated Last Sale Eligible Trade), in an effort for the Reference Price Range and Volume Based Tie Breaker to more closely reflect the current market for the security.

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. If no such transaction was executed in accordance with the preceding sentence, then the Final Consolidated Last Sale Eligible Trade will be the previous official closing price, or the issue price in the case of an IPO or launch of a new issue. 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. If no such transaction was executed in accordance with the preceding sentence, then the Latest Consolidated Last Sale Eligible Trade will be the previous official closing price.⁴⁸ The Exchange believes that utilizing the final (latest) consolidated last sale eligible trade is consistent with the protection of investors and the public interest in that such price best reflects the broader market for the security.

Auction Collars

Opening/Closing Auction Collar

⁴⁸ Collectively, the Final Consolidated Last Sale Eligible Trade and the Latest Consolidated Last Sale Eligible Trade are substantially similar in definition to the Final Last Sale Eligible Trade used by Bats pursuant to Bats Rule 11.23(a)(9), except that the Exchange does not require that the last sale eligible trade have been executed on the Exchange within one second prior to the auction match, or where applicable, the halt, or pause. See Bats Rule 11.23(a)(9).

Pursuant to proposed Rule 11.350(a)(27), the Opening and Closing Auction match must occur at or within the upper and lower thresholds of the Opening/Closing Auction Collar. If the clearing price determination results in a clearing price below (above) the lower (upper) threshold of the Opening/Closing Auction Collar, the price of the auction will be set to 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 clearing price determination.⁴⁹

The 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 (defined as the Volume Based Tie Breaker, which is generally the midpoint of the Protected NBBO), which shall be added to (subtracted from) the Protected NBO (NBB) to establish the upper (lower) threshold of the Opening/Closing Auction Collar. The Opening/Closing Auction Collar default threshold is identical to the default auction collar thresholds used by Nasdaq; however, Nasdaq utilizes the midpoint of the best bid and offer on Nasdaq's book as the collar reference price.⁵⁰

The Exchange is proposing to utilize a default threshold percentage of ten percent (10%) for the Opening/Closing Auction Collar because, based on informal discussion with various Members, as well as Nasdaq's usage of identical default threshold percentage values, such values typically provide an appropriate range within which price

⁴⁹ See proposed Rules 11.350(c)(2)(B)(iv) and 11.350(d)(2)(B)(iv).

⁵⁰ See e.g., Nasdaq Rule 4752(d)(2)(E).

discovery may occur to maximize the number of shares executed in the auction.

Furthermore, the Exchange believes utilizing the midpoint of the Protected NBBO to establish the Opening/Closing Auction Collar Reference Price is consistent with the protection of investors and the public interest in that the Protected NBBO represents the range of prices that best reflect the market for a security. Furthermore, utilizing the midpoint of the Protected NBBO may be less susceptible to volatility and manipulation, because in order to move the midpoint of the Protected NBBO to influence the auction, one or more Users would need to sweep the entire market, rather than simply entering aggressive interest on the Exchange.⁵¹

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, at or 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, and as the Protected NBBO changes, the Opening/Closing

⁵¹ The Exchange anticipates modifying such benchmarks and thresholds in response to market-wide events that are driving price volatility, and would therefore benefit from temporarily widening threshold values in the interest of allowing robust price discovery, consistent with the protection of investors and the public interest. The Exchange notes that modification of the default threshold percentage values for the Opening/Closing Auction Collar are subject to the provisions of Section 19(b)(1) under the Act, and Rule 19b-4 thereunder. See 15 U.S.C. 78s(b)(1), and 17 CFR 240.19b-4.

Auction Collar updates to reflect such changes.

If the Protected NBBO is crossed, the Opening/Closing Auction Collar will be 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 (defined as the Volume Based Tie Breaker, which in the case of a crossed market, is the midpoint of the IEX BBO), which shall be added to (subtracted from) the IEX best offer (bid) to establish the upper (lower) threshold of the Opening/Closing Auction Collar.⁵² If the Protected NBBO, or, when utilized, the IEX BBO is not two-sided (i.e., do not have both a bid and offer), the greater of fifty cents (\$0.50) or a default threshold percentage of ten percent (10%) will be applied to the Opening/Closing Auction Collar Reference Price (defined as the Volume Based Tie Breaker, which in the event the Protected NBBO or IEX BBO do not exist, is the Final Consolidated Last Sale Eligible Trade), 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.

Volatility Auction Collar

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 arrives at a clearing price above (below) the upper (lower) threshold of the Volatility Auction Collar, the Volatility Auction Order Acceptance Period will be extended five (5) minutes due to an Impermissible Price and the Volatility Auction Collar will be updated as described

⁵² In the event the Protected NBBO is crossed, the Exchange will utilize the midpoint of the IEX BBO, which as noted above, is substantially similar to Nasdaq. See e.g., Nasdaq Rule 4752(d)(2)(E).

below.

If the Volatility Auction Collar Reference Price (defined in proposed Rule 11.350(a)(32)) as the Upper or Lower LULD Price Band that triggered the LULD trading pause) is the Lower (Upper) Price Band, the initial lower (upper) threshold of the Volatility Auction Collar is five percent (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. For securities with a Volatility Auction Collar Reference Price of three dollars (\$3.00) or less, the initial lower (upper) threshold of the Volatility Auction Collar is fifteen cents (\$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. The Volatility Auction Collar, as proposed, is identical to the auction collars imposed by Bats, Nasdaq, and Arca when conducting an auction to resume a security subject to an LULD trading pause.⁵³

Furthermore, the proposed Volatility Auction Collar functionality is 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 Exchange 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

⁵³ See 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) (File No. SR-NYSEArca-2016-130).

allow for extensions of an LULD trading pause if equilibrium cannot be met for a reopening price within specified parameters.⁵⁴ 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%) in the direction of the Impermissible Price, rounded to the nearest passive MPV. For securities with a Volatility Auction Collar Reference Price of three dollars (\$3.00) or less, the upper (lower) threshold of the Volatility Auction Collar will be increased (decreased) in fifteen-cent (\$0.15) increments in the direction of the Impermissible Price, rounded to the nearest passive MPV.

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

⁵⁴ 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) (File No. SR-NYSEArca-2016-130) and Securities and Exchange Act Release No. 34-79410; File No. 4-631 (Notice of Filing of the Twelfth Amendment to the National Market System Plan to Address Extraordinary Market Volatility).

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 5% of the upper Volatility Auction Collar, or \$0.55 ($5\% \text{ of } \$11.00 = \0.55), to the upper Volatility Auction Collar.⁵⁵ The lower Volatility Auction Collar remains unchanged. In this example, it would result in an upper Volatility Auction Collar of \$11.55 ($\$11.00 + \$0.55 = \11.55) and a lower Volatility Auction Collar of \$9.50, thus creating a range of \$9.50 to \$11.55, within which the Volatility Auction can now occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.55 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

⁵⁵ See proposed Rules 11.350(f)(2)(C)(ii), and 11.350(f)(2)(D).

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 5% of the lower Volatility Auction Collar, or \$0.47 (5% of \$9.50 = \$0.47, when rounded to the nearest passive MPV), from the lower Volatility Auction Collar.⁵⁶ Thus, it would result in a lower Volatility Auction Collar of \$9.03 ($\$9.50 - \$0.47 = \9.03) and an upper Volatility Auction Collar of \$11.55, creating a range of \$9.03 to \$11.55 within which the Volatility Auction can now occur. This means \$9.03 is the lowest price at which the Volatility Auction can occur and \$11.55 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.

Opening Auction

Order Entry and Cancellation Before Opening Auction

As proposed in Rule 11.350(c)(1), the Exchange will allow Users to submit orders eligible for execution in the Opening Auction at the beginning of the Pre-Market Session, which begins at 8:00 a.m.⁵⁷ Any orders designated for the Opening Auction Book will be queued until 9:30 a.m. at which time they will be eligible to be executed in the Opening Auction. Auction Ineligible Orders with a TIF of IOC or FOK will be rejected prior to the 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). Orders on the Opening Auction Book, as proposed, would include MOO orders, LOO orders,

⁵⁶ See proposed Rule 11.350(f)(2)(D).

⁵⁷ All times referenced herein are Eastern Time.

market orders with a time-in-force of DAY⁵⁸, and limit orders with a time-in-force of DAY or GTX. In addition to orders on the Opening Auction Book, limit orders on the Continuous Book with a time-in-force of SYS or GTT are eligible to execute in the Opening Auction (“Pre-market Continuous Book”).

Pursuant to proposed Rule 11.350(c)(1)(B), beginning at the Opening Auction Lock-in Time (*i.e.*, 9:28 a.m.), the Opening Auction will be subject to certain “lock-in” and “lock-out” restrictions. Specifically, Users may enter, cancel, or modify Auction Eligible Orders until the Opening Auction Lock-in Time, at which time orders on the Opening Auction Book can no longer be canceled or modified before the Opening Auction match. After the Opening Auction Lock-in Time, the Exchange will begin to reject Hyper-aggressive Auction Orders upon entry. Hyper-aggressive Auction Orders, as proposed, include market and MOO orders, as well as LOO and limit orders with a time-in-force of DAY or GTX with a limit price more aggressive than the latest Opening/Closing Auction Collar calculated by the System (*i.e.*, buy (sell) orders priced above (below) the latest upper (lower) threshold of the Opening/Closing Auction Collar calculated by the System). Bats implements a similar Opening Auction cut-off time (9:28 a.m.), at which time LOO and MOO as well as market orders will be rejected (and Regular Hours Only (RHO) orders⁵⁹ are converted to Late Limit On-Open (LLOO)

⁵⁸ Market orders with a time-in-force of DAY will be functionally equivalent to MOO orders in the Opening Auction (*i.e.*, such orders will be executable at the Opening Auction match price, and any unfilled shares will be immediately canceled following the Opening Auction match). Market orders with a time-in-force other than DAY will not be eligible for execution in the Opening Auction.

⁵⁹ See Bats Rule 11.9(b)(7), defining Regular Hours Only (“RHO”) as a time in force applied to a limit or market order that is designated for execution only during Regular Trading Hours, which includes the Opening Auction, the Closing Auction, and IPO/Halt Auctions for BZX listed securities and the Opening Process for non-BZX-listed securities

orders).⁶⁰ In the context of the IEX Opening Auction, such orders are similar to the order types on the Opening Auction Book. 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 canceled until the auction match.⁶¹ Similarly, Nasdaq also applies a 9:28 a.m. cut-off time.⁶²

The Exchange is proposing a similar approach to Bats and Nasdaq, in applying a 9:28 a.m. Lock-out Time where LOO and MOO orders are no longer accepted and may no longer be modified or canceled; however, after informal discussion with various Members, the Exchange is proposing that LOO orders and limit orders with a time-in-force of DAY or GTX will continue to be accepted until the Opening Auction Lock-out Time (i.e., 9:29:50 a.m., ten (10) seconds prior to the Opening Auction match) so long as they are not Hyper-aggressive Auction Orders, which will allow Users to continue to express interest, and offset imbalances via orders designated for the Auction Book in the minutes leading up to the auction match. Such orders entered into the Auction Book after the Lock-in Time cannot be canceled or modified. Furthermore, Hyper-aggressive Auction Orders will be rejected, which is designed to minimize the increase of imbalances or large price swings resulting from aggressively priced orders in the Auction Book during the last two minutes of the auction process. Instead, the Exchange is proposing to allow for price discovery to occur on the Auction Book and Continuous

(as such terms are defined in Rule 11.23 and 11.24). Any portion of a market RHO order will be cancelled immediately following any auction in which it is not executed.

⁶⁰ See e.g., Bats Rule 11.23(b)(1)(A).

⁶¹ See e.g., Bats Rule 11.23(b)(1)(A)-(B).

⁶² See Nasdaq Rules 4702(b)(8), (9), and (10), as well as Nasdaq Rule 4752(a)(7), which sets forth the various order types eligible to participate in the Nasdaq cross, as well as the various applicable timing restrictions.

Book within the applicable auction collars leading up to the auction match, allowing for a convergence of the Auction Book with the Continuous Book to establish equilibrium.

The Exchange notes that allowing Users to offset imbalances on the Auction Book after the Lock-in Time is designed to promote stability and equilibrium leading into the auction match because such orders are not able to be canceled or modified after entry (i.e., they are locked-in), which is in direct contrast with offsetting orders on the Continuous Book that may be fleeting, because they are eligible for cancellation, modification, and execution until the auction match.

Orders eligible to join the Opening Auction Book that are received after the Opening Auction Lock-out Time will be rejected upon entry. Limit orders designated for the Pre-Market Continuous Book (as well as Auction Ineligible Orders) may continue to be entered and modified or canceled at any time prior to execution.⁶³ Pegged orders may be submitted, canceled, and/or modified beyond the Opening Auction Lock-in Time and Lock-out Time, and will not be eligible for execution in the Opening Auction. The proposed Lock-Out Time of 9:29:50 a.m., ten (10) seconds prior to the Opening Auction, is designed to freeze the Auction Book, and provide Users an opportunity to offset any remaining imbalance by submitting limit orders on the Continuous Book.

⁶³ Bats offers identical functionality for all Continuous Book orders eligible for execution in the Bats Pre-Opening Session. See Bats Rule 11.23(b)(1)(C). Similarly, NYSE Arca allows orders to enter the Continuous Book after the Opening and Closing Auction Imbalance Freeze. See Arca Rule 7.35(c)(3)(D). Accordingly, the Exchange believes that allowing orders to enter the Continuous Book and be eligible for execution in the auction match until immediately before the auction match does not present any unique concerns regarding attempted manipulation of the auction match. The Exchange notes that pursuant to the Regulatory Services Agreement between FINRA and the Exchange, FINRA will be running surveillance patterns to identify potentially manipulative trading activity in IEX Auctions. Furthermore, the Exchange is developing internal market quality surveillances to identify potentially manipulative trading activities.

Opening Auction Process for IEX-Listed Securities

Pursuant to proposed Rule 11.350(c)(2), beginning at the Opening Auction Lock-in Time and updated every one second thereafter, the Exchange will disseminate IEX Auction Information via electronic means, as described below. Auction Eligible Orders will be ranked and maintained in accordance with IEX Auction Priority, described above. The Exchange will attempt to conduct an Opening Auction for all IEX-listed securities at the start of Regular Market Hours (i.e., 9:30 a.m.) in accordance with the clearing price determination process, described above, and set forth in proposed Rule 11.350(c)(2)(B). All orders eligible for execution in the Opening Auction (i.e., orders on the Opening Auction Book and orders on the Pre-Market Continuous Book) are Auction Eligible Orders. The resting price (as defined in proposed Rule 11.350(b)(1)(A)(i)) of Auction Eligible Orders are used to calculate the Indicative Clearing Price disseminated in IEX Auction Information, and the auction match price. As described above, non-displayed buy (sell) orders on the Continuous Book with a resting price within the Reference Price Range will be priced at the Protected NBB (NBO) for the purpose of determining the clearing price (and the Indicative Clearing Price disseminated in IEX Auction Information every one second leading into the auction match), but will be ranked and eligible for execution in the Opening Auction match at the order's resting price.⁶⁴

Pursuant to proposed Rule 11.350(c)(2)(C), Auction Eligible Orders matched in the Opening Auction will execute in accordance with IEX Auction Priority, as described 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

⁶⁴ See proposed Rule 11.350(a)(2).

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 (i.e., LOO orders and limit orders with a time-in-force of DAY, GTT, GTX, or SYS) 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. Upon completion of the Opening Auction for IEX-listed securities (or the IEX Halt Auction during the Regular Market Session for IEX-listed securities that have not traded during the Regular Market Session on that trading day), the IEX Official Opening Price for the security will be disseminated to the Consolidated Tape along with a bulk execution. The IEX Official Opening Price will be the price of the auction. If a security does not have an Opening Auction (e.g., there is insufficient crossing interest to conduct an Opening Auction), the security will be released for trading pursuant to proposed Rule 11.350(c)(3), described below, and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.⁶⁵

Under proposed Rule 11.350(c)(2)(D), 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

⁶⁵ See, e.g., Nasdaq Rule 4753(b)(4) regarding the official Nasdaq opening price for stocks that are subject to a pre-market halt, which is similar to the functionality proposed by the Exchange concerning the official opening price in the event there is no Opening Auction for a security due to a lack of crossing interest. See also proposed Rule 11.350(a)(16).

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 (i.e., MOO orders, LOO orders, limit orders with a time-in-force of DAY or GTX, and market orders with a time-in-force of DAY) 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. The Exchange believes that transferring orders queued on the Opening Auction Book to the Halt Auction if a halt persists through the start of Regular Market Hours is in the best interest of investors and the public interest, because Users will not need to account for auction interest that is canceled back, and subsequently be required resubmit such interest during the Order Acceptance Period. The Exchange believes this process represents a simplified way for Users to submit interest for participation in the auction that is determining the IEX Official Opening Price for an IEX-listed security, and in the event the Halt Auction is determining such price, the Exchange must incorporate such On-Open interest in order to ensure robust price discovery. If there is insufficient crossing interest to complete the Halt Auction, the transition to the Regular Market Session shall be conducted pursuant to proposed Rule 11.350(e)(3), described below, no auction will occur and the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade.⁶⁶

Under proposed Rule 11.350(c)(2)(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

⁶⁶ See proposed Rule 11.350(a)(16).

lack of crossing interest during the Opening Auction, there is no Initial Last Sale Eligible Trade, and the security is subsequently halted. Similarly, under proposed Rule 11.350(c)(2)(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 a lack of crossing interest during the Opening Auction, there is no Initial Last Sale Eligible Trade, and the security is subsequently paused.

Opening Auction Contingency Procedures

When a disruption occurs that prevents the execution of the Opening Auction as set forth above, IEX shall apply the Opening Auction Contingency Procedures pursuant to proposed Rule 11.350(c)(4). Specifically, IEX will publicly announce that no Opening Auction will occur, and the price of the Initial Consolidated Last Sale Eligible Trade will be used for the IEX Official Opening Price.⁶⁷ All orders on the Order Book will be canceled, and IEX will open the security for trading without an auction. If a security's IEX Official Opening Price cannot be determined based on this procedure, IEX will not publish an Official Opening Price for the security. The Regular Market Session will begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Opening Auction Contingency Procedures. The Exchange believes that providing transparent Opening Auction Contingency Procedures is consistent with the protection of investors and the public interest in that Users will have more clarity regarding the methodology for arriving at the IEX Official Opening Price and the status of open orders,

⁶⁷ Note, the Exchange intends to disseminate a System Status Alert to publicly announce contingency plans, which automatically publishes an email alert, twitter update, and text message to all persons registered to receive such alerts, as well as publishing to the IEX public website. To register for System Status Alerts, visit <https://www.iextrading.com/status/#/>.

therefore allowing for such Users to resubmit such interest in the Regular Market Session, or re-route such interest to an alternate trading center after IEX has opened the security for trading. In addition, the Opening Auction Contingency Procedures are designed to ensure the orderly and timely opening of IEX-listed securities, which will help to ensure a fair and orderly market for securities listed on the Exchange.

Transition to Regular Market Session

Pursuant to proposed Rule 11.350(c)(3), 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.⁶⁸ 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. 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.

Closing Auction

⁶⁸ The Exchange's cancellation of MOO, LOO, and market orders, as well as limit orders with a time-in-force of DAY or GTX with a limit price more aggressive than Opening Auction match price that are not executed in the auction match is identical to order handling offered by Bats pursuant to Bats Rule 11.23(b)(3)(B)-(C), which states that RHO orders queued for the Opening Auction with a limit price more aggressive than the auction match that are not executed in the auction match will be canceled following the auction match.

Order Entry and Cancellation Before Closing Auction

As proposed in Rule 11.350(d)(1), the Exchange will allow Users to submit orders eligible for execution in the Closing Auction at the beginning of the Pre-Market Session, or at the beginning of the Order Acceptance Period for an IPO, which in both cases begins at 8:00 a.m. Any MOC and LOC orders designated for the Closing Auction Book will be queued until the end of the Regular Market Session (e.g., 4:00 p.m., or such earlier time as the Regular Market Session ends on days that IEX is subject to an early closing), at which time they will be eligible to be executed in the Closing Auction. Orders on the Closing Auction Book, as proposed, would include and be limited to MOC and LOC orders. In addition to orders on the Closing Auction Book, limit and pegged orders on the Continuous Book with a time-in-force of DAY, GTX, GTT, or SYS are eligible for execution in the Closing Auction (“Regular Market Continuous Book”).⁶⁹ All orders eligible for execution in the Closing Auction (i.e., orders on the Closing Auction Book and orders on the Regular Market Continuous Book) are Auction Eligible Orders. The resting price (as defined in proposed Rule 11.350(b)(1)(A)(i)) of Auction Eligible Orders are used to calculate the auction match price, and the Indicative Clearing Price disseminated in IEX Auction Information. Non-displayed buy (sell) orders on the Continuous Book with a resting price within the Reference Price Range will be priced at the Protected NBB (NBO) for the purpose of determining the clearing price (and determining the Indicative Clearing Price disseminated in IEX Auction Information

⁶⁹ The following types of orders are not eligible for execution in the Closing Auction: market orders (except MOC orders) and orders with a time-in-force of IOC or FOK. As described above, Market orders entered during the Regular Market Session and orders marked IOC or FOK do not rest on the Continuous Book, and therefore are not Auction Eligible Orders.

leading up to the auction match), but will be ranked and eligible for execution in the Closing Auction match at the order's resting price.

Pursuant to proposed Rule 11.350(d)(1), beginning at the Closing Auction Lock-in Time (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), the Closing Auction will be subject to certain "lock-in" and "lock-out" restrictions.⁷⁰ Specifically, under proposed Rule 11.350(d)(1)(B), Users may enter, cancel, or modify Auction Eligible Orders until the Closing Auction Lock-in Time, at which time orders on the Closing Auction Book can no longer be canceled or modified, except that between the Closing Auction Lock-in Time and five minutes before the Closing Auction match (e.g., 3:55 p.m.), LOC and MOC orders can be canceled only if the participant requests that IEX correct a legitimate error in the order (e.g., side, size, symbol, price, or duplication of an order). LOC and MOC orders cannot be canceled or modified at or after five minutes before the Closing Auction match (e.g., 3:55 p.m.) for any reason.⁷¹ After the Closing Auction Lock-in Time, the Exchange will begin to reject Hyper-aggressive Auction Orders upon entry.⁷² For the Closing Auction, Hyper-aggressive Auction Orders, as proposed, include MOC orders, and LOC orders with a limit price more aggressive than the latest Opening/Closing Auction Collar calculated by the System (i.e., buy orders priced above the latest upper auction collar threshold and sell orders priced below the latest lower auction collar

⁷⁰ Bats implements a less restrictive cut-off time, allowing LOC and MOC orders to be submitted until 3:55 p.m., but still allowing orders eligible for continuous trading and LLOC orders to be entered until immediately before the auction match. See Bats Rule 11.23(C)(1)(A). Nasdaq implements an identical cut-off time (3:50 p.m.), but still allows orders eligible for continuous trading and imbalance only orders to be entered until immediately before the auction match. See Nasdaq Rules 4702(b)(11)-(13).

⁷¹ See proposed Rule 11.350(d)(1)(C).

⁷² See proposed Rule 11.350(d)(1)(B).

threshold calculated by the System). LOC orders entered with a limit price that is not more aggressive than the latest Opening/Closing Auction Collar calculated by the System will continue to be accepted until the Closing Auction Lock-out Time (i.e., 3:59:50 p.m., ten (10) seconds prior to the Closing Auction match).⁷³ As noted above in the context of the Opening Auction, the Exchange similarly believes that rejecting Hyper-aggressive Auction Orders in the Closing Auction after the Lock-in Time, while allowing LOC orders that are priced within the applicable auction collar to be entered and be eligible for execution in the Closing Auction until the Lock-out Time will allow Users to continue to express interest and offset imbalances in the minutes leading up to the auction match, while also avoiding the increase of imbalances resulting from aggressively priced orders in the Auction Book during the last ten minutes of the auction process. Instead, the Exchange is proposing to allow for price discovery to occur on the Auction Book and

⁷³ NYSE applies a similar restriction for its closing auction under NYSE Rule 70.25, which states that d-Quotes may be entered, modified, and canceled *until* 10 seconds before the end of the Regular Market Session (emphasis added). The Exchange notes that as explained by a recent study on NYSE auctions conducted by Greenwich Associates, NYSE d-Quotes (which can be entered by broker that have relationships with NYSE floor brokers, or trading algorithms that are able to enter orders directly via FIX) contribute a meaningful portion of closing auction volume, as evidenced by the significant increase and fluctuations of indicative volume taken as a percentage of realized volume in the closing auction. Specifically, NYSE's auction data feed shows a material spike in indicative volume at 3:55 p.m., when d-Quotes are first included in the NYSE auction data feed, followed by fluctuations in indicative volume as a percent of realized volume. The Exchange further notes that the proposed handling of LOO, LOC, and limit orders submitted after the Lock-in Time that are not priced beyond the Opening/Closing Auction Collars is distinguishable from NYSE d-Quotes in that d-Quotes can be entered at any price, and can be canceled. As proposed, LOO, LOC, and limit orders submitted after the Lock-in Time that are not priced beyond the Opening/Closing Auction Collars cannot be canceled. The proposed order handling and IEX Auction information dissemination is designed to reflect "locked-in" interest on the Auction Book, which is intended to stimulate price discovery, and reduce fluctuations indicative volume taken as a percentage of realized volume that are caused by Users canceling orders on the Auction Book. See Trading the Auctions, Greenwich Associates, 2017, Doc ID 16-2068 (<https://www.greenwich.com/equities/trading-auctions>).

Continuous Book within the applicable auction collars leading up to the auction match, allowing for a convergence of the Auction Book with the Continuous Book to establish equilibrium.⁷⁴ Limit orders designated for the Regular Market Continuous Book may continue to be entered and modified or canceled at any time prior to execution. Similar to the Opening Auction, the proposed Lock-Out Time of 3:59:50 p.m., ten (10) seconds prior to the Closing Auction, is designed to provide Users an opportunity to offset any remaining imbalance during a period of relative stability (while the Auction Book is locked) by submitting limit orders on the Continuous Book.

Closing Auction Process for IEX-Listed Securities

Under proposed Rule 11.350(d)(2)(A), beginning at the Closing Auction Lock-in Time and updated every one second thereafter, the Exchange will disseminate IEX Auction Information via electronic means, as described below. The Exchange will attempt to conduct a Closing Auction for all IEX-listed securities at 4:00 p.m., or such earlier time as the Regular Market Session ends on days that IEX is subject to an early closing in accordance with the clearing price determination process, described above and set forth in proposed Rule 11.350(d)(2)(B). Auction Eligible Orders will be ranked in accordance with IEX Auction Priority, described above, and as set forth in proposed Rule 11.350(b).

For example, if the Continuous Book and Closing Auction Book were to contain

⁷⁴ As discussed above, the Exchange notes that allowing Users to offset imbalances on the Auction Book after the Lock-in Time is designed to promote price discovery and stability, and establish equilibrium leading into the auction match because such orders are not able to be canceled or modified after entry (*i.e.*, they are locked-in), which is in direct contrast with offsetting orders on the Continuous Book that may be fleeting, because they are eligible for cancellation, modification, or execution until the auction match. Orders eligible for the Closing Auction Book that are received after the Closing Auction Lock-out Time will be rejected upon entry.

the following orders:

Buy Orders				Sell Orders			
Entry Time	Type	Size	Price	Entry Time	Type	Size	Price
3:00	MOC	8000	<i>Market</i>	2:45	MOC	5000	<i>Market</i>
2:30	LOC	3000	20.02	3:00	LOC	3000	19.98
3:31	DAY	4000	19.99	3:55	LOC	1000	19.98
3:35	LOC	1000	19.99	3:59	DAY	500	20.00
3:59	DAY	3000	19.98	3:35	LOC	1000	20.00
3:59	DAY	2000	19.97	3:48	DAY	5000	20.01
3:40	LOC	4000	19.97	3:31	GTX	3000	20.02
3:52	LOC	500	19.97	3:40	LOC	1000	20.02
3:30	DAY	10000	19.96	3:30	DAY	10000	20.04

Shares are maximized and left unexecuted \$20.01, therefore the IEX Closing Auction would execute 11,000 shares at \$20.01.

Auction Eligible Orders matched in the Closing Auction will execute in accordance with IEX Auction Priority, described above. Specifically, as set forth in proposed Rule 11.350(d)(2)(C), 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 (i.e., LOC, as well as limit and pegged orders with a time-in-force of DAY, GTT, GTX, or SYS) 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. Upon completion of the Closing Auction for IEX-listed securities, the IEX Official Closing Price for the security will be disseminated to the Consolidated Tape along with a bulk execution. The IEX

Official Closing Price will be the price of the auction. If there is insufficient crossing interest to conduct a Closing Auction, no Closing Auction will occur, and the IEX Official Closing Price will be the price of the Final Last Sale Eligible Trade.⁷⁵ In such cases, the transition to the Post-Market Session shall be conducted pursuant to proposed Rule 11.350(d)(3), described below.

Pursuant to proposed Rule 11.350(d)(2)(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 make 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, and pegged orders 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 proposed Rule 11.350(f)(3), described below.

Closing Auction Contingency Procedures

⁷⁵ See proposed Rule 11.350(a)(7).

Pursuant to proposed Rule 11.350(d)(4), when a disruption occurs that prevents the execution of the Closing Auction as set forth above, IEX proposes to apply either the Primary or Secondary Closing Auction Contingency Procedures. The proposed contingency procedures are identical 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.⁷⁶

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.

Primary Closing Contingency Procedures

If IEX determines to initiate the Primary Closing Auction Contingency

⁷⁶ See, for example, Nasdaq Rule 4754(b)(8); Bats Rule 11.23(i); Arca Rule 1.1(gg).

Procedures, 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 that executable buy and sell interest exists on the Closing Auction Book. All 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 participants. If a security's IEX Official Closing Price cannot be determined by this subsection, IEX will not publish an Official Closing Price for the security and 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.

Designation of a Back-up Exchange

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, IEX shall publicly announce this determination at the earliest possible time via system status alerts and email notification directories. If the Secondary Closing Auction Contingency Procedures are implemented, IEX will designate an alternate exchange to provide an official closing price for all or a subset of IEX-listed securities. The Exchange would publicly announce the exchange designated as the alternate exchange via Trader Alert, and will confirm the designated alternate exchange via system status alert and email notification directories at the time of announcing the implementation of Secondary Closing Auction Contingency Procedures.

Secondary Closing Contingency Procedures

If IEX determines to follow Secondary Closing Auction Contingency Procedures for one or more securities at or before 3:00 p.m., IEX will designate an alternate exchange to provide an official closing price for all or a subset of IEX-listed securities. IEX will 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. The IEX Official Closing Price will be the official closing price established for the security under the rules of the designated back-up exchange. 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 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. If there are no last sale eligible trades reported to the Consolidated Tape during the last five 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. 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. The IEX Official Closing Price will be published to the Consolidated Tape. If a security’s IEX Official Closing Price cannot be determined under this subsection, IEX will not publish an IEX Official Closing Price for the security, and the Post-Market Session shall begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Secondary Contingency Procedures.

If IEX determines to follow Secondary Closing Auction Contingency Procedures for one or more securities after 3:00 p.m., IEX will 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. The IEX Official Closing Price will be the VWAP of the last sale eligible trades reported to the Consolidated Tape during the last five 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. If there are no last sale eligible trades reported to the Consolidated Tape during the last five 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. 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. The IEX Official Closing Price will be published to the Consolidated Tape. If a security's IEX Official Closing Price cannot be determined under this subsection, IEX will not publish an IEX Official Closing Price for the security, and the Post Market Session shall begin either as scheduled, or upon resolution of the disruption that triggered IEX to operate the Secondary Contingency Procedures.

Transition to the Post-Market Session

Pursuant to proposed Rule 11.350(d)(3), LOC, MOC, and pegged orders, as well as limit orders with a time-in-force of DAY that are not fully executed at the conclusion of the Closing Auction will be canceled immediately after the Closing Auction match. All remaining shares from Auction Eligible Orders that are not canceled by the System immediately after the Closing Auction match will be released to the Continuous Book for

trading in the Post-Market Session, subject to the orders' instructions. 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.

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 pursuant to proposed Rule 11.350(e), as described further below. Following a trading halt in an IEX-listed security pursuant to Supplementary Material .01 to Rule 14.207 and proposed Rule 11.280(g)(1), (4), or (5), the Exchange will conduct a Halt Auction, as described below.

Order Entry and Cancellation Before an IPO/Halt Auction

As proposed in Rule 11.350(e)(1), the Exchange will allow Users to submit orders for potential participation in an IPO or Halt Auction during the Order Acceptance Period. Similar to Bats and Nasdaq, the Order Acceptance Period for an IPO Auction begins at the start of System Hours (i.e., 8:00 a.m.), and five (5) minutes prior to the scheduled auction match for a Halt Auction.⁷⁷ Note, however, the Exchange will not execute any orders in the applicable security prior to the auction match. All Auction Eligible Orders associated with an IPO or Halt Auction will be queued until the applicable auction match, at which time they will be eligible to be executed in the associated auction. 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 with a TIF of IOC or FOK will be rejected prior to the auction match; Auction Ineligible Orders that may

⁷⁷ See Bats Rule 11.23(d)(1)(A); Nasdaq Rules 4120(c)(7)(A) and 4120(c)(8)(A). Note, Nasdaq permits Users to submit orders beginning at 4:00 a.m., the start of Nasdaq System Hours.

rest on the Order Book will be queued and maintained during the Order Acceptance Period in accordance with Rule 11.220(a)(1). Auction Eligible Orders associated with an IPO or Halt Auction may be canceled or modified at any time prior to the auction match. 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. In the event the Exchange cannot complete an IPO or Halt Auction before the end of Post-Market Hours (i.e., 5:00 p.m.), all open orders in the subject security on the Order Book will be canceled.⁷⁸

For an IPO Auction, Auction Eligible Orders, as proposed, would include MOO, LOO, and market orders with a time-in-force of DAY, as well as limit orders with a time-in-force of DAY, GTX, GTT, SYS, FOK, or IOC.⁷⁹ For a Halt Auction, pursuant to proposed Rule 11.350(a)(1)(D), Auction Eligible Orders would include:

- 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;
- Limit orders with a TIF of GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- 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

⁷⁸ The Order Acceptance Period extensions proposed by the Exchange are substantially similar to the criteria set forth in Bats Rule 11.23(d)(2)(B) regarding the extension of the Bats Quote-Only Period.

⁷⁹ Note, limit orders with a time-in-force of IOC or FOK will be executed in the same manner as LOO orders and market orders with a time-in-force of DAY, FOK, or IOC will be executed in the same manner as MOO orders in the IPO Auction, and all unexecuted shares will be canceled immediately following the auction match.

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

- 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;
- Market orders with a TIF of FOK or IOC received during the Order Acceptance Period within the Regular Market Session;
- 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
- Displayed portions of limit orders on the Continuous Book at the time of the halt dissemination.

IPO and Halt Auctions are not subject to “lock-in” or “lock-out” restrictions.

Pegged orders and non-displayed orders on the Continuous Book at the time of the halt dissemination will not be eligible to execute in the Halt Auction. Pegged orders submitted during the Order Acceptance Period will not be eligible to execute in the IPO or Halt Auction.

IPO and Halt Auction Process for IEX-Listed Securities

Pursuant to proposed Rule 11.350(e)(2)(A), at the beginning of the Display Only Period (i.e., thirty minutes prior to the scheduled auction match for an IPO Auction, and the start of the Order Acceptance Period for a Halt Auction), and updated every one

second thereafter until the IPO or Halt Auction match, the Exchange will disseminate IEX Auction Information via electronic means, as described below.

The Order Acceptance Period may be extended at the time of the auction match pursuant to proposed Rule 11.350(e)(2)(B)(i)-(iii) automatically for five (5) minutes in an IPO Auction when there are unmatched shares from market orders on the IPO Auction Book, or when the Indicative Clearing Price at the auction match differs by the greater of five percent (5%) or fifty cents (\$0.50) from any of the previous fifteen (15) Indicative Clearing Price disseminations, automatically during the Pre-Launch Period when the clearing price is above (below) the upper (lower) price band selected by the underwriter pursuant to proposed Rule 11.280(h)(8), until the clearing price is within such bands, or a manual extension may be implemented upon request from the underwriter at any time prior to the auction match. For a Halt Auction, pursuant to Rule 11.350(e)(2)(B)(i)-(ii), the Order Acceptance Period may be extended automatically for one (1) minute when there are unmatched shares from market orders on the Halt Auction Book, or when the Indicative Clearing Price at the auction match 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 Exchange will generally attempt to conduct an auction for corporate IPOs beginning at 10:15 a.m., or 9:30 a.m. for new issues, in accordance with the clearing price determination process, described above and as set forth in proposed Rule 11.350(e)(2)(C). Auction Eligible Orders will be ranked in accordance with IEX Auction Priority, described above and as set forth in proposed Rule 11.350(b). Auction Eligible Orders are used to calculate the auction match price. Auction Eligible Orders matched in

the IPO or Halt Auction will execute in accordance with IEX Auction Priority, described above. Specifically, as set forth in proposed Rule 11.350(e)(2)(D), 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 IPO Price or the price of the IEX Re-Opening Trade 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 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 execute in display – time priority at the IEX Official IPO Price, or the price of the IEX Re-Opening Trade. Upon completion of an IPO Auction for IEX-listed securities, the IEX Official IPO Opening Price for the security will be the price of auction, and shall be disseminated to the Consolidated Tape along with a bulk execution. Upon completion of a Halt Auction for IEX-listed securities, the IEX Re-Opening Trade for the security will be the execution that resulted from the Halt Auction. If a security does not have a Halt Auction (e.g., there is insufficient crossing interest to conduct a Halt Auction), no Halt Auction will occur, and the transition to continuous trading shall be conducted pursuant to proposed Rule 11.350(e)(3), described below.

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 pursuant to proposed

Rule 11.350(c)(2)(D) or (E), as applicable. If there is insufficient crossing interest to complete the Halt Auction, the transition to the Regular Market Session shall be conducted pursuant to proposed Rule 11.350(e)(3), described below, no auction will occur, and the IEX Official Opening Price will be the Initial Last Sale Eligible Trade.⁸⁰ If a security remains halted at the end of Regular Market Hours, no Closing Auction will occur, and all On-Open orders, On-Close orders, pegged orders, market orders, and limit orders with a time-in-force of DAY will be canceled at the conclusion of Regular Market Hours.⁸¹

Contingency Procedures

When a disruption occurs that prevents the execution of an IPO or Halt Auction as set forth above, IEX shall apply the IPO or Halt Auction Contingency Procedures as set forth in proposed Rule 11.350(e)(4). Specifically, for an IPO Auction, IEX will publicly announce that the Order Acceptance Period will be reset for the subject security, at which point IEX will cancel all orders on the Order Book, and shall disseminate a new scheduled time for the Order Acceptance Period and auction match. 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.

Transition to Continuous Trading

Under proposed Rule 11.350(e)(3), 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

⁸⁰ See proposed Rule 11.350(a)(16).

⁸¹ See proposed Rule 11.350(d)(2)(D). Note, in the event the Exchange cannot complete a Halt Auction before the end of Post-Market Hours (i.e., 5:00 p.m.), all open orders in the subject security on the Order Book will be canceled pursuant to proposed Rule 11.350(e)(1)(D).

conclusion of the IPO Auction will be canceled immediately after the IPO Auction match. 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. All remaining shares from Auction Eligible Orders that are not canceled by the System immediately after an IPO or Halt Auction match and Auction Ineligible Orders will be released to the Continuous Book for execution in the Pre-Market, Regular Market, or Post-Market Session, as applicable, subject to the orders instructions. 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.

Volatility Auction

IEX will conduct a Volatility Auction pursuant to proposed Rule 11.350(f) to reopen an IEX-listed security after such security is subject to an LULD trading pause pursuant to IEX Rule 11.280(e). Furthermore, as described below, IEX will close IEX-listed securities using a Volatility Auction under proposed Rule 11.350(f)(3) when an IEX-listed security is subject to an LULD trading pause 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 the LULD Plan would otherwise be extended by the Exchange to a time after the Closing Auction Lock-in Time. As noted above in the description of the proposed Volatility Auction Collars, the proposed Volatility Auction functionality is substantially similar to the functionality proposed by Bats, Nasdaq, and NYSE Arca for conducting an auction to resume a

security subject to an LULD trading pause. Furthermore, the proposed Volatility Auction functionality is 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 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.⁸²

Order Entry and Cancellation for a Volatility Auction

As set forth in proposed Rule 11.350(f)(1), the Exchange will allow Users to submit orders for potential participation in a Volatility Auction during the Order Acceptance Period, which is generally five (5) minutes, and begins immediately after the pause dissemination. 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.⁸³

The Exchange will not execute any orders in the applicable security prior to the

⁸² See 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) (File No. SR-NYSEArca-2016-130) and Securities and Exchange Act Release No. 34-79410; File No. 4-631 (Notice of Filing of the Twelfth Amendment to the National Market System Plan to Address Extraordinary Market Volatility).

⁸³ See proposed Rule 11.350(f)(1)(A).

auction match. Auction Eligible Orders submitted during the Order Acceptance Period will join the Volatility Auction Book and be queued until the Volatility 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 with a TIF of IOC or FOK will be rejected prior to the auction match; 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 Eligible Orders associated with a Volatility Auction may be canceled or modified at any time prior to the auction match.⁸⁴ Auction Eligible Orders, as proposed, include the following.⁸⁵

- Limit orders with a TIF of GTX, GTT, SYS, FOK, or IOC received during the Order Acceptance Period;
- Limit orders with a TIF of DAY received during the Order Acceptance Period within Regular Market Hours;
- Market orders with a TIF of FOK, IOC, or DAY received during the Order Acceptance Period within Regular Market Hours; and
- Displayed portions of limit orders on the Continuous Book at the time of the pause dissemination.

Auction Eligible Orders associated with a Volatility Auction may be canceled or

⁸⁴ See proposed Rule 11.350(f)(1)(B)-(C).

⁸⁵ See proposed Rules 11.350(a)(1) and 11.350(a)(2). Note, when an IEX-listed security is paused 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 would otherwise be extended by the Exchange to a time after the Closing Auction Lock-in Time, *i.e.*, when a Volatility Auction is determining the IEX Official Closing Price pursuant to proposed Rule 11.350(f)(3), the Auction Eligible Orders for the Volatility Auction include MOC and LOC orders.

modified at any time prior to execution. Volatility Auctions are not subject to “lock-in” or “lock-out” restrictions. Pegged orders and non-displayed orders on the Continuous Book at the time of the pause dissemination will not be eligible for execution in the Volatility Auction. Pegged orders submitted during the Order Acceptance Period will not be eligible for execution in the Volatility Auction.

Volatility Auction Process for IEX-Listed Securities

Pursuant to proposed Rule 11.350(f)(2)(A), at the beginning of the Display Only Period (i.e., the start of the Order Acceptance Period), and updated every one second thereafter, the Exchange will disseminate IEX Auction Information via electronic means, as described below.

Pursuant to proposed Rule 11.350(a)(29)(C), the Order Acceptance Period for a Volatility Auction shall commence immediately after a trading pause dissemination. 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)(ii) 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. In addition, under proposed Rule 11.350(f)(2)(C)(iii), the Order Acceptance Period will be extended automatically to the end of the Regular Market Session where an IEX-listed security is paused 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 would otherwise 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 proposed Rule 11.350(f)(3).

Under proposed Rule 11.350(f)(2)(D)(ii), 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”). 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)(C)(i) or (C)(ii) described above (each an “Additional Extension Period”) until a Volatility Auction occurs. The Exchange shall attempt to conduct a Volatility Auction every one 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., ten (10) minutes prior to the end of the Regular Market Session), the Volatility Auction shall be conducted pursuant to proposed Rule 11.350(f)(3), described below. 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 proposed Rules 11.350(a)(32) and 11.350(a)(31), respectively.⁸⁶ At the beginning of the Initial Extension Period the upper (lower) Volatility Auction Collar shall be increased (decreased) by five (5) percent 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

⁸⁶ See proposed Rule 11.350(f)(2)(D)(i).

Impermissible Price, rounded to the nearest passive MPV. At the beginning of each Additional Extension Period pursuant to proposed Rule 11.350(f)(2)(C)(ii), the Volatility Auction Collar shall be widened as described in this paragraph, in the same manner as the Initial Extension Period.

The Exchange will attempt to conduct a Volatility Auction for all IEX-listed securities to resume trading following an LULD trading pause, in accordance with the clearing price determination process described above and set forth in proposed Rule 11.350(f)(2)(E). 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). 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 pursuant to 11.350(f)(2)(C)(i).

Auction Eligible Orders matched in the Volatility Auction will execute in accordance with IEX Auction Priority, described above. Specifically, as set forth in proposed Rule 11.350(f)(2)(F), market orders have priority over all other Auction Eligible Orders, and to the extent there is executable contra side interest, such market orders will execute at the price of the IEX Re-Opening in accordance with 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 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 execute in display – time priority at the price of the IEX Re-Opening Trade. Upon completion of a Volatility Auction, the IEX Re-opening Trade for the security will be the execution that resulted from the Volatility Auction. If a security does not have a Volatility Auction (e.g., there is insufficient crossing interest to conduct a Volatility Auction), the transition to continuous trading shall be conducted pursuant to proposed Rule 11.350(f)(2)(G), described below, and no Volatility Auction will occur. 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.

Volatility Auction Contingency Procedures

When a disruption occurs that prevents the execution of a Volatility Auction as set forth above, IEX shall apply the Volatility Auction Contingency Procedures set forth in proposed Rule 11.350(f)(2)(H). Specifically, 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.

Transition to Continuous Trading

Pursuant to proposed Rule 11.350(f)(2)(G), 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. All remaining shares from Auction Eligible Orders and Auction Ineligible Orders that are not canceled by the

System immediately after a Volatility Auction match will be released to the Continuous Book for trading in the Regular Market Session, subject to the orders' instructions.

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.

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 pursuant to proposed Rule 11.350(f)(3).

Order Entry and Cancellation Before Closing with a Volatility Auction

Pursuant to proposed Rule 11.350(f)(3)(A), 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. MOC and LOC orders queued for the Closing Auction will be incorporated into the Auction Book for the Volatility Auction. 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. Auction Eligible Orders associated with a Volatility Auction may be canceled or modified at any time prior to the auction match. In the event the Exchange cannot complete a Volatility Auction before the end of Post-Market Hours (i.e., 5:00 p.m.), all open orders in the subject security on the Order Book will be canceled.⁸⁷

Process for Closing with a Volatility Auction

Under proposed Rule 11.350(f)(3)(B)(i), 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. The Exchange shall execute the Volatility Auction to determine the IEX Official Closing Price of a security in accordance with the clearing price determination process described above and set forth in proposed Rule 11.350(f)(3)(B)(ii). If the Volatility Auction price established by proposed Rule 11.350(f)(3)(B)(ii) 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. If the Volatility Auction match price 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).

⁸⁷ See proposed Rule 11.350(f)(3)(A)(v).

Auction Eligible Orders matched in the Volatility Auction will execute in accordance with IEX Auction Priority, described above. Specifically, as set forth in proposed Rule 11.350(f)(3)(B)(iii), 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. The IEX Official Closing Price will be the price of the Volatility Auction. If there is insufficient trading interest (i.e., no crossing 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 proposed Rule 11.350(f)(3)(C), described 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.

Contingency Procedures for Closing with a Volatility Auction.

Under proposed Rule 11.350(f)(3)(D), 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 proposed Rule 11.350(d)(4).

Transition to Post-Market Session.

Pursuant to proposed Rule 11.350(f)(3)(C), 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. 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. 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.

Short Sale Order Handling

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.⁸⁸ Specifically, 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 at the time of the auction match (i.e., the time of execution of orders in the auction), then such short sale orders not marked short exempt

⁸⁸ See Rule 201(b)(1) of Regulation SHO.

and all other short sale orders not marked short exempt with lesser priority shall not receive an execution in the auction match.

In addition, the Exchange notes that short sale orders not marked short exempt for a covered security subject to the Short Sale Price Test of Rule 201 of Regulation SHO submitted to the Continuous Book are subject to Rule 11.190(h)(4) (Short Sale Price Sliding), and will therefore not be displayed at a price at or below the current NBB.

Furthermore, short sale orders submitted to the Auction Book that are not marked short exempt for a covered security subject to the Short Sale Price Test of Rule 201 of Regulation SHO submitted to the Auction Book are not displayed, and therefore will not be displayed at a price at or below the current NBB. In the case of an IPO Auction, the security will never be subject to the Short Sale Price Test of Rule 201 of Regulation SHO since there will have been no prior trading.⁸⁹

Accordingly, when the Short Sale Price Test of Rule 201 of Regulation SHO is in effect during an auction for a covered security, a short sale Auction Eligible Order not marked short exempt with a resting (as defined in proposed Rule 11.350(b)(1)(A)(i)) price at or below the auction match price will not participate (in whole or in part) in the clearing price determination or receive an execution (in whole or in part) in the auction match (despite such orders marketability against the auction match price) if the short sale order's participation in the clearing price determination of the auction would push the

⁸⁹ Note, IPO Auctions are used to open securities that are the subject of a new security offering pursuant to Section 6 of the Securities Act of 1933 on the first day of trading on the Exchange. Pursuant to question 3.2 of the [Responses to Frequently Asked Questions Concerning Rule 201 of Regulation SHO](#), on the first day of trading of a covered security on any listing market, pursuant to a new security offering, there will not be a closing price for the covered security for the prior day. Thus, Rule 201 will not apply to such covered securities until the second day of trading.

auction match price to a price at or below the current NBB price. The following describes the execution priority for auctions in a security when the Short Sale Price Test pursuant to Rule 201 of Regulation SHO is in effect:

- Auction Eligible Order that are market orders, including MOO and MOC orders, to buy, sell long, or sell short that do not push the auction match price to a price at or below the current NBB, will execute in time priority.
- All other Auction Eligible Orders priced more aggressively than the auction match price to buy, sell long, or sell short that do not push the auction match price to a price at or below the current NBB, will execute in price – display – time priority.
- All other Auction Eligible Orders priced equal to the auction match price to buy, sell long, or sell short that do not push the auction match price to a price at or below the current NBB, will execute in display – time priority.

Proposed Rule 11.350(h) states that whenever in the judgment of the Exchange, the interests of a fair and orderly markets so require, the Exchange may adjust the timing of or suspend the auctions set forth in this IEX Rule with prior notice to Users. The Exchange believes that reserving qualified discretion to adjust the timing or suspend IEX Auctions in the interest of fair and orderly markets is inherently consistent with the protection of investors and the public interest. The Exchange believes that this discretion is necessary to give the Exchange latitude to adapt to quickly changing, volatile market conditions that may negatively impact market participants. The Exchange further notes that Bats Rule 11.23(f) reserves identical discretion, stating “[w]henver, in the judgment of [Bats], 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 Rule with prior notice to Users”.

Proposed Rule 11.350(i) states that 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. Each of the orders executed pursuant to the Opening Auction, Closing Auction, IPO Auction, Halt Auction, and Volatility Auction are by definition a single priced opening, re-opening, or closing transactions, and therefore meet the letter and spirit of Rule 611(B)(3) of Regulation NMS and section VI(D)(6) of the plan to Implement a Tick Size Pilot Program, and are consistent with the protection of investors and the public interest.

IEX Auction Information

In addition to the amendments to IEX Rule 11.350 to govern Exchange Auctions, the Exchange proposes to amend IEX Rule 11.330 to describe the addition of IEX Auction Information to recipients of the IEX Top of Book Quote and Last Sale feed (“TOPS”), the IEX Depth of Book and Last Sale feed (“DEEP”), as well as the IEX Data Platform, which is available on the Exchange’s public website. TOPS, DEEP, and the IEX Data Platform is available to Exchange data recipients⁹⁰ free of charge.

As defined in proposed Rule 11.350(a)(9), IEX Auction Information contains the

⁹⁰ Exchange data recipients include Members of the Exchange as well as non-Members that have entered into an agreement with the Exchange that permits them to receive Exchange data.

current status of price, size, imbalance information, auction collar information, and other relevant information related to auctions conducted by the Exchange, described below.⁹¹

IEX intends to disseminate substantially the same information through the Consolidated Quotation System operated by the Consolidated Tape Association (“CTA”) SIP, pending approval by the Operating Committee of the CTA. Following such approval, IEX will amend Rule 11.330 to reflect this additional means of dissemination.

IEX Auction Information as proposed is substantially similar to the Bats Auction Feed, and the Nasdaq Net Imbalance Order Indicator (NOII).⁹² However, consistent with the commitment made by each primary listing exchange set forth in Amendment 12 to the Limit Up-Limit Down Plan, the Exchange is proposing to include the applicable auction collar values and the reference price from which the collar is derived, the scheduled time of the auction, and the number of auction extensions, if any. Furthermore, the Exchange will disseminate IEX Auction Information every one second, which is a more frequent interval than auction information is disseminated by Bats and Nasdaq, but less frequent than NYSE Arca.⁹³ IEX Auction Information will contain the following data elements:

⁹¹ The Exchange does not charge fees for any of its data feeds or for ports used for receipt of data from the Exchange.

⁹² See Bats Rule 11.22(i), as well as the [Bats Auction Feed Specification](#). See also Nasdaq Rules 4752(a)(2), 4753(a)(3), and 4754(a)(7), as well as the Nasdaq [Net Order Imbalance Indicator User Guide](#).

⁹³ See Bats Rules 11.23(b)(2)(A), 11.23(c)(2)(A), 11.23(d)(2)(A), and 11.23(e)(2)(A), which state that Bats auction information will be disseminated in 5 second intervals; See Nasdaq Rule 4752(d)(1), which states that an Order Imbalance Indicator shall be disseminated every five seconds between 9:28 a.m. and the Nasdaq Opening Cross, Nasdaq Rule 4754(b)(1), which states that an Order Imbalance Indicator shall be disseminated every five seconds between 3:50 p.m. and the Nasdaq Closing Cross, and Nasdaq Rule 4753(b)(1), which states that an Order Imbalance Indicator shall be disseminated every five seconds at the beginning the Display Only Period for a Nasdaq Halt Cross and continuing through the resumption of trading; See Arca Rule 7.35(a)(4)(A), which states that Auction Imbalance Information is updated at least every

- 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, 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.
- 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.
- 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

second, unless there is no change to the information, as well as the [XDP Integrated Feed Client Specification version 1.16b](#), Section 13.2 at 27, which states that Auction Imbalance Information is published in real time.

at the time of dissemination.

- **Imbalance Side:** The buy/sell direction of any imbalance at the time of dissemination.
- **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.
- **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.”
- **Collar Reference Price:** Opening/Closing Auction Collar Reference Price for the Opening and Closing Auctions. Volatility Auction Collar Reference Price for the Volatility Auction.
- **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.
- **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.

- Scheduled Auction Time: The projected time of the auction match.
- Extension Number: The total number of automatic Order Acceptance Period extensions an IPO, Halt, or Volatility Auction has received.

Note that the Reference Price, Indicative Clearing Price, and Auction Book Clearing Price will show the same value during an IPO or Halt Auction since there is no Continuous Book and no applicable auction collar. In addition, if there is a market order imbalance in an IPO or Halt Auction, the Reference Price, Indicative Clearing Price, and Auction Book Clearing Price will all have a value of zero, indicating that an auction match price cannot be calculated, the Imbalance Side will indicate the side of the market order imbalance, and the Imbalance Shares will indicate the size of the market order imbalance. Lastly, if there is a market order imbalance in an Opening or Closing Auction, the Auction Book Clearing Price will all have a value of zero. IEX Auction Information will be disseminated every one second between the Lock-in Time and the auction match for Opening and Closing Auctions, and during the Display Only Period for IPO, Halt, and Volatility Auctions.

The fields proposed for dissemination in IEX Auction Information are strategically tailored to the IEX Auction model, and were developed after informal discussion with various Members, as well as reference to existing fields offered in auction data provided by other exchanges, including the Nasdaq NOII, and the Bats Auction Feed. Specifically, the Indicative Clearing Price and Auction Book Clearing Price are substantially similar to the Nasdaq “Near Clearing Price” and “Far Clearing Price” as well as the Bats “Indicative Price” and “Auction Only Price”, and should

therefore be familiar to Members that trade in the Nasdaq and Bats auctions.⁹⁴ Similarly, the proposed Reference Price field is substantially similar to the Reference Price utilized by Bats, and Nasdaq.⁹⁵

Moreover, as proposed, the Exchange will utilize orders on the Auction Book to calculate the Paired Shares, Imbalance Shares, and Imbalance Side fields included in IEX Auction Information (i.e., both displayed and non-displayed orders on the Continuous Book are not accounted for when determining the number of shares that can be matched or remain unexecuted at the current Reference Price). The proposed Paired Shares, Imbalance Shares, and Imbalance Side fields are designed to enhance the reliability of the fields disseminated in IEX Auction Information, and mitigate potential gaming scenarios that could negatively impact Users trading in IEX Auctions.

Specifically, the fields as proposed are designed to avoid disseminating Paired Shares and Imbalance Shares based on orders on the Continuous Book that may be fleeting. Orders on the Continuous Book are not subject to lock-in or lock-out restrictions, and may therefore be canceled or executed at any time before the auction match. Including potentially fleeting orders in the Paired Shares and Imbalance Shares fields could have negative implications for price discovery leading up to the auction match by discouraging Users from offsetting Imbalance Shares, leaving unmatched shares on the Auction Book at the time of the match when Continuous Book orders that

⁹⁴ See the [Bats US Equities Auction Process](#) specification at 8, as well as the Nasdaq [Net Order Imbalance Indicator User Guide](#) at 4-5.

⁹⁵ See the [Bats US Equities Auction Process](#) specification at 7, and 5, which define the Reference Price as the price within the Reference Price Range that maximizes the number of shares to be executed, minimizes the imbalance, and minimizes the distance to the Volume Based Tie Breaker. See also e.g., Nasdaq Rule 4754(a)(7)(A), which defines the Current Reference Price for the Nasdaq closing cross.

were ostensibly offsetting the Imbalance Shares (and contributing to Paired Shares) are canceled or executed prior to the auction.

Furthermore, as proposed, the Paired Shares field is designed to allow Users to determine the likelihood of their Eligible Auction Orders being executed in the auction. Specifically, because Paired Shares only reflects orders that are locked in to the auction (and therefore will be eligible for execution only in the auction), Users can assess their chances of receiving an execution in the auction match based on the marketability of their order against the Indicative Clearing Price, and the number of Paired Shares against their order size. For example, if the final Indicative Clearing Price is \$10.00, and IEX has 100,000 shares paired, a User that has a LOC order to buy 10,000 shares with a limit price of \$10.50 has a high likelihood of receiving a 10,000 share execution in the Closing Auction. To continue the example and highlight the positive effects of the proposed functionality on price discovery, if the Indicative Clearing Price were to have moved away from the participant (to \$10.50, for example), such User's chances of receiving an execution in the auction are diminished because the auction match price has moved to the order's limit price, and such order is "locked-in" (i.e., ineligible for modification or cancelation). Accordingly, Users are incentivized to express their full limit on Auction Eligible Orders in order to increase the likelihood of receiving an execution in the Opening or Closing Auction at a price they believe reflects the fundamental value of the security. This truthful representation of full limit prices is designed to enhance price discovery leading into the auction match.

The Exchange further notes that as proposed, the Paired Shares, Imbalance Shares, and Imbalance Side fields are substantially similar to the "Reference Buy Shares"

and “Reference Sell Shares” fields currently offered by Bats on the Bats Auction Feed, which provide the number of shares associated with buy (sell) side Eligible Auction Orders (which are on the Bats auction book, as defined in Bats Rule 11.23(a)(8)) that are priced equal to or greater (less) than the Reference Price. However, rather than market participants deriving the number of Paired Shares, Imbalance Shares, and the Imbalance Side, the Exchange is proposing to derive and disseminate each value independently.⁹⁶ Moreover, Paired Shares, Imbalance Shares, and Imbalance Side fields are substantially similar to the Paired Shares, Imbalance Shares, and Imbalance Side fields that are currently offered by Nasdaq in the NOII.⁹⁷

For example, in the case of a Closing Auction if the Continuous Book were to contain the following orders at the Lock-in Time, and the NBBO were to be \$19.99 x \$20.00:

Buy Orders		Sell Orders	
Size	Price	Size	Price
4000	<u>19.99</u>	500	<u>20.00</u>
3000	19.98	5000	20.01
2000	19.97	3000	20.02
10000	19.96	10000	20.04

And the Closing Auction Book at the time were to contain the following orders:

⁹⁶ Note, paired shares would be equal to the lesser of Reference Buy Shares and Reference Sell Shares; Imbalance Shares would be equal to the absolute value of Reference Sell Shares minus Reference Buy Shares; and the side of the greater between Reference Buy Shares and Reference Sell Shares is the imbalance side.

⁹⁷ See the Nasdaq [Net Order Imbalance Indicator User Guide](#) at 4-5.

Buy Orders		Sell Orders	
Size	Price	Size	Price
8000	<i>Market</i>	5000	<i>Market</i>
3000	20.02	3000	19.98
1000	19.99	1000	19.98
4000	19.97	1000	20.00
500	19.97	1000	20.02

IEX would disseminate the following IEX Auction Information:

- Reference Price: \$20.00
- Paired Shares: 10,000
- Imbalance Shares: 1,000
- Imbalance Side: Buy
- Indicative Clearing Price: \$20.01
- Auction Book Clearing Price: \$20.02
- Collar Reference Price: \$19.995
- Lower Auction Collar: \$18.00
- Upper Auction Collar: \$21.99
- Scheduled Auction Time: 16:00:00
- Extension Number: 0

Trading Halts and LULD Plan

Exchange Rule 11.280 governs trading halts due to Extraordinary Market Volatility and pursuant to the LULD Plan. In order to address the obligations of a listing market under the LULD Plan, the Exchange proposes several amendments to IEX Rule 11.280. First, the Exchange proposes to add provisions governing the manner in which auction orders would be handled during an LULD trading pause, and how trading would

be re-opened following such pause. As proposed, IEX Rule 11.280(e)(5)(F) provides that Auction Eligible Orders on the Auction Book are not price slid or canceled due to LULD price bands. This provision is substantially similar to Nasdaq Rule 4120(a)(12)(E)(5). In addition, the Exchange proposes to add paragraph (e)(7) to 11.280 to provide that the Exchange may declare an LULD trading pause for a NMS Stock listed on the Exchange during a straddle state. This provision is identical to BATS Exchange Rule 11.18(e)(7). The Exchange also proposes a clarifying change to the title to IEX Rule 11.280 to reference the Limit Up-Limit Down Plan. The Exchange believes that the revised rule title, will provide greater clarity to Members and other market participants. Lastly, proposed Rule 11.280(e)(8) provides that following a trading pause, the Exchange shall re-open trading in IEX-listed securities pursuant to the procedures set forth in IEX Rule 11.350(f), and 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. This provision is substantially similar to Bats Rule 11.18(e)(8), and is consistent with the commitment made by each primary listing exchange set forth in Amendment 12 to 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 reopening's following a Trading Pause.

The Exchange also proposes to add new paragraphs (g) and (h) to IEX Rule 11.280 governing the initiation and termination of trading halts by IEX in IEX-listed securities. Proposed paragraphs (g) and (h) to IEX Rule 11.280 are complementary to each other, and to proposed Rule 11.280(e), in that paragraph (g) sets forth the conditions under which the Exchange can initiate trading halts in circumstances in which IEX deems

it necessary to protect investors and the public interest. Furthermore, such trading halts shall be initiated and terminated pursuant to the procedures set forth in proposed paragraph (h), which sets for the various procedures the Exchange will follow to initiate and terminate trading halts, including the procedures related to IPO's on the Exchange for IEX-listed securities.

As proposed, new paragraph (g) provides that in circumstances in which IEX deems it necessary to protect investors and the public interest, IEX may halt trading in an IEX-listed security, pursuant to the procedures set forth in new paragraph (h), under the following circumstances:

- IEX Rule 11.280(g)(1) provides that the Exchange may halt trading on IEX of an IEX-listed security to permit the dissemination of material news,⁹⁸ 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 proposed Rule 11.280(g)(2). Consistent with the practices of other listing markets, IEX expects that when a listed company releases material news during the Regular Market Session, the Exchange will typically halt trading temporarily to ensure full dissemination of the news, generally referred to as a regulatory trading halt. However, and consistent with NYSE and Nasdaq rules, if an IEX-listed company were to issue material news during the Pre-Market Session the Exchange would only halt trading if the listed company requests that trading in its listed securities be halted pending dissemination of a public announcement. The Exchange believes that because of lower volume of trading generally during the Pre-Market

⁹⁸ The Exchange considers material news to be any news would reasonably be expected to affect the value of a company's securities or influence investors' decisions.

Session, a listed company is best positioned to determine whether a trading halt is appropriate given the news it intends to release.⁹⁹ This approach is comparable to the rules of the NYSE and Nasdaq.¹⁰⁰ When the Exchange implements a regulatory trading halt in an IEX-listed security, trading is halted on all market centers to ensure full dissemination of the news to investors.

- IEX Rule 11.280(g)(2) provides that IEX 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. This provision is designed to prevent trading on IEX in a security which is pending disclosure and dissemination of material information so that all market participants have equal access to such information prior to making a trading decision. The provision is also consistent with the rules of other exchanges.¹⁰¹
- IEX Rule 11.280(g)(3) provides that IEX halt trading on IEX of 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 (an “operational trading halt”). Further, IEX may halt trading on IEX 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. Unlike with a regulatory trading halt, if an operational

⁹⁹ Pursuant to Exchange Rule 14.207, listed companies are required to provide notice to the Exchange’s Regulation Department at least ten minutes prior to release of specified material information if such release is made during System Hours (including the Pre-Market, Regular and Post-Market Sessions).

¹⁰⁰ See Section 202.06 of the NYSE Listed Company Manual and Nasdaq Rule 4120(a)(1).

¹⁰¹ See, e.g., Nasdaq Rule 4120(a)(2).

trading halt is in effect, IEX Members may commence quotations and trading otherwise than on IEX at any time following initiation of the operational trading halt, without regard to whether IEX has terminated the trading halt on IEX. These provisions are substantially similar to Nasdaq Rule 4120(a)(3) and are designed to enable IEX to provide optionality to IEX members with respect to operational trading halts.

- IEX Rule 11.280(g)(4) provides that IEX may halt trading in an American Depository 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. This provision is designed to prevent trading on IEX in a security which is pending disclosure and dissemination of material information so that all market participants have equal access to such information prior to making a trading decision. The provision is also consistent with Nasdaq Rule 4120(a)(4).
- IEX Rule 11.280(g)(5) provides that IEX may halt trading in an IEX-listed security when IEX requests from the issuer of such security, issuer information relating to material news, the issuer’s ability to meet IEX listing qualification requirements or any other information. This provision, which is substantially similar to Nasdaq Rule 4120(a)(5) is designed to assure that market participants do not effect transactions in a security when, in the Exchange’s opinion, there is uncertainty as to whether all material information regarding the security,

including its ability to meet listing requirements, has been fully disclosed to market participants.

- 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 caused by the misuse or malfunction of an electronic quotation, communication, reporting or execution system operated by, or linked to, IEX. This provision also provides that IEX may halt a security traded on IEX on an unlisted trading privileges basis that is subject to extraordinary market activity, if, after consultation with another national securities exchange or FINRA, IEX believes that such activity is caused by a misuse or malfunction of an electronic quotation, communication, reporting or execution system operated by, or linked to such other exchange or FINRA, as applicable. This provision is substantially similar to Nasdaq Rule 4120(a)(6).
- IEX Rule 11.280(g)(7) provides that IEX may halt trading in a security that is the subject of an IPO on IEX. This provision, which is substantially similar to Nasdaq Rule 4120(a)(7), is designed to provide flexibility to enable a trading halt in the event of an unexpected system or other issue, or otherwise in connection with the start of trading in an IPO.

As noted above, proposed paragraph (h) provides the procedures for initiating and terminating a trading halt and is substantially similar to Nasdaq Rule 4120(c). As proposed, subparagraphs (h)(1), and (h)(2) provide that 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 Rule 14.207(b)(1) and directly to IEX's Regulation Department in the manner specified by IEX. Paragraph (h)(3) provides that, upon receipt of the information from 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.

Paragraph (h)(4) provides that should IEX determine that a basis exists under IEX Rule 11.280(g) or (e) for initiating a trading halt or LULD trading pause, the commencement of the trading halt or pause will be effective at the time specified by IEX in a notice posted on a publicly available IEX website. IEX would also effectuate halt notices through the Securities Information Processor ("SIP"). The Exchange notes that during any trading halt or pause for which a Halt Auction or Volatility Auction under IEX Rules 11.350(e) or (f), respectively, will not occur, orders entered during the trading halt or pause will not be accepted. Paragraph (h)(5) provides that trading in a halted security shall resume at the time specified by IEX in a notice posted on a publicly available IEX website. As with initiation of a trading halt, IEX will also effectuate resumption notices through the SIP. These provisions are substantially similar to Nasdaq Rule 4120(c)(4) and (5), except that IEX will not accept orders with instructions to route to another exchange during any trading halt or pause for which a Halt of Volatility Auction under IEX Rules 11.350(e) or (f) will not occur.¹⁰²

Paragraph (h)(6) specifies the process for trading halts initiated under paragraph (g)(6) based on the misuse or malfunction of an electronic quotation, communication, reporting, or execution system that is not operated by IEX. In such a situation, IEX will

¹⁰² See Nasdaq Rule 4120(c)(4)(B).

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 trading halt initiated under paragraph (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. This provision is substantially similar to Nasdaq Rule 4120(c)(6).

Paragraph (h)(7) specifies that a trading halt or pause in IEX-listed securities, 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 IEX Rule 11.350(e) or (f), as applicable.

Paragraph (h)(8) sets forth the process for terminating a trading halt initiated in a security that is the subject of an IPO, pursuant to IEX Rule 11.280(g)(7).¹⁰³ As proposed, the trading halt shall be terminated when IEX releases the security for trading and the following conditions are satisfied:

- Users may enter orders in that security beginning at the start of the Order Acceptance

¹⁰³ The provisions are substantially similar to Nasdaq Rule 4120(c)(8) except that IEX would provide a 30-minute Display Only Period, rather than the 15-minute period that Nasdaq provides, in order to increase transparency and price discovery.

- Period (generally 8:00 a.m.) which will be accepted and entered into the System;
- 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 and IEX will begin to disseminate IEX Auction Information via electronic means;
 - 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 will end and the security will be released for trading when the requirements of Rule 11.350(e)(2) are satisfied, and the following conditions are met:

- 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:
 - The System must determine that all market orders will be executed in the IPO Auction; and
 - the security must pass the price validation test.¹⁰⁴

¹⁰⁴ As specified in Rule 11.280(h)(8)(c)(1), the validation test is as follows: 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 approved by the underwriter under proposed Rule 11.280(h)(8)(A) with the actual price calculated by the IPO Auction. If the actual price calculated by the IPO Auction differs from the Indicative Clearing Price 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 actual price may not exceed the Indicative Clearing Price approved by the underwriter under proposed Rule 11.280(h)(8)(A)) and a lower price band (i.e., an amount by which the actual price may not be lower than the

The failure to satisfy the above 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.

Finally, paragraph (h)(9) provides that 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 IPO. This provision is substantially similar to Nasdaq Rule 4120(c)(9).

Indicative Clearing Price approved by the underwriter under proposed Rule 11.280(h)(8)(A)). 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 market participants 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.

2. Statutory Basis

IEX believes that the proposed rule change is consistent with the provisions of Section 6(b)¹⁰⁵ of the Act in general, and furthers the objectives of Sections 6(b)(5)¹⁰⁶ of the Act, in particular, in that it is designed to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in facilitating transactions in securities, to remove impediments to and perfect the mechanism of a free and open market and a national market system and, in general, to protect investors and the public interest. IEX believes that operation of Exchange auctions for securities listed on the Exchange will assist in the price discovery process and help to ensure a fair and orderly market for securities listed on the Exchange. In this regard, the proposed rule change is integral to its operation of a listing market pursuant to rules already approved by the Commission.¹⁰⁷ The existing U.S. exchange listing market for operating companies is essentially a duopoly of Nasdaq and NYSE. As of March 17, 2017 there were 4,767 operating companies listed on U.S. securities exchanges. All but 203, which are listed on NYSE's affiliate NYSE MKT, are listed on NYSE or Nasdaq. IEX believes that to the extent IEX's listing program is successful, it will provide a competitive alternative to the existing duopoly, which will thereby benefit issuers and investors, remove impediments to and perfect the mechanism of a free and open market and a national market system, consistent with the protection of investors and the public interest. Each of the existing listing markets offer auctions similar to the proposed Opening, Closing, IPO, Halt and Volatility auctions for IEX-listed securities, and the Exchange

¹⁰⁵ 15 U.S.C. 78f.

¹⁰⁶ 15 U.S.C. 78f(b)(5).

¹⁰⁷ See Securities Exchange Act Release No. 34-78101 at 47 (June 17, 2016), 81 FR 41142 (June 23, 2016) (File No. 10-222).

believes that offering such auctions is essential for operation of a listing market.

Accordingly, the Exchange believes that the proposal will allow the Exchange to provide companies with another listing option, thereby promoting the aforementioned principles and purposes of Section 6(b)(5)¹⁰⁸ of the Act. For the same reasons, the Exchange believes that the proposal is also designed to support the principles of Section 11A(a)(1)¹⁰⁹ of the Act in that it is designed to promote fair competition among brokers and dealers and among exchange markets by offering a new listing market to compete with the existing Nasdaq and NYSE duopoly.

IEX Auctions, along with our market, are designed to incentivize and enable a broad range of market participants to enter trading interest for potential participation in the auctions. First, IEX does not impose membership, connectivity, or market data fees, in contrast to Nasdaq and NYSE, so there are no expensive barriers to entry for participation in the IEX Auctions. In addition, as proposed, IEX Auctions will utilize a simple and transparent price – display – time execution priority. Moreover, all Members are permitted to enter any type of Auction Eligible Order and there are no privileged participants (such as NYSE designated market makers and floor brokers) who receive enhanced priority, access to special order types, or receive information not available to other market participants.¹¹⁰ IEX believes that this “open access” design will result in

¹⁰⁸ 15 U.S.C. 78f(b)(5).

¹⁰⁹ 15 U.S.C. 78k-1(a)(1).

¹¹⁰ See NYSE Rule 72(c)(ii) which provides that Floor broker and designated market makers have enhanced priority for the purpose of share allocation in an execution as compared to orders collectively represented in NYSE systems. See also NYSE Rule 70 and Supplementary Material .25 to NYSE Rule 123C describing the availability of discretionary e-Quotes or “d-Quotes” to Floor brokers. See also NYSE Rule 123C(6)(b) which provides that between 2:00 p.m. and 3:45 p.m. Floor brokers receive an imbalance data feed not available to other market participants.

auctions that attract meaningful trading interest that will enable robust price discovery, consistent with the protection of investors and the public interest, and in alignment with issuers' interests.

With respect to the auction design, as described more fully below, the Exchange believes that the proposed rule change provides an auction methodology that will be a transparent, efficient, and robust process to aggregate trading interest submitted by a broad range of market participants to be matched at a single clearing price, consistent with the protection of investors and the public interest and in alignment with issuers' interests. As proposed, the IEX Auction rules are similar to auction rules of Nasdaq, NYSE, Arca, and Bats (each of which have been approved by the Commission and found to be consistent with the protection of investors and the public interest) with several differentiators designed to enhance price discovery, transparency and participation, each of which are discussed below.

As discussed in the Purpose Section, after informal discussions with various Members, the Exchange believes that excluding all non-displayed orders (including pegged orders) that were on the Continuous Book at the time of a halt dissemination from participating in the Halt Auction is consistent with the protection of investors and the public interest because Users submitting non-displayed orders are generally entrusting the Exchange to price such orders at values that are reflective of the market for a security. In the event of a trading halt, the market is in the process of reestablishing the value of a security, and therefore including non-displayed orders that are priced against a reference price that may not reflect adjustments in valuation resulting from additional information regarding the security during the halt could potentially harm investors. Similarly, as noted

above, the Exchange believes excluding non-displayed orders from the Volatility Auction is consistent with the protection of investors and the public interest because Users submitting non-displayed orders are generally entrusting the Exchange to price such orders at values that are reflective of the market for a security. In the event of a volatility trading pause, the security has just experienced sharp price volatility and the market is in the process of reestablishing the value of a security, and therefore including non-displayed orders that are priced against a reference price that may not reflect adjustments in valuation during the pause could potentially harm investors.

While non-displayed limit orders are not necessarily “pegged” to any particular reference price (such as a midpoint peg order, for example), such orders are subject to the Midpoint Price Constraint pursuant to IEX Rule 11.190(h)(2), which states that non-displayed limit orders posting to the Order Book with a limit price more aggressive than the Midpoint Price is booked and ranked on the Order Book non-displayed at a price equal to the Midpoint Price. To reflect changes to the NBBO, the order is automatically re-priced by the System in response to changes in the NBBO to be equal to the less aggressive of the order’s limit price or the Midpoint Price. Accordingly, in volatile markets that have triggered a trading pause or halt, limit orders resting on the Order Book that are not actively or algorithmically monitored are likely to have been restricted by the Midpoint Price Constraint. Accordingly, such orders would be priced against a reference price (i.e., the Midpoint Price) that may not reflect adjustments in valuation during the halt or pause, which could potentially harm such investors.

As described in the Purpose Section, the Exchange believes that not supporting AGID modifiers in IEX Auctions is consistent with the protection of investors and the

public interest because within the context of the aggregated auction match process, counterparties are not considered; only the aggregate available volume for execution is considered. It is illogical to cancel an order that happens to be allocated an execution against an order entered using the same MPID, because both orders execute at the exact same price to the exact same effect where the orders happen to execute against orders of a different MPID. Furthermore, the Exchange believes that supporting AGID modifiers and Minimum Quantity instructions as defined in Rule 11.190(b)(11) in IEX Auctions would introduce additional technical complexities to the clearing price determination process, and the Exchange believes providing simplicity in this regard is in the interest of the protection of investors and the public interest.¹¹¹

As discussed in the Purpose section, the Exchange is proposing to utilize a default threshold percentage of ten (10) percent for the Opening/Closing Auction Collar because, based on informal discussion with various Members, as well as Nasdaq's usage of identical default threshold percentage values, such values typically provide an appropriate range within which price discovery may occur to maximize the number of shares executed in the auction. Furthermore, the Exchange believes utilizing the midpoint of the Protected NBBO to establish the Opening/Closing Auction Collar Reference Price is consistent with the protection of investors and the public interest in that the Protected NBBO represents the range of prices that best reflect the market for a security. In addition, utilizing the midpoint of the Protected NBBO may be less susceptible to

¹¹¹ The Exchange notes that Bats does not support broker self-match restrictions in an IPO auction, or on regular market and limit orders in the Opening and Closing auctions. See Bats Rule 11.23(a)(8)(C)(1) and [Bats US Equities Auction Process](#) specification at 9. See also NYSE Arca Rule 7.31(i)(2), which states that Orders marked with an STP modifier will *not* be prevented from interacting during any auction. (Emphasis added)

volatility and manipulation, because in order to move the midpoint of the Protected NBBO to influence the auction, one or more Users would need to sweep the entire market, rather than simply entering aggressive interest on the Exchange.

Moreover, the Exchange believes that the proposed Opening/Closing Auction Collars are consistent with the protection of investors and the public interest in that the default threshold is identical to the default auction collar thresholds used by Nasdaq; however, Nasdaq utilizes the midpoint of the best bid and offer on Nasdaq's book as the collar reference price.¹¹² The Exchange anticipates modifying such benchmarks and thresholds in response to market-wide events that are driving price volatility, and would therefore benefit from temporarily widening threshold values in the interest of allowing robust price discovery, consistent with the protection of investors and the public interest. The Exchange notes that modification of the default threshold percentage values for the Opening/Closing Auction Collar are subject to the provisions of Section 19(b)(1) under the Act, and Rule 19b-4 thereunder.¹¹³

As described above, the Exchange believes that the Volatility Auction Collar, as proposed, is consistent with the protection of investors and the public interest. Specifically, as noted above, the Volatility Auction Collar, as proposed, is identical to the auction collars imposed by Bats, Nasdaq, and Arca when conducting an auction to resume a security subject to an LULD trading pause.¹¹⁴ Furthermore, the proposed Volatility Auction Collar functionality is consistent with the commitment made by each

¹¹² See Nasdaq Rule 4752(d)(2)(E).

¹¹³ See 15 U.S.C. 78s(b)(1), and 17 CFR 240.19b-4.

¹¹⁴ See 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) (File No. SR-NYSEArca-2016-130).

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 reopening's following an LULD 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.¹¹⁵

As proposed, Halt and IPO Auctions will not be subject to a collar, which is substantially similar to operation of the Bats halt auction and the Nasdaq halt cross.¹¹⁶ In the case of a Halt or IPO Auction, the process for arriving at the clearing price includes methods for automatic (and in the case of an IPO, manual) extensions when there is a market order imbalance, or the clearing price experiences volatility. In addition, there is no continuous trading before a Halt or IPO Auction, and therefore there is no reference price that is reflective of the market for the security from which to derive an appropriate collar. Accordingly, the Halt and IPO Auctions are designed to allow for additional price discovery to occur in order for supply and demand to efficiently price the security. Furthermore, Halt and IPO Auctions are not constrained to occur at a specific time like the Open and Closing Auctions (i.e., the start and end of Regular Market Hours), therefore the auction process continues until prices converge to an equilibrium and collars are not required to constrain prices before an equilibrium is reached.

¹¹⁵ See e.g., 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) (File No. SR-NYSEArca-2016-130) and Securities and Exchange Act Release No. 34-79410; File No. 4-631 (Notice of Filing of the Twelfth Amendment to the National Market System Plan to Address Extraordinary Market Volatility).

¹¹⁶ See Bats Rule 11.23(d), and Nasdaq Rule 4753.

As described in the purpose section, after informal discussion with various Members, in the event there is no crossing interest for an IEX Auction (and therefore no auction occurs), the Exchange proposes to utilize the initial (final) trade on IEX when the Exchange is determining the official auction price of an IEX-listed security using IEX auctions, because much of the trading interest is aggregated at the primary trading center leading into and immediately following the auction. Therefore, the initial (final) trade on the Exchange is likely to best reflect the market for a security in the event no crossing interest exists.¹¹⁷ Moreover, in the event a disruption prevents the Exchange from conducting an auction in an IEX-listed security, the Exchange is proposing to utilize the initial, latest, or final consolidated last sale eligible trade. If the Exchange is experiencing a disruption that is preventing the execution of an auction, market participants would be made aware of such disruption pursuant to the contingency procedures set forth above, and market participants are therefore likely to re-route such interest to alternative execution venues. Therefore, the initial, latest, or final consolidated last sale eligible trade is likely to best reflect the market for a security in the event of a disruption on the Exchange that is preventing the execution of an auction for an IEX-listed security.¹¹⁸ Accordingly, the Exchange believes the proposed Rule is consistent with the protection of investors and the public interest.

The Exchange also believes that the auction clearing price determination is designed to support robust price discovery in a transparent manner, consistent with the protection of investors and the public interest, and in furtherance of a free and open market and a national market system. Specifically, auctions will be matched at the price

¹¹⁷ See e.g., proposed Rules 11.350(c)(2)(B) and 11.350(d)(2)(B).

¹¹⁸ See e.g., proposed Rules 11.350(c)(4)(i).

that maximizes the number of shares to be executed at a single price, with appropriate tie breakers that reflect supply and demand from Auction Eligible Orders in the security and displayed interest in the market (i.e., by considering the Protected NBBO, IEX BBO, or Final Consolidated Last Sale Eligible Trade, depending on market conditions, as the final tie breaker). As discussed below, the Exchange believes that its proposed auction clearing price determination methodology is consistent with the protection of investors and the public interest because it is designed to provide an auction clearing price based on robust price discovery that reflects supply and demand in the subject security. The clearing price determination process proposed by the Exchange is similar to Nasdaq, with certain modifications as described in the Purpose Section.

Specifically, as proposed, the clearing price determination for both Nasdaq and IEX would first attempt to maximize the number of shares executable in the auction at a single price. However, in the event there is more than one price at which shares are maximized, Nasdaq Rule 4752(d)(2)(B) states that the auction shall match at the price that minimizes any imbalance, and if there is more than one price at which shares are maximized and imbalance is minimized, Nasdaq Rule 4752(d)(2)(C) states that the auction shall match at the price at which shares will remain unexecuted in the auction. The Exchange believes that Nasdaq Rule 4752(d)(2)(B) and (C) are often the same price, because the price at which imbalance is minimized is often also the price at which shares remain unexecuted in the auction. Accordingly, the Exchange is proposing to consolidate these conditions, and instead utilize the price at which shares will remain unexecuted in

the auction (i.e., the price of the most aggressive unexecuted order).¹¹⁹

Moreover, in the event the clearing price determination process results in a clearing price range (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 Exchange proposes to utilize the price closest the Volume Based Tie Breaker within the auction price range (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).¹²⁰ This differs from Nasdaq in that in the event the clearing price determination process results in a clearing 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 proposed rule is designed to match the auction at the Volume Based Tie Breaker (e.g., midpoint of the Protected NBBO). The Exchange believes that when 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.

¹¹⁹ The Exchange notes that in the rare event that Auction Eligible Orders are perfectly matched at multiple prices, the prices at which imbalance is minimized and the prices at which shares will remain unexecuted are different. In such cases, the range of prices within which the auction can occur on Nasdaq would be one (1) MPV less aggressive than the prices within which the auction can occur as proposed by the Exchange. Furthermore, in the event that Auction Eligible Orders are perfectly matched at two prices that create a one cent range, the price at which imbalance is minimized and the price at which shares remain unexecuted is the same.

¹²⁰ The Volume Based Tie Breaker is generally the midpoint of the Protected NBBO. See proposed Rule 11.350(a)(33).

Lastly, in the event the clearing price determined pursuant to the procedures above is below (above) the lower (upper) threshold of the Opening/Closing Auction Collar in the Opening or Closing Auction, the value 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 described above. This differs from Nasdaq in that under Nasdaq Rule 4752(d)(2)(E), if the auction price is outside of the Nasdaq opening or closing auction collars, the auction shall occur at a price within the threshold amounts that best satisfies the conditions of Nasdaq Rule 4752(d)(2)(A) through (D). The Exchange believes that the proposed rule is designed to provide greater clarity to Users regarding the range of prices within which the Opening or Closing Auction will occur (because the range is narrower) in the event the clearing price is outside of the collar.

The Exchange notes that the clearing price determination processes utilized by other primary listing markets are not homogeneous. As described above, the Exchange designed IEX Auctions with certain features that are substantial similar to current functionality offered by other listings markets, while making certain changes designed to democratize auction participation among all Members via simplification and transparency. Accordingly, the Exchange believes that the proposed auction design will provide a transparent, efficient, and robust process to aggregate trading interest submitted by a broad range of market participants to be matched at a single clearing price, consistent with the protection of investors and the public interest, and in alignment with issuers' interests.

As discussed in the Purpose Section, for Opening and Closing Auctions, the

Exchange proposes that non-displayed buy (sell) orders on the Continuous Book with a resting price (as defined in proposed 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. Thus, non-displayed orders will influence the clearing price if such price is outside the Reference Price Range, but not if the clearing price is within the Reference Price Range. The Exchange believes that the proposed treatment of non-displayed interest on the Continuous Book resting within the Reference Price Range is designed to protect the anonymity of such resting non-displayed interest during the dissemination of IEX Auction Information.

The Exchange believes that market participants generally choose to enter non-displayed interest in order that such interest is not publicly disseminated in market data feeds or otherwise. The Exchange believes that if non-displayed interest on the Continuous Book influenced the determination of the clearing price within the Reference Price Range (i.e., generally within the Protected NBBO) for an Opening or Closing Auction then the existence of such non-displayed interest could be deciphered by market participants through IEX Auction Information, thereby leaking order information in a manner inconsistent with the terms of the order, and the protection of investors and the public interest. For example, and as discussed in the Purpose section, the Exchange believes that information leakage could occur if the Indicative Clearing Price is closer to the midpoint of the NBBO than the Reference Price. This would indicate that there is non-displayed interest resting on the Continuous Book for at least the size of the imbalance and priced at least as aggressive as the Reference Price. Thus, the Exchange

proposes to price non-displayed buy (sell) orders on the Continuous Book with a resting price within the Reference Price Range to the Protected NBB (NBO) for the purpose of determining the clearing price, but allow such orders to be ranked and eligible for execution in the Opening or Closing Auction match at the order's resting price, in order to avoid leaking order information regarding such non-displayed orders, consistent with the protection of investors and the public interest.¹²¹

Furthermore, the Exchange notes that the proposed handling of non-displayed orders on the Continuous Book with a resting price within the Reference Price Range in the Opening and Closing Auctions is functionally substantially similar to the operation of Nasdaq Imbalance Only ("IO") orders in the Nasdaq opening and closing cross. Specifically, because IO's are repeatedly repriced to be equal to the Nasdaq best bid for buy orders or the Nasdaq best offer for sell orders (collectively, the "Nasdaq BBO"), such orders effectively do not influence the determination of the clearing price within the Nasdaq BBO, but remain eligible for execution in the auction solely to offset imbalance, and influence the clearing price of the auction when it moves beyond the Nasdaq BBO.¹²² In the same manner, non-displayed buy (sell) orders on the IEX Continuous Book with a resting price within the Reference Price Range are priced to the Protected NBB (NBO)

¹²¹ The Exchange notes as well that its proposed handling of non-displayed interest on the Continuous Book will not impact the accuracy or completeness of the Indicative Clearing Price because the methodology for calculating the Indicative Clearing Price is identical to the methodology used to calculate the auction match, and thus the Indicative Clearing Price will reflect the price at which the auction would occur including all Auction Eligible Orders (including non-displayed order on the Continuous Book) as of the dissemination time.

¹²² See Nasdaq Rule 4702(b)(10), which states that if an imbalance only order to buy (sell) is entered with a price that is higher (lower) than the highest bid (lowest offer) on the Nasdaq Book, the price of the Imbalance Only Order will be modified repeatedly to equal the highest bid (lowest offer) on the Nasdaq Book, subject to the Users limit price.

for the purpose of determining the clearing price and thus effectively do not influence the determination of the clearing price within the Reference Price Range, but are ranked and remain eligible for execution in the auction at the order's resting price. In addition, non-displayed buy (sell) orders on the Continuous Book with a resting price within the Reference Price Range will influence the clearing price of the auction when the clearing price moves lower (higher) than the Reference Price Range. Accordingly, the Exchange believes that the proposed treatment of non-displayed orders resting within the Reference Price Range on the Continuous Book in the Opening and Closing Auction does not present any new or novel functionality that has not already been considered by the Commission, and is consistent with the protection of investors and public interest.

As discussed in the Purpose Section, the Exchange does not propose to offer an imbalance order *type* (*i.e.*, an order type that by its terms is designed to solely offset a buy or sell order imbalance in the auction), which is currently offered by Nasdaq, but not by Bats.¹²³ However, Users who wish to offset buy or sell imbalances in an auction may do so by entering LOO, LOC, limit orders priced less aggressive than the applicable auction collar, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book is eligible to offset imbalance without influencing the determination of the clearing price within the Reference Price Range. After informal discussion with various Members, the Exchange believes that imbalance only order types are generally employed by Users deploying sophisticated auction trading strategies, and are seldom used by long-term or natural investors. Accordingly, the Exchange believes that not offering a special imbalance only order type that is unlikely to garner broad User

¹²³ See Nasdaq Rule 4702(b)(10) and (13).

adoption, while still offering investors the opportunity to offset imbalances using LOO, LOC, limit orders, or specifically in the case of an Opening or Closing Auction, non-displayed interest on the Continuous Book with a resting price within the Reference Price Range will simplify the process of participating in auctions and attract more trading interest from a broad range of market participants, thereby resulting in robust price discovery for the IEX Auction, consistent with the protection of investors and the public interest.

The Exchange also believes that the proposed Lock-in and Lock-out Time is consistent with the protection of investors and the public interest, because in the final minutes leading into the auction match, the Exchange is attempting to achieve equilibrium and stability by avoiding the increase of imbalances or large price swings resulting from aggressively priced orders in the Auction Book, while still allowing for price discovery to occur within the applicable auction collars leading up to the auction match. The Exchange notes that that Bats implements an identical Opening Auction Lock-out time (9:28 a.m.), at which time LOO and MOO orders, as well as RHO orders will be rejected. In the context of the IEX Opening Auction, such orders are the equivalent of the order types on the Opening Auction Book. Furthermore, Bats restricts Users from canceling or modifying Eligible Auction Orders between the Lock-out Time and the auction match, except for RHO limit orders, which may be modified (but not canceled) until the auction match.¹²⁴

The Exchange is proposing to afford Users the ability to enter auction specific interest (within the applicable auction collar) beyond the typical cutoff times employed

¹²⁴ See Bats Rule 11.23(b)(1)(A)-(B).

by other exchanges, while locking-in such interest and beginning the dissemination of IEX Auction Information using a time-line that will be familiar to Users. Specifically, the proposed approach is similar to Bats and Nasdaq¹²⁵, in applying a 9:28 a.m. Lock-out Time for the Opening Auction, where LOO and MOO interest is no longer accepted and may no longer be modified; however, after informal discussion with various Members that have expressed demand for a later cut off time, the Exchange is proposing that LOO orders and limit orders with a time-in-force of DAY or GTX will continue to be accepted until the Opening Auction Lock-out Time (i.e., 9:29:50 a.m., ten (10) seconds prior to the Opening Auction match) so long as they are not Hyper-aggressive Auction Orders, which will allows Users to continue to express interest, and offset imbalances via orders designated for the Auction Book in the minutes leading up to the auction match.

Similarly, for the Closing Auction, the Exchange is proposing to apply a 3:50 p.m. Lock-out Time, where MOC interest is no longer accepted and Auction Eligible Orders on the Auction Book may no longer be modified or canceled, unless a user requests cancelation of an order to correct a legitimate error in the order prior to 3:55 p.m. Moreover, the Exchange is proposing that LOC orders will continue to be accepted until the Closing Auction Lock-out Time (i.e., 3:59:50 p.m., ten (10) seconds prior to the Closing Auction match) so long as they are not Hyper-aggressive Auction Orders, which will allows Users to continue to express interest, and offset imbalances via orders designated for the Auction Book in the minutes leading up to the auction match.¹²⁶

¹²⁵ See Nasdaq Rule 4702(b)(8)-(9) and (11)-(12).

¹²⁶ The Exchange notes that as explained by a recent study on NYSE auctions conducted by Greenwich Associates, NYSE d-Quotes (which can be entered by broker that have relationships with NYSE floor brokers, or trading algorithms that are able to enter orders directly via FIX) contribute a meaningful portion of closing auction volume, as evidenced

Furthermore, for both the Opening and Closing Auctions, Hyper-aggressive Auction Orders will be rejected after the Lock-in Time, which is designed to minimize the increase of imbalances or large price swings resulting from aggressively priced orders in the Auction Book during the last minutes leading into the auction. Instead, the Exchange is proposing to allow for price discovery to occur on the Auction Book within the applicable auction collars and on the Continuous Book leading up to the auction match, allowing for a convergence of the Auction Book with the Continuous Book to establish equilibrium. The Exchange believes that allowing Users to offset imbalances on the Auction Book after the Lock-in Time is designed to promote price discovery and stability, and establish equilibrium leading into the auction match because such orders are not able to be canceled or modified after entry (i.e., they are locked-in), which is in direct contrast with offsetting orders on the Continuous Book that may be fleeting, because they are eligible for cancellation, modification, or execution until the auction match.

Furthermore, as described above, the Exchange believes that allowing Auction Eligible Orders on the Continuous Book to continue to be submitted, modified, and

by the significant increase and fluctuations of indicative volume taken as a percentage of realized volume in the closing auction. Specifically, NYSE's auction data feed shows a material spike in indicative volume at 3:55 p.m., when d-Quotes are first included in the NYSE auction data feed, followed by fluctuations in indicative volume as a percent of realized volume. The Exchange further notes that the proposed handling of LOO, LOC, and limit orders submitted after the Lock-in Time that are not priced beyond the Opening/Closing Auction Collars is distinguishable from NYSE d-Quotes in that d-Quotes can be entered at any price, and can be canceled. As proposed, LOO, LOC, and limit orders submitted after the Lock-in Time that are not priced beyond the Opening/Closing Auction Collars cannot be canceled. The proposed order handling and IEX Auction information dissemination is designed to reflect "locked-in" interest on the Auction Book, which is intended to stimulate price discovery, and reduce fluctuations indicative volume taken as a percentage of realized volume that are caused by Users canceling orders on the Auction Book. See Trading the Auctions, Greenwich Associates, 2017, Doc ID 16-2068 (<https://www.greenwich.com/equities/trading-auctions>).

canceled until immediately prior to execution is consistent with the protection of investors and the public interest because such orders allow Users to offset imbalances in the auction until the auction match occurs, which will further the Exchange's intended goal of achieving equilibrium and stability prior to the auction match. In addition, the Exchange does not propose to interrupt continuous trading, and therefore believes it is necessary to allow Continuous Book orders to remain unrestricted in the interest of maintain fair and orderly markets, and the protection of investors and the public interest. The Exchange also notes that Bats offers identical functionality for all orders eligible for execution in the Bats Pre-Opening Session.¹²⁷ Similarly, NYSE Arca allows orders to enter the Continuous Book after the Opening and Closing Auction Imbalance Freeze.¹²⁸ The Exchange does not believe that allowing orders to enter the Continuous Book and be eligible for execution in the auction match until immediately before the auction match presents any unique concerns regarding manipulation of the auction match. To the contrary, because the Exchange generally utilizes the Protected NBBO as the Reference Price Range for the auction match (rather than the midpoint of the IEX BBO), the auction process may be less susceptible to attempted manipulation, because in order to influence the auction, one or more Users would need to sweep the entire market and impact the Protected NBBO, rather than simply entering aggressive interest on the Exchange.

The Exchange believes that providing transparent Opening Auction Contingency Procedures is consistent with the protection of investors and the public interest in that Users will have more clarity regarding the status of open orders, therefore allowing for such Users to resubmit such interest in the Regular Market Session, or re-route such

¹²⁷ See Bats Rule 11.23(b)(1)(C).

¹²⁸ See Arca Rule (c)(3)(D) and (d)(2)(C).

interest to an alternate trading center after IEX has opened the security for trading. In addition, the Opening Auction Contingency Procedures are designed to ensure the orderly and timely opening of IEX-listed securities, which will help to ensure a fair and orderly market for securities listed on the Exchange. Similarly, the Exchange believes that the proposed Closing Auction Contingency Procedures are designed to ensure the orderly and timely closing of IEX-listed securities, which will help to ensure a fair and orderly market for securities listed on the Exchange. Furthermore, the proposed Closing Auction Contingency Procedures are identical to those recently proposed by Nasdaq in conjunction with NYSE and NYSE Arca, and the SIPs as part of a larger industry initiative to ensure the orderly execution and dissemination of official closing prices. Accordingly, the Exchange believes that the proposed auction contingency procedures are consistent with the protection of investors and the public interest.

The Exchange believes that the data elements proposed to be included in IEX Auction Information will provide market participants with a comprehensive range of data relevant to auction pricing that will enable market participants to make informed decisions on whether and at what prices to enter orders for potential participation in an IEX Auction.¹²⁹ The Exchange also notes that the methodology for calculating the Indicative Clearing Price is identical to the methodology used to calculate the clearing price of the auction match, and thus the Indicative Clearing Price will reflect the price at which the auction would occur as of the dissemination time. Moreover, these data

¹²⁹ As noted in the Purpose section, IEX intends to disseminate substantially the same information through the Consolidated Quotation System operated by the Consolidated Tape Association (“CTA”) SIP, pending approval by the Operating Committee of the CTA. Following such approval, IEX will amend Rule 11.330 to reflect this additional means of dissemination.

elements are substantially similar to those currently provided by Nasdaq, as well as collar information proposed by Nasdaq, Arca, and Bats.¹³⁰ However, as proposed, the Exchange will disseminate IEX Auction Information data every one second between the Lock-in Time and the auction match for the Opening and Closing Auctions, and during the Display Only Period for IPO, Halt, and Volatility Auctions. In contrast, NYSE, Nasdaq and Bats disseminate their auction data every five seconds. IEX believes that disseminating auction data every second will contribute to increased transparency regarding relevant auction information, thus leading to more robust pricing, consistent with the protection of investors and the public interest. Moreover, IEX Auction Information will be provided to Members and other recipients of Exchange data on terms that are reasonable and not unfairly discriminatory in that it will be provided free of charge. IEX Auction Information will also be made available free of charge on the Exchange's public website via the IEX Data Platform.

The fields proposed for dissemination in IEX Auction Information are strategically tailored to the IEX Auction model, and were developed after informal discussion with various Members, as well as reference to existing fields offered in auction data provided by other exchanges, including the Nasdaq NOII, and the Bats Auction Feed. Specifically, the Indicative Clearing Price and Auction Book Clearing Price are substantially similar to the Nasdaq "Near Clearing Price" and "Far Clearing Price" as well as the Bats "Indicative Price" and "Auction Only Price", and should therefore be familiar to Members that trade in the Nasdaq and Bats auctions.¹³¹ Similarly,

¹³⁰ See SR-NASDAQ-2016-131, SR-BatsBZX-2016-61, and NYSEArca-2016-130.

¹³¹ See the [Bats US Equities Auction Process](#) specification at 8, as well as the Nasdaq [Net Order Imbalance Indicator User Guide](#) at 4-5.

the proposed Reference Price field is substantially similar to the Reference Price utilized by Bats.¹³²

Moreover, as proposed, the Exchange will utilize orders on the Auction Book to calculate the Paired Shares, Imbalance Shares, and Imbalance Side fields included in IEX Auction Information (i.e., both displayed and non-displayed orders on the Continuous Book are not accounted for when determining the number of shares that can be matched or remain unexecuted at the current Reference Price). The proposed Paired Shares, Imbalance Shares, and Imbalance Side fields are designed to enhance the reliability of the fields disseminated in IEX Auction Information, and mitigate potential gaming scenarios that could negatively impact Users trading in IEX Auctions.

Specifically, the fields as proposed are designed to avoid disseminating Paired Shares and Imbalance Shares based on orders on the Continuous Book that may be fleeting. Orders on the Continuous Book are not subject to lock-in or lock-out restrictions, and may therefore be canceled at any time before the auction match. Including potentially fleeting orders in the Paired Shares and Imbalance Shares fields could have negative implications for price discovery leading up to the auction match by discouraging Users from offsetting Imbalance Shares, leaving unmatched shares on the Auction Book at the time of the match when Continuous Book orders that were ostensibly offsetting the Imbalance Shares (and contributing to Paired Shares) are canceled prior to the auction. Accordingly, the proposed fields are consistent with the protection of investors and the public interest, in that they are designed to increase the

¹³² See the [Bats US Equities Auction Process](#) specification at 7, and 5, which define the Reference Price as the price within the Reference Price Range that maximizes the number of shares to be executed, minimizes the imbalance, and minimizes the distance to the Volume Based Tie Breaker.

reliability of the fields disseminated in IEX Auction Information, and mitigate potential gaming scenarios that could negatively impact Users trading in IEX Auctions.

Furthermore, as proposed, the Paired Shares field is designed to allow Users to determine the likelihood of their Eligible Auction Orders being executed in the auction. Specifically, because Paired Shares only reflect orders that are locked in to the auction (and therefore will be eligible for execution in the auction), Users can assess their chances of receiving an execution in the auction match based on the marketability of their order against the Indicative Clearing Price, and the number of Paired Shares against their order size. For example, if the final Indicative Clearing Price is \$10.00, and IEX has 100,000 shares paired, a User that has a LOC order to buy 10,000 shares with a limit price of \$10.50 has a high likelihood of receiving a 10,000 share execution in the Closing Auction. To continue the example and highlight the positive effects of the proposed functionality on price discovery, if the Indicative Clearing Price were to have moved away from the participant (to \$10.50, for example), such User's chances of receiving an execution in the auction are diminished because the auction match price has moved to the order's limit price, and such order is "locked-in" (i.e., ineligible for modification or cancelation). Accordingly, Users are incentivized to express their full limit on Auction Eligible Orders in order to increase the likelihood of receiving an execution in the Closing Auction at a price they believe reflects the fundamental value of the security. This truthful representation of full limit prices is designed to enhance price discovery leading into the auction match, consistent with the protection of investors and the public interest.

The Exchange further notes that as proposed, the Paired Shares, Imbalance

Shares, and Imbalance Side fields are substantially similar to the “Reference Buy Shares” and “Reference Sell Shares” fields currently offered by Bats on the Bats Auction Feed, which provide the number of shares associated with buy (sell) side Eligible Auction Orders (which are on the Bats auction book, as defined in Bats Rule 11.23(a)(8)) that are priced equal to or greater (less) than the Reference Price. However, rather than market participants deriving the number of Paired Shares, Imbalance Shares, and the Imbalance Side, the Exchange is proposing to derive and disseminate each value independently.¹³³ Moreover, Paired Shares, Imbalance Shares, and Imbalance Side fields are substantially similar to the Paired Shares, Imbalance Shares, and Imbalance Side fields that are currently offered by Nasdaq in the NOIL.¹³⁴ Accordingly, IEX Auction Information, including the proposed Paired Shares, Imbalance Shares, and Imbalance Side fields do not present any new or novel issues not already considered by the Commission and approved as consistent with the protection of investors and the public interest.

The Exchange also believes that the proposed trading halt and LULD trading pause rule provisions are consistent with the protection of investors and the public interest because such provisions provide for the imposition of a regulatory trading halt in an IEX-listed security in order to prevent trading from occurring in such security when all market participants do not have equal access to material news or other information necessary to make an informed trading decision. With respect to operational trading halts, proposed IEX Rule 11.280(g)(3) provides appropriate optionality to Members and market

¹³³ Note, paired shares would be equal to the lesser of Reference Buy Shares and Reference Sell Shares; Imbalance Shares would be equal to the absolute value of Reference Sell Shares minus Reference Buy Shares; and the side of the greater between Reference Buy Shares and Reference Sell Shares is the imbalance side.

¹³⁴ See the Nasdaq [Net Order Imbalance Indicator User Guide](#) at 4-5.

makers in determining whether to continue trading when there is an order imbalance or influx on another market. As discussed in the Purpose section, the proposed trading halt and LULD trading pause rules are substantially similar to Nasdaq rules approved by the Commission (described above) and thus do not raise any new or novel issues. Moreover, the proposed LULD trading pause provisions are consistent with the LULD Plan as well as Nasdaq rules.

Lastly, the Exchange believes that the proposed operational rules regarding IPO's conducted on the Exchange are consistent with the protection of investors and the public interest because the process is designed to provide underwriters with the necessary tools to ensure the IPO Auction as well as continuous trading following the auction operate in an orderly manner, consistent with the protections of investors and the public interest. In addition, as noted above, the proposed operational rules regarding IPO's are substantially similar to Nasdaq Rule 4120(c)(8), and therefore do not present any novel issues the Commission has not already considered.

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

IEEX does not believe that the proposed rule change will result in any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. To the contrary, and as discussed in the Statutory Basis section, the Exchange believes that offering auctions is essential for operation of a listing market which will allow the Exchange to provide companies with another listing option, thereby promoting intermarket competition between exchanges in furtherance of the principles of Section 11A(a)(1)¹³⁵ of the Act in that it is designed to promote fair competition among brokers

¹³⁵ 15 U.S.C. 78k-1(a)(1).

and dealers and among exchange markets by offering a new listing market to compete with the existing Nasdaq and NYSE duopoly.

With respect to the auction design, the Exchange does not believe that the proposal will impose any burden on intermarket or intramarket competition that is not necessary or appropriate in furtherance of the purposes of the Act. With respect to intermarket competition, as a new listing venue, IEX expects to face intense competition from existing exchanges. Consequently, the degree to which the IEX auction design could impose any burden on intermarket competition is extremely limited, and IEX does not believe that the auction design would impose any burden on competing venues that is not necessary or appropriate in furtherance of the purposes of the Act.

With respect to intramarket competition, the auction design will apply equally to all IEX Members and market participants that send orders to IEX through IEX Members. Moreover, IEX believes that the “open access” auction design will result in auctions that attract meaningful trading interest that will enable robust price discovery, and enhance intramarket competition. All Members are permitted to enter any type of Auction Eligible Order and there are no privileged participants who receive enhanced priority, have access to special order types, or receive information not available to other market participants. Consequently, IEX does not believe that the proposal will impose any burden on intramarket competition that is not necessary or appropriate in furtherance of the purposes of the Act.

The Exchange also does not think that the content and manner by which IEX Auction Information will be disseminated will impose any burden on competition, since the data will be provided to all Members and market participants free of charge and on

terms that are not unreasonably discriminatory.

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

IEX requested comments from Members and other market participants regarding the proposed auction design. The "Request for Comment Regarding Auctions for IEX-listed Securities" was disseminated to IEX Members and other market participants¹³⁶ on November 14, 2016 (see Exhibit 2). No written or verbal comments were received.

However, as discussed in the Purpose Section, in designing the proposed auctions, the Exchange held discussions with a variety of buy-side and sell-side market participants, including large banks and broker dealers that provide a variety of services with diverse customer bases and trading strategies, electronic market makers, asset managers, issuers and institutional investors.

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

Within 45 days of the date of publication of this notice in the Federal Register or within such longer period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the Exchange consents, the Commission shall: (a) by order approve or disapprove such proposed rule change, or (b) institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing, including whether the proposed rule change is consistent with

¹³⁶ Market participants that are not Members, but had previously requested to be included in IEX communications were included.

the Act. Comments may be submitted by any of the following methods:

Electronic Comments:

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>); or
- Send an email to rule-comments@sec.gov. Please include File Number SR-IEX-2017-10 on the subject line.

Paper Comments:

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

All submissions should refer to File Number SR-IEX-2017-10. This file number should be included in the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet website (<http://www.sec.gov/rules/sro.shtml>).

Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Section, 100 F Street, NE, Washington, DC 20549-1090. Copies of the filing will also be available for inspection and copying at the IEX's principal office and on its Internet website at www.iextrading.com. All comments received will be posted without change; the Commission does not edit personal

identifying information from submissions. You should submit only information that you wish to make available publicly.

All submissions should refer to File Number SR-IEX-2017-10 and should be submitted on or before [insert date 21 days from publication in the Federal Register]. For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.¹³⁷

¹³⁷ 17 CFR 200.30-3(a)(12).

EXHIBIT 2

Request for Comment Regarding Auctions for IEX-listed Securities
Emailed on November 14, 2016

IEX Market Participants,

To deliver the best possible experience on Investors Exchange ("IEX"), the team believes our market must grow and evolve with the benefit of input from a broad range of participants including current Members, future Members, and constituents outside the broker-dealer community. Therefore, we periodically reach out to IEX Members and market participants to solicit feedback and engage in dialogue regarding IEX Product Enhancement Proposals in what we call "IEX PEP Talks".

Thank you for taking the time to read this IEX PEP Talk regarding our proposed auction design for IEX listed securities.¹ Please note that the proposal described in this IEX PEP Talk is subject to filing with and approval by the Securities and Exchange Commission ("SEC") pursuant Section 19(b) of the Securities Exchange Act of 1934 ("Exchange Act"). Subject to such approval, our targeted release time frame for auction functionality is currently Q1 2017 for test securities and July 2017 for non-test securities, but is subject to change.

Below is a summary of each proposed auction with requests for feedback. Additionally, a draft IEX Auction Specification is attached for participants who like to dive into the details.

We are interested in all feedback, thoughts, and questions. All feedback must be received by Friday, November 18. In accordance with the SEC rule filing process, all written comments will be included in the public rule filing IEX submits to the SEC for attribution as submitted by the commenter. IEX encourages Members to contact their IEX Sales representative to schedule a discussion with the IEX Auction design team. Other market participants may contact 646.343.2100 or subscriber@iextrading.com.

Important note: IEX may revise the proposed auction design described herein in response to comments and feedback received in response to this IEX PEP Talk or otherwise.

Background

IEX received feedback from the industry on background throughout the IEX Auction design phase that encouraged our team to consider incorporating the strengths of other auctions around the world into our auction. The IEX Auction design considered the following:

- Nasdaq: Precise timing of opening and closing auction execution; complete information in the auction imbalance feed

- NYSE: Order entry after cut-offs vis-à-vis D-quotes in the Closing Auction
- Bats: Documented specification; robust contingency procedures for each auction type
- European Exchanges: Uninhibited order entry; continuous feedback via market data feeds

Introduction

As proposed the Investors Exchange (“IEX”) Auction Process would be designed to provide electronic price discovery mechanisms that efficiently match orders in IEX listed securities at a single price using a Double auction. These auctions would enable IEX participants to execute against other opening or closing interest at IEX (Opening Auction and Closing Auction, respectively). They would also allow for participation in IEX corporate IPOs, new issues (e.g., Exchange Traded Products) (collectively, IPO Auction), auctions resulting from security halts (Halt Auction), and auctions resulting from limit up-limit down (“LULD”) trading pauses (Volatility Auction). During the auction process, IEX would calculate and disseminate current price, size, imbalance information, and auction collar information, as described below. The following describes proposed functionality for IEX Auctions.

Scope

Only IEX listed securities would be eligible for IEX Auctions. Listings on IEX would be eligible for the Opening and Closing Auctions either after the IPO Auction on IEX or after the listing has transferred to IEX from another listing exchange. On-open and on-close orders submitted for non-IEX listed securities would be rejected.

In general, orders on the continuous order book and orders queued prior to the auction (collectively, the “IEX Order Book”) would be eligible for the auction match. Orders on the continuous order book and orders queued prior to the auction (“Auction Book”) would be consolidated to calculate the single clearing price for the Opening/Closing Auction. For all other auctions where there is no continuous trading prior to the auction (e.g., Halt Auction), orders queued prior to the auction would be used to calculate the single clearing price for the auction.

Pegged orders would not be eligible for the Opening/IPO/Volatility/Volatility Closing Auction. Non-displayed interest resting on the continuous order book at the time of a halt/pause dissemination would not be eligible for the Halt/Volatility/Volatility Closing Auction. Minimum Quantity orders and orders marked with a TIF of “Fill-or-kill” would not be eligible for any IEX Auction.

Opening and Closing Auction

IEX would accept on-open and on-close order types beginning at 8:00 a.m. which are executable only during the Opening and Closing Auction, respectively. Leading up to the auction, IEX would disseminate information about order imbalances in the IEX Order

Book, with an indicative opening/closing price and collar information. Please see the IEX Auction Specification for more details about the "Opening/Closing Auction Collar".

At 9:30 a.m., the Opening Auction Book and continuous book would be consolidated to create a single IEX opening price. IEX opening prices would be disseminated to the consolidated tape immediately after the Opening Auction.

At 4:00 p.m., the Closing Auction Book and continuous book would be consolidated to create a single IEX closing price. IEX closing prices would be disseminated to the consolidated tape immediately after the Closing Auction.

The Opening Auction would set the IEX Official Opening Price. If an issue does not have an Opening Auction, the IEX Official Opening Price would be determined by the initial (i.e., first) last-sale eligible trade on IEX reported at or after 9:30 a.m., when regular trading hours begins. The Closing Auction would set the IEX Official Closing Price. If an issue does not have a Closing Auction, the IEX Official Closing Price would be determined by the final last-sale eligible trade reported. See the IEX Auction Specification for definitions of initial last-sale eligible trade and final last-sale eligible trade.

Opening and Closing Order Types

Market-On-Open ("MOO") and Limit-On-Open ("LOO") orders would allow market participants to specifically request an execution at the opening price. For the purposes of the Opening Auction, regular-hours orders (TIF of "DAY" or "GTX") entered prior to 9:29:50 a.m. would be treated the same way as on-open orders.

Market-On-Close ("MOC") and Limit-On-Close ("LOC") orders would allow market participants to specifically request an execution at the closing price. On-close orders would be accepted between 8:00 a.m. and 3:50 p.m. (MOC orders) / 3:59:50 p.m. (LOC orders).

Auction Times

- 8:00 a.m. – The IEX Pre-Market Session begins and order acceptance would begin for Opening and Closing Auctions.
- 9:28 a.m. – Dissemination of Opening Auction information would begin. On-open orders would be locked into the Auction Book until the auction match, and new on-open orders priced more aggressively than the Opening Auction collar would be rejected upon receipt (e.g., LOO buy order with a limit price higher than the latest Upper Auction Collar, a MOO order).
- 9:29:50 a.m. – New on-open orders would be locked out of entering the Auction Book (rejected upon receipt). To participate in the auction, orders must be entered on the continuous book.
- 9:30 a.m. – The Opening Auction match would occur and the Regular Market Session would begin.

- 3:50 p.m. – Dissemination of Closing Auction information would begin. On-close orders would be locked into the Auction Book until the auction match, and new on-close orders priced more aggressively than the Closing Auction collar would be rejected upon receipt (e.g., LOC buy order with a limit price higher than the latest Upper Auction Collar, a MOC order).
- 3:59:50 p.m. – New on-close orders are locked out of entering the Auction Book (rejected upon receipt). To participate in the auction, orders must be entered on the continuous book.
- 4:00 p.m. – The Closing Auction match would occur, or dissemination of the IEX Official Closing Price in the event of no Closing Auction, and the Post-Market Session would begin.
- 5:00 p.m. – The IEX Post-Market Session ends.

IEX Auction Information

The IEX Auctions are designed to provide transparency of order imbalances, indicative clearing prices, and applicable collars via IEX Auction information. The data feed, to be called the Auction Information Message ("AIMM"), would be disseminated as a separate feed, via the IEX Top of Book and Last Sale Feed ("TOPS"), and on the IEX website. IEX anticipates that AIMM data would also be disseminated by numerous market data distributors, and service bureaus.

AIMM would include the following data elements:

- Reference Price: A price within the NBBO at which paired shares from orders on the continuous order book and orders on the Auction Book (collectively, the "IEX Order Book") are maximized, the imbalance is minimized, and the distance from the midpoint of the NBBO is minimized, in that order.
- Paired Shares: The number of shares on the IEX Order Book that IEX is able to pair off at the Reference Price.
- Imbalance Shares: The number of shares on the IEX Order Book that would remain unexecuted at the Reference Price.
- Imbalance Side: The side of the imbalance (B = buy-side imbalance; S = sell-side imbalance; N = no imbalance).
- Indicative Clearing Price: The price at which orders on the IEX Order Book would clear against each other. This price is calculated at or within the applicable auction collar for the Opening/Closing Auction.
- Auction Book Clearing Price: The price at which orders on the Auction Book would clear against each other.
- Collar Reference Price: The price from which the applicable collar for an auction was calculated.
- Lower Auction Collar: The price of the latest lower threshold of the applicable collar for an auction.
- Upper Auction Collar: The price of the latest upper threshold of the applicable collar for an auction.

The information would be disseminated every one second between 9:28 a.m. and the Opening Auction match for the Opening Auction, and 3:50 p.m. and the Closing Auction match for the Closing Auction.

IPO and Halt Auction

IEX IPO and Halt Auctions are designed to provide fair executions for market participants through an open and transparent process that creates a single price for halt resumptions and IPOs based on supply and demand.

The IEX IPO and Halt Auctions are designed to:

- Provide fair executions at a single price that maximize volume and are reflective of supply and demand in the market.
- Promote transparency for halt resumptions and IPOs by disseminating timely imbalance information to investors.
- Create an open process in which all investors have the ability to enter orders and participate in price discovery.

IEX would accept orders for an IPO auction beginning at the start of the Pre-Market Session and for Halt Auctions beginning 5 minutes prior to the Halt Auction match (the "Order Acceptance Period"). Orders would be able to be canceled at any time. No executions would occur before the halt resumption.

All orders eligible for an auction would contribute to the IEX Auction information. Dissemination of IEX Auction information would begin 30 minutes prior to an IPO Auction and 5 minutes prior to a Halt Auction. Clearing price and imbalance information would be disseminated, however no collars would be used for either the IPO Auction or the Halt Auction.

IEX would extend the Order Acceptance Period, if necessary. Volatility during the Order Acceptance Period would result in a 5-minute (IPO) or 1-minute (Halt) automatic extension of the Order Acceptance Period. Specifically, an extension would be triggered by a market order imbalance or a movement of 5% or \$0.50 (whichever is greater) based on the price immediately prior to the auction and any of the last fifteen price disseminations.

Volatility Auction

Pursuant to Amendment 12 of the LULD Plan and the recent filings from NYSE Arca, the Nasdaq Stock Market, and Bats BZX Exchange, IEX would also support a unified auction design to resume trading after an LULD trading pause. The Volatility Auction contains the same mechanisms of a Halt Auction with the following features:

- A Volatility Auction Collar would be established based on the LULD Price Bands at the time of the pause (please read the specification for more details on the

- "Volatility Auction Collar").
- Extensions could also occur if the clearing price is at an Impermissible Price (either an Indicative Clearing Price outside the Volatility Auction Collar or unmatched market order shares at the time of the auction match).
 - The Volatility Auction Collar would be adjusted at the start of any Order Acceptance Period extension by the greater of 5% or \$0.15 in the direction of the Impermissible Price.
 - Extensions would be 5-minutes in duration and continue until a clearing price is determined within the collar.

Volatility Closing Auction

If an LULD trading pause exists at or after 3:50 p.m. and before the Closing Auction, the Closing Auction would be converted into a Volatility Closing Auction and would be conducted at 4:00 p.m. At the later of 3:50 p.m. or the pause dissemination, all pegged orders and non-displayed DAY orders on the continuous book would be canceled, as they are ineligible for the Volatility Closing Auction.

- A Volatility Auction Collar would either be established based on the LULD Price Bands at the time of the pause (pause initiated at or after 3:50 p.m.) or the existing Volatility Auction Collar from the preceding Volatility Auction would be used (pause initiated prior to 3:50 p.m.).
- On-close orders would be locked into the Auction Book until the auction match, and new market orders would be rejected upon receipt (e.g., MOC, market IOC).
- The Volatility Auction Collar would be adjusted at the start of any Order Acceptance Period extension by the greater of 5% or \$0.15 in the direction of the Impermissible Price.
- Extensions would be 5-minutes in duration and continue until a clearing price is determined within the collar.

The Volatility Closing Auction would set the IEX Official Closing Price. If an issue does not have a Volatility Closing Auction (e.g., there is insufficient interest to conduct an opening auction), the IEX Official Closing Price would be determined by the final last-sale eligible trade reported.

Contingency Procedures

IEX believes that a listing market should have transparent and robust procedures which describe what the exchange will do in the unfortunate circumstance that its system cannot conduct an auction. Accordingly, IEX has developed proposed contingency procedures, as described below.

Overview

In the event of systemic issues, IEX would utilize either the Primary or Secondary

Contingency Procedures, as described below. The determination to use the Primary or Secondary Contingency Procedures will be made by the President of IEX or any Senior Vice President designated by the President. IEX would publicly announce at the earliest possible time the initiation of the Primary or Secondary Contingency Procedures via a System Status, Trading Alert, and email notification to Members and other market participants.

IEX would utilize the Primary Contingency Procedures if at all possible, and would utilize the Secondary Contingency Procedures only if it determines that both the standard closing procedures and the Primary Contingency Procedures are unavailable.

If IEX utilizes the Primary Contingency Procedures for the Opening Auction, the Regular Market Session would begin either as scheduled at 9:30 a.m. or upon resolution of the disruption that triggered IEX to operate under the contingency procedures.

If IEX utilizes the Primary or Secondary Contingency Procedures for the Closing Auction, the Post-Market Session would begin either as scheduled at 4:00 p.m. or upon resolution of the disruption that triggered IEX to operate under the contingency procedures.

If IEX utilizes the Contingency Procedures for the Halt/Volatility Auction, trading for the security would begin upon resolution of the disruption that triggered IEX to operate under the contingency procedures. If/when the SIP supports functionality to publish LULD Price Bands upon instruction from the primary listing exchanges, then IEX would instruct the SIP to do so and trading would resume when the SIP publishes LULD Price Bands for the affected security.

If IEX utilizes the Contingency Procedures for the IPO Auction, trading for the security would begin upon resolution of the disruption that triggered IEX to operate under the contingency procedures.

Primary Contingency Procedures

In the event of systemic issues at IEX at the time of an Opening/Closing/IPO/Halt/Volatility Auction, IEX would reserve the right to utilize the following Primary Contingency Procedures.

Opening Auction

IEX would publicly announce that no Opening Auction will occur. The price of the initial last-sale eligible trade on IEX would be used for the IEX Official Opening Price, if such price is generated in the first minute of the regular market hours. The IEX Official Opening Price would be published to the Consolidated Tape. IEX would execute orders on the Auction Book at the IEX Official Opening Price, in accordance with the Opening Auction execution priority. Any unmatched shares (e.g., due to passive limits or unpaired interest) would be canceled at the conclusion of the contingency process. IEX

would report the resulting execution to the Consolidated Tape and deliver execution reports to participants.

If a security's IEX Official Opening Price cannot be determined based on this procedure (e.g., because no orders on the Auction Book are executable at that price), IEX would not publish an Official Opening Price for the security and would cancel all on-open orders on the Auction Book.

Closing/Volatility Closing Auction

IEX would publicly announce that no Closing Auction will occur. The price of the final last-sale eligible trade would be used for the IEX Official Closing Price. The IEX Official Closing Price would be published to the Consolidated Tape. IEX would execute orders on the Auction Book at the IEX Official Closing Price, in accordance with the Closing Auction execution priority. Any unmatched shares (e.g., due to passive limits or unpaired interest) would be canceled at the conclusion of the contingency process. IEX would report the resulting execution to the Consolidated Tape and deliver execution reports to participants.

If a security's IEX Official Closing Price cannot be determined based on this procedure (e.g., because no orders on the Auction Book are executable at that price), IEX would not publish an Official Closing Price for the security and cancel all on-close orders on the Auction Book.

Halt/Volatility Auction

IEX would publicly announce that no Halt/Volatility Auction would occur and IEX would open the security for trading without an auction.

If/when the SIP supports functionality to publish LULD Price Bands upon instruction from the primary listing exchanges, then IEX would immediately instruct the SIP of the issue and the SIP would subsequently publish LULD Price Bands via the Consolidated Quote System ("CQS") and the Consolidated Tape, so alternative execution venues may resume trading. IEX would cancel all orders on the IEX Order Book at the conclusion of the contingency process.

IPO Auction

IEX would publicly announce that the Order Acceptance Period for the IPO Auction will reset for the subject security. At that point, IEX would cancel all orders on the IEX Order Book and disseminate a new scheduled time for the Order Acceptance Period and auction match.

Closing/Volatility Closing Auction Secondary Contingency Procedures

If IEX publicly announces at or before 3:00 p.m. that it will employ the Closing Auction

Secondary Contingency Procedures for one or more securities, it would designate a back-up exchange for those securities, cancel all open interest designated for the IEX Closing Auction residing on the IEX Order Book in order to give participants the opportunity to route their orders to alternative execution venues, and the IEX Official Closing Price for each security would be determined based on the following hierarchy:

1. The IEX Official Closing Price would be the official closing price established for the security under the rules of the designated back-up exchange. IEX anticipates that the Nasdaq Stock Market would be the default back-up exchange for IEX.
2. If there is no official closing price in a security on the designated back-up exchange, the IEX Official Closing Price would be the VWAP of the last-sale eligible trades reported to the Consolidated Tape during the last five minutes of the Regular Market Session 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.
3. If there are no last-sale eligible trades reported to the Consolidated Tape during the last five minutes of the Regular Market Session, the IEX Official Closing Price of such security would be the final last-sale eligible trade for the security on that trading day.
4. If there were no last-sale eligible trades reported to the Consolidated Tape on that trading day, the IEX Official Closing Price would be the prior day's official closing price.

If IEX publicly announces after 3:00 p.m. that it would employ the Secondary Contingency Procedures for one or more securities, it would cancel all open interest designated for the IEX Closing Auction residing on the IEX Order Book in order to give participants the opportunity to route their orders to alternative execution venues, and the IEX Official Closing Price for each security would be determined based on the following hierarchy:

1. The IEX Official Closing Price would be the VWAP of the last-sale-eligible trades reported to the Consolidated Tape during the last five minutes of the Regular Market Session 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.
 2. If there are no last-sale eligible trades reported to the Consolidated Tape during the last five minutes of the Regular Market Session, the IEX Official Closing Price of such security would be the final last-sale eligible trade for the security on that trading day.
 3. If there were no last-sale eligible trades reported to the Consolidated Tap on that trading day, the IEX Official Closing Price would be the prior day's official closing price.
-
1. If a security's IEX Official Closing Price cannot be determined based on these hierarchies, IEX would not publish an Official Closing Price for the security.

Topics for Feedback

- Should IEX allow the collar threshold percentage (currently 10% above/below the NBO/NBB) for the Opening or Closing Auction to be adjusted to allow for greater price discovery during the auction on large imbalance days?
 - When conducting a Volatility Closing Auction, IEX is planning on locking in on-close interest after 3:50 p.m. If IEX offers the ability to extend the Volatility Closing Auction due to the automatic extension criteria described above, should IEX offer the ability to cancel on-close interest prior to the auction match?
 - Between 3:50 and 3:55 p.m., on-close orders can be canceled and/or modified only if the participant requests that IEX correct a legitimate error in the order (e.g., side, size, symbol, or price, or duplication of an order). On-close orders cannot be canceled or modified at or after 3:55 p.m. for any reason. If there is a legitimate error and the auction clearing price and/or imbalance would change dramatically after IEX addresses such error, should IEX reserve the right to extend the close in the affected security with the correct notification to participants?
 - On the first day of trading a new issue (e.g., non-transfers, new right, warrant, or preferred security), should IEX issue a regulatory halt for the new issue on the first day of trading (if IEX has the latitude to do so) and only begin trading after a Halt Auction at 9:30 a.m., or should IEX allow the security to trade freely in the pre-market and conduct an Opening Auction at 9:30 a.m.?
 - All contingency procedures, specifically for the Opening, Volatility, and Halt Auctions.
 - If IEX cannot conduct an Opening Auction due to a systemic issue, would participants prefer that IEX use the price of the initial last-sale eligible trade on IEX, if such trade occurs within 1-minute, or should IEX use the price of the initial last-sale eligible trade on any market, or should IEX simply not publish an IEX Official Opening Price?
 - If IEX cannot conduct a Volatility Auction due to a systemic issue, and the SIP does not currently support functionality to publish LULD Price Bands without a print from the primary, should IEX abandon the auction and open the market to resolve any queued interest or should IEX resolve the issue and only resume trading with a Volatility Auction?
 - If IEX cannot conduct a Halt Auction due to a systemic issue, would participants prefer that IEX instruct the SIP to publish LULD Price Bands (assuming they support this functionality) so trading may resume, or should IEX abandon the auction and open the market to resolve any queued interest?
-

¹ IEX launch of a listing market is subject to certain SEC rule filings and approvals, including but not limited to a filing to adopt rules governing auction functionality.

EXHIBIT 2



INVESTORS EXCHANGE AUCTION PROCESS

Version 1.00

DRAFT

Updated: November 14, 2016

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INTRODUCTION

Overview

The Investors Exchange (“IEX”) Auction Process provides electronic price discovery mechanisms that efficiently match orders in IEX listed securities at a single price using a Double auction. These auctions enable IEX participants to execute against on-open and on-close interest at IEX. They also allow for participation in IEX corporate IPOs, new issues (e.g., Exchange Traded Products), auctions resulting from security halts, and auctions resulting from LULD trading pauses. During the auction process, IEX will calculate and disseminate current price, size, imbalance information, and auction collar information, as described below.

Securities Eligible

Only IEX listed securities are eligible for IEX Auctions. Listings on IEX will be added to the Opening and Closing Auctions either after the IPO Auction or after the listing has transferred to IEX from another listing exchange. On-open and on-close orders submitted for non-IEX listed securities will be rejected.

Orders Eligible

In general, orders on the continuous order book and orders queued prior to the auction (collectively, the “IEX Order Book”) are eligible for the auction match. Orders on the continuous order book and orders queued prior to the auction are consolidated to calculate the single clearing price for the Opening/Closing Auction. For all other auctions, orders queued prior to the auction are used to calculate the single clearing price for the auction.

Ineligible Orders

Pegged orders are not eligible for the Opening/IPO/Volatility Auction. Non-displayed interest resting on the continuous order book at the time of a halt/pause dissemination are not eligible for the Halt/Volatility Auction. Minimum Quantity orders and orders marked with a TIF of FOK are not eligible for any IEX Auction.

Time Zone

Note that all times referenced within this document are Eastern Time (“ET”).

Time-in-Force Values

The time-in-force (“TIF”) determines the periods of time during which an order is available for execution and includes:

- IOC - immediate-or-cancel
- FOK - an IOC order where the entire size must be filled, else the order will be canceled
- DAY - available for trading during the Regular Market Session

- GTX – available for trading during the Regular Market Session and Post-Market Session, and expires at the end of the Post-Market Session
- SYS – available for trading during System Hours, and expires at the end of the Post-Market Session
- GTT – expires at the earlier of specified expire time or end of the Post-Market Session
- On-open – available for trading only when determining the opening price
- On-close – available for trading only when determining the closing price

Definitions

References to terms defined in this section will be italicized and underlined within the document.

Auction Book: The specified orders queued prior to the auction match.

- Opening Auction
 - On-open orders.
 - Limit orders marked DAY or GTX.
 - Market orders marked DAY.
- Closing Auction
 - On-close orders.
- IPO Auction
 - On-open orders.
 - Limit orders marked DAY, GTX, GTT, SYS, or IOC.
 - Market orders marked IOC or DAY.
- Halt Auction
 - On-open orders, if the security has not traded during the Regular Market Session on that trading day.
 - Limit orders received during the Order Acceptance Period marked DAY, GTX, GTT, SYS, or IOC.¹
 - Market orders received during the Order Acceptance Period marked IOC or DAY.²
 - Displayed portions of limit orders on the Continuous Book at the time of the halt dissemination.
- Volatility Auction
 - On-close orders, if the auction is scheduled at or after the conclusion of the Regular Market Session.
 - Limit orders received during the Order Acceptance Period marked DAY, GTX, GTT, SYS, or IOC.
 - Market orders received during the Order Acceptance Period marked IOC or DAY.
 - Displayed portions of limit orders on the Continuous Book at the time of the pause dissemination.

Auction Ineligible Orders: The specified orders that are not eligible for an auction. These orders **are neither** used to calculate IEX Auction information **nor** to determine the clearing price of the auction match. TIF permitting, Auction Ineligible Orders are released to the Continuous Book at the conclusion of the auction match, otherwise they are canceled. Specifically, auction ineligibility is determined as follows:

- Opening Auction
 - Pegged orders.

¹ Limit orders marked DAY are eligible only in Halt Auctions occurring during the Regular Market Session (if a Halt Auction receives an automatic extension which causes the Halt Auction to occur in the Post-Market Session, limit orders marked DAY which were submitted during the Order Acceptance Period within regular market hours are included). Limit orders marked GTX are eligible only in Halt Auctions occurring during the Regular Market Session or Post-Market Session.

² Market orders are eligible only in Halt Auctions occurring during the Regular Market Session (if a Halt Auction receives an automatic extension which causes the Halt Auction to occur in the Post-Market Session, market orders which were submitted during the Order Acceptance Period within regular market hours are included).

- Minimum Quantity orders.
- Closing Auction
 - Minimum Quantity orders.
- IPO Auction
 - Pegged orders.
 - Minimum Quantity orders.
- Halt Auction
 - Pegged orders.
 - Minimum Quantity orders.
 - Non-displayed interest on the Continuous Book at the time of the halt.
- Volatility Auction
 - Pegged orders.
 - Minimum Quantity orders.
 - Non-displayed interest on the Continuous Book at the time of the pause.

Continuous Book: All orders resting on the IEX Order Book that are not on the Auction Book. Orders marked 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, e.g., pegged orders and Minimum Quantity orders marked DAY are not on the Continuous Book during the Pre-Market Session. There is no Continuous Book when a security is halted or paused.

Eligible Auction Orders: All orders on the Auction Book and Continuous Book (i.e., the IEX Order Book) that are not Auction Ineligible Orders. Orders must be on the Auction Book prior to their applicable cut-off or on the Continuous Book prior to the auction match for the Opening/Closing Auction. Orders must be on the Auction Book prior to the auction match for the IPO/Halt/Volatility Auction. These orders are used by the System to calculate IEX Auction information and to determine the clearing price of the auction match.

Final Last Sale Eligible Trade: The last trade during regular market hours (i.e., 9:30 a.m. – 4:00 p.m.) on IEX if the trade was executed within the last one second prior to either the Closing Auction or trading in the security being halted/paused. Otherwise, IEX will use the last trade during regular market hours prior to either the Closing Auction or trading in the security being halted/paused that is last sale eligible, reported to the Consolidated Tape System (“Consolidated Tape”), and received by IEX. If there is no qualifying Final Last Sale Eligible Trade for the current day, the previous official closing price will be used. In the case of an IPO or launch of a new issue, the issue price will be used.

Initial Last Sale Eligible Trade: The first trade during regular market hours on IEX, including the resulting trade from either a Halt Auction during regular market hours or the Closing Auction.

Hyper-aggressive Auction Orders: Market, MOO, and MOC orders. In an Opening or Closing Auction, limit, LOO, and LOC orders priced more aggressively than the Opening/Closing Auction Collar, calculated upon order receipt.

Lock-in Time: The time when orders are locked onto the Auction Book and cannot be canceled by participants prior to the auction match. Additionally, the time when IEX begins to reject any new Hyper-aggressive Auction Orders upon receipt. Lastly, the time when IEX begins to disseminate IEX Auction information. The Lock-in Time for each auction is below; IPO/Halt/Volatility Auctions do not have a Lock-in Time.

- Opening Auction: 9:28 a.m. (2 minutes prior to the auction match)
- Closing Auction: 3:50 p.m. (10 minutes prior to the auction match)

Lock-out Time: The time when any new order is locked out of entering the Auction Book and is rejected upon receipt.

Orders are still eligible for the Continuous Book at this time. Orders must be on the Auction Book prior to the Lock-out Time to guarantee eligibility for the auction. The Lock-out Time occurs 10 seconds prior to the auction match. The Lock-out Time for each auction is below; IPO/Halt/Volatility Auctions do not have a Lock-out Time.

- Opening Auction: 9:29:50 a.m. (10 seconds prior to the auction match)
- Closing Auction: 3:59:50 p.m. (10 seconds prior to the auction match)

Maximum Percentage: The Maximum Percentage will vary depending on the value of the midpoint of the NBBO (“Midpoint Price”). Maximum Percentage is one of the factors used to determine if the Midpoint Price may be used as the Volume Based Tie Breaker.

Midpoint Price	<u>Maximum Percentage</u>
Less than or equal to \$25.00	5%
Greater than \$25.00 but less than or equal to \$50.00	2.5%
Greater than \$50.00	1.5%

Opening/Closing Auction Collar Reference Price: The Volume Based Tie Breaker.

Opening/Closing Auction Collar: IEX applies a default threshold percentage of 10% to the Opening/Closing Auction Collar Reference Price, and adds the greater of \$0.50 or the resulting threshold value to the National Best Offer (“NBO”) and subtracts the greater of \$0.50 or the resulting threshold value from the National Best Bid (“NBB”) to establish the upper and lower threshold of the Opening/Closing Auction Collar.

For example, if the 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 NBO and subtracted from the 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 NBBO changes, the Opening/Closing Auction Collar updates to reflect such changes.

Volatility Auction Collar Reference Price: The Volatility Auction Collar Reference Price is equal the price of the Upper or Lower Price Band that triggered the LULD trading pause.

Volatility Auction Collar: 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 less aggressive minimum price variation (“MPV”) and the upper (lower) threshold of the Volatility Auction Collar is the Upper (Lower) Price Band. 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 less aggressive MPV and the upper (lower) threshold of the Volatility Auction Collar is the Upper (Lower) Price Band.

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.

At the beginning of a Volatility Auction Order Acceptance Period extension caused by an Impermissible Price, the upper (lower) threshold of the Volatility Auction Collar will be increased (decreased) by 5% in the direction of the market order imbalance or Indicative Clearing Price outside the Volatility Auction Collar (in either case, an “Impermissible Price”), rounded to the nearest less aggressive MPV. For securities with a Volatility Auction Collar Reference Price of \$3.00 or less, the upper (lower) threshold of the Volatility Auction Collar will be increased (decreased) in \$0.15 increments in the direction of the Impermissible Price.

The Volatility Auction Collar is static during the Order Acceptance Period and only updates at the beginning of each Volatility Auction Order Acceptance Period extension caused by an Impermissible Price. In this example, if the pause was triggered at 12:00 p.m., the above calculated Volatility Auction Collar would be in effect 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 and the upper Volatility Auction Collar would be updated by adding 5% of the upper Volatility Auction Collar, 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 \$11.55 ($\$11.00 + \$0.55 = \11.55) and a lower Volatility Auction Collar of \$9.50, thus creating a range of \$9.50 to \$11.55, within which the Volatility Auction can now occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.55 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.

Reference Price Range: The prices between and including the NBB and NBO. In the event that there is no NBBO in an Opening/Closing Auction, this will be the price of the Final Last Sale Eligible Trade. In an IPO/Halt/Volatility Auction the Reference Price Range is equal to the Indicative Clearing Price. The Reference Price Range is used only for the purposes of calculating the Reference Price and will not be disseminated as part of the IEX Auction information.

Volume Based Tie Breaker: The Midpoint Price, if the NBBO is valid. The NBBO is valid when,

1. there is both an NBB and NBO for the security, and
2. the NBBO is not crossed, and
3. the Midpoint Price is less than the Maximum Percentage away from both the NBB and NBO.

In the event the NBBO is not valid, the midpoint of the IEX best bid and best offer (“IEX BBO”) is used.

In the event the midpoint of the IEX BBO is greater than the Maximum Percentage away from either the IEX best bid or IEX best offer, or there is not both an IEX best bid and IEX best offer for the security, the price of the Final Last Sale Eligible Trade is used.

For IPO Auctions, the issue price is used.

IEX AUCTION INFORMATION

IEX disseminates IEX Auction information every **one second** between the Lock-in Time and the auction match for the Opening and Closing Auctions, and during the Display Only Period of the Order Acceptance Period for IPO/Halt/Volatility Auctions. IEX Auction information is available to subscribers of the IEX Top of Book Quote and Last

Sale Feed (“TOPS”) and the IEX Auction Information Message Feed (“AIMM”) and is also made available to other market participants by various market data vendors.

IEX Auction information is also available on the [IEX public website](#).

Order Acceptance Period

No orders will be accepted for an IPO/Halt Auction until the start of the Order Acceptance Period. Orders entered during the Order Acceptance Period can be canceled until the auction match begins. No executions in the subject security will occur until the auction has completed.

The default Order Acceptance Period for each applicable auction is specified below:

- IPO Auction: 8:00 a.m., but is subject to change based on underwriter request.
- Halt Auction: 5 minutes prior to the scheduled auction match.
- Volatility Auction: immediately after the pause dissemination.³

The Order Acceptance Period will end when the auction match begins.

Situations that can result in the Order Acceptance Period being extended include, but are not limited to:

- Unmatched Market Order Shares: automatic 5 minute (IPO) or 1 minute (Halt) extension.
- Impermissible Price: automatic 5 minute (Volatility) extension for an *Indicative Clearing Price* outside the *Volatility Auction Collar* or unmatched market order shares at the time of the auction match.
- Volatility Closing Auction: automatic extension to the end of the Regular Market Session (i.e., 4:00 p.m.) (Volatility), if the auction will be in an Order Acceptance Period at or after the Closing Auction *Lock-in Time*.
- Legitimate Underwriter Request: manual extension (IPO only).
- Volatility: automatic 5 minute (IPO/Volatility) or 1 minute (Halt) extension for an *Indicative Clearing Price* movement that is greater than 5% or 50 cents from any of the previous fifteen *Indicative Clearing Price* disseminations at the scheduled auction match.

Display Only Period

IEX will disseminate IEX Auction information in the subject security during the Display Only Period for an upcoming auction. IEX will also disseminate a trading status message in the symbol to the Consolidated Tape that contains a *Halt Reason* = ‘D’ (“News Dissemination”) at the start of the Display Only Period. The default Display Only Period for each applicable auction is specified below:

- IPO Auction: 30 minutes prior to the scheduled auction match.
- Halt Auction: the start of the Order Acceptance Period.
- Volatility Auction: the start of the Order Acceptance Period.

Messages

IEX Auction information to be disseminated during an IEX Auction is as follows:

- **Timestamp:** Time of the update event.

³ IEX will reject market orders and IOC limit orders for the first second after a security is paused (i.e., IEX will continue to accept orders without interruption when a security is paused with the exception of market orders and IOC limit orders for the first second of the LULD trading pause).

- **Security:** Symbol of the subject security.
- **Auction Type:** Opening Auction (O); Closing Auction (C); IPO Auction (I); Halt Auction (H); Volatility Auction (V).
- **Reference Price:** The Reference Price is based only upon orders on the Auction Book. The price is calculated at or within the Reference Price Range for the security. 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 exists, the Reference Price is set to the price at which shares will remain unexecuted in the auction. If more than one price exists, the Reference Price is set to the price that minimizes the distance from the Volume Based Tie Breaker at the time of dissemination. Shares of orders on the Auction Book may be unmatched at the Reference Price. The Reference Price has no bearing on the auction match; it is simply a price that is used in the Auction information dissemination to provide reference for several of the below data points.
- **Paired Shares:** The number of shares from orders on the Auction Book that can be matched at the Reference Price.
- **Imbalance Shares:** The number of shares from orders on the Auction Book that would remain unexecuted at the Reference Price against other orders on the Auction Book.
- **Imbalance Side:** The side of the imbalance: buy-side imbalance (B); sell-side imbalance (S); no imbalance (N).
- **Indicative Clearing Price:** The price at which the auction would match using Eligible Auction Orders. In the event the Indicative Clearing Price is below the Lower Auction Collar or above the Upper Auction Collar in the Opening/Closing Auction, the value will be the nearest valid price at or within the collar. In the event there is no price at which Eligible Auction Orders would match, the value will be zero.
- **Auction Book Clearing Price:** The price at which the auction would match using **only** orders on the Auction Book. In the event of a market order imbalance using **only** orders on the Auction Book, the value will be zero (in this case, the Imbalance Side will indicate the side of the order imbalance). In the event there is no price at which Auction Book would match, the value will be zero (in this case, the Imbalance Side will indicate no imbalance).
- **Collar Reference Price:** Opening/Closing Auction Collar Reference Price for the Opening/Closing Auction. Volatility Auction Collar Reference Price for the Volatility Auction. The value will be zero for IPO/Halt Auctions.
- **Lower Auction Collar:** The lower threshold of the Opening/Closing Auction Collar for the Opening/Closing Auction. The lower threshold of the Volatility Auction Collar for the Volatility Auction. The value will be zero for IPO/Halt Auctions.
- **Upper Auction Collar:** The upper threshold of the Opening/Closing Auction Collar for the Opening/Closing Auction. The upper threshold of the Volatility Auction Collar for the Volatility Auction. The value will be zero for IPO/Halt Auctions.

Note that the Reference Price for an IPO/Halt/Volatility Auction will does not take the NBBO into account. Additionally, the Reference Price, Indicative Clearing Price, and Auction Book Clearing Price will show the same value during an IPO/Halt/Volatility Auction since there is no Continuous Book. Lastly, if there is a market order imbalance in an IPO/Halt/Volatility Auction, the Imbalance Shares will show the number of shares from market orders that would remain unexecuted, the Reference Price, Indicative Clearing Price, and Auction Book Clearing Price will all have a value of zero, indicating that an auction match price cannot be calculated, and the Imbalance Side will indicate the side of the order imbalance.

IEEX AUCTION PRIORITY

Eligible Auction Orders on the IEX Order Book are ranked and maintained in the auction based on the following priority:

- Price. The best priced Eligible Auction 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.
 - Orders on the Auction Book are ranked by their limit price, however displayed portions of limit orders on the Continuous Book at the time of a halt/pause dissemination are ranked by the price at which they were resting on the IEX Order Book at the time of the halt/pause (“Resting Price”). Market orders have precedence over limit orders
 - Orders on the Continuous Book are ranked by Resting Price at the time of the Opening/Closing Auction match.
- Display. Equally priced Eligible Auction Orders are ranked by display priority.
 - Orders on the Auction Book and displayed interest on the Continuous Book have precedence over non-displayed interest on the Continuous Book at a given price.
- Time. Equally priced Eligible Auction Orders with the same display are ranked in time priority.
 - Where orders to buy (or sell) are ranked at the same price with the same display, 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 IEX 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:
 - Eligible Auction Order is incremented by the participant by means of a Cancel/Replace.
 - Eligible Auction Order is re-priced by the participant by means of a Cancel/Replace.
 - Any one of the events specified in IEX Rule 11.220(a)(1)(C) occurs to a Continuous Book order.

OPENING/CLOSING AUCTION

The IEX Opening/Closing Auction has been designed to efficiently maximize the number of shares executed at a single price for securities during the Regular Market Session open/close, respectively. In the event of a volume based tie at multiple price levels, the auction price will be determined by the price at which shares will remain unexecuted in the auction. In the event of a tie at multiple price levels, the auction price will be determined by the price closest to the Volume Based Tie Breaker. Additionally, Opening/Closing Auction prices will be collared such that the auction match occurs at or within the Opening/Closing Auction Collar, as measured immediately prior to the initiation of the auction.

At the Opening and Closing Auction Lock-in Time, IEX beings disseminating IEX Auction information to market participants via TOPS and AIMM. IEX Auction information contains valuable details about opening and closing orders as well as relevant pricing information for a security and its collars.

When the Opening (Closing) Auction takes place, the Continuous Book is consolidated with the opening (closing) Auction Book to create a single opening (closing) price for each security. Once the auction is complete, any on-open (on-close) orders that are unable to participate in the auction will be canceled as will unexecuted DAY orders in the Closing Auction. All other unexecuted orders will be released to the Continuous Book for normal processing.

If a halt is disseminated in a security prior to the Opening Auction, all orders on the Auction Book will remain open. Participants may continue to submit new on-open orders or other Eligible Auction Orders for the halted security. Participants may cancel open Eligible Auction Orders during the halt. If the halt exists at the start of the Regular Market Session (i.e., 9:30 a.m.), the security will open for trading after the Halt Auction.

If a halt/pause is disseminated in a security prior to the Closing Auction, all orders on the Auction Book will remain open. Participants may continue to submit new on-close orders or other Eligible Auction Orders for the halted/paused security. Participants may cancel open Eligible Auction Orders during the halt/pause. If a halt persists through the end of the Regular Market Session, all live on-open and on-close orders will be canceled at the conclusion of the Regular Market Session. If a pause exists at or after the Closing Auction Lock-in Time, on-close orders are added to the Volatility Auction and such auction will be used to arrive at the single closing price for the subject security at the conclusion of regular market hours (i.e. 4:00 p.m.).

IEX Official Opening Price

Upon completion of the IEX Opening Auction for IEX listed securities (or the IEX Halt Auction for IEX listed securities that have not traded during the Regular Market Session on that trading day), the IEX Official Opening Price for the security will be disseminated to the Consolidated Tape along with a bulk execution. The IEX Official Opening Price will be the price of the auction.

The IEX Official Opening Price will be represented by a sale condition code of 'Q' (Market Center Official Open) in Category 4. The bulk execution will be represented by a sale condition code of 'O' (Market Center Opening Trade) in Category 2 and a sale condition code of 'X' (Cross Trade) in Category 4. If the auction match results in an odd lot execution, the bulk execution will be represented by a sale condition code of 'O' (Market Center Opening Trade) in Category 2 and a sale condition code of 'I' (Odd Lot Trade) in Category 4.

If a security does not have an Opening Auction (e.g., there is insufficient interest to conduct an opening auction), the Regular Market Session begins by canceling all on-open orders and transferring any queued orders eligible for the Regular Market Session to the Continuous Book; the IEX Official Opening Price will be the price of the Initial Last Sale Eligible Trade and will be represented by a sale condition code of 'Q' (Market Center Official Open) in Category 4. The execution will be represented by a sale condition code of 'O' (Market Center Opening Trade) in Category 2.

IEX Official Closing Price

Upon completion of the IEX Closing Auction for IEX listed securities (or the IEX Volatility Auction for IEX listed securities where an LULD trading pause exists at or after the Closing Auction Lock-in Time), the IEX Official Closing Price for the security will be disseminated to the Consolidated Tape along with a bulk execution. The IEX Official Closing Price will be the price of the auction.

The IEX Official Closing Price will be represented by a sale condition code of 'M' (Market Center Official Close) in Category 4. The bulk execution will be represented by a sale condition code of '6' (Market Center Closing Trade) in Category 2 and a sale condition code of 'X' (Cross Trade) in Category 4. If the auction match results in an odd lot execution, the bulk execution will be represented by a sale condition code of '6' (Market Center Closing Trade) in Category 2 and a sale condition code of 'I' (Odd Lot Trade) in Category 4.

If a security does not have a Closing Auction (e.g., there is insufficient interest to conduct a closing auction), the IEX Official Closing Price will be the price of the Final Last Sale Eligible Trade and will be represented by a sale condition code of 'M' (Market Center Official Close) in Category 4.

IEX Opening and Closing Auction Times

Opening Auction

Closing Auction

8:00 a.m. – The IEX Pre-Market Session begins and order acceptance begins for Opening and Closing Auctions.	3:50 p.m. – Dissemination of Closing Auction information begins. Orders are locked into the <u>Auction Book</u> until the auction match, and <u>Hyper-aggressive Auction Orders</u> are rejected upon receipt.
9:28 a.m. – Dissemination of Opening Auction information begins. Orders are locked into the <u>Auction Book</u> until the auction match, and <u>Hyper-aggressive Auction Orders</u> are rejected upon receipt.	3:59:50 p.m. – New orders are locked out of entering the <u>Auction Book</u> (rejected upon receipt).
9:29:50 a.m. – New orders are locked out of entering the <u>Auction Book</u> (rejected upon receipt).	4:00 p.m. – The Closing Auction match occurs.
9:30 a.m. – The Opening Auction match occurs.	5:00 p.m. – The IEX Post-Market Session ends.

Opening/Closing Order Types

At the time of the auction match, IEX will not enforce the Anti-Internalization attributes on any order, but will enforce the attribute for any unfilled shares remaining after an auction which are released to the Continuous Book.

Limit Orders

Limit orders are executable from 8:00 a.m. to 5:00 p.m.; includes DAY (executable from 9:30 a.m. to 4:00 p.m.), GTX (executable from 9:30 a.m. to 5:00 p.m.), SYS, GTT, IOC, and FOK orders. All limit orders, with the exception of orders marked IOC or FOK, are included during the Opening/Closing Auction.

DAY and GTX limit orders are accepted between 8:00 a.m. and 4:00 p.m. (DAY orders) / 5:00 p.m. (GTX orders), except between the Opening Auction Lock-out Time and the Opening Auction match. DAY and GTX limit orders cannot be canceled between the Opening Auction Lock-in Time and the Opening Auction match.

Unfilled limit order shares remaining after participation in the Opening Auction will be released to the Continuous Book. Unfilled limit order shares on the Continuous Book at the Closing Auction will participate in the Closing Auction. Unfilled DAY limit order shares remaining at the conclusion of the Closing Auction will be canceled. Unfilled shares from all other limit orders remaining at the conclusion of the Closing Auction will be released to the Continuous Book.

An imbalance only order is not an available order type, and imbalance only orders are not accepted or executed by IEX.

Market Orders

Executable from 9:30 a.m. to 4:00 p.m., includes DAY, IOC, and FOK. DAY market orders are included in the Opening Auction and treated as MOO orders, while all other market orders are **excluded** from the Opening/Closing Auction and rejected upon receipt outside of the Regular Market Session.

DAY market orders are accepted between 8:00 a.m. and 4:00 p.m., except between the Opening Auction Lock-in Time and the Opening Auction match. DAY market orders cannot be canceled between the Opening Auction Lock-in Time and the Opening Auction match.

Unfilled DAY market order shares remaining at the conclusion of the Opening Auction will be canceled.

Pegged Orders

Pegged orders are executable from 9:30 a.m. to 4:00 p.m.; includes DAY, GTX, SYS, GTT, IOC, and FOK. All pegged

orders are **ineligible** for the Opening Auction. Unfilled pegged order shares on the Continuous Book at the Closing Auction will participate in the Closing Auction using their Resting Price for ranking purposes; IOC and FOK pegged orders do not participate in the Closing Auction.

Pegged DAY orders are accepted between 8:00 and 4:00 p.m., but do not participate in the Opening Auction. Finally, pegged DAY orders **can** be canceled between the Opening Auction Lock-in Time and the Opening Auction match.

Routable Orders

Limit or market orders may be marked as routable. At the conclusion of an Opening Auction, any remaining shares from a routable DAY or GTX limit order becomes part of the Continuous Book. A routable limit order will be routed when an away market locks or crosses the order's limit price, per Re-sweep specifications.

On-Open Orders

Specifically request an execution at the opening price. Executable only in the Opening Auction (or the IEX Halt Auction for securities that have not traded during the Regular Market Session on that trading day). Can be Limit-On-Open ("LOO") or Market-On-Open ("MOO").

MOO orders must be received prior to the Opening Auction Lock-in Time to guarantee eligibility for participation in the Opening Auction. MOO orders and Hyper-aggressive Auction Orders received after the Opening Auction Lock-in Time are rejected. LOO orders must be received prior to the Opening Auction Lock-out Time to guarantee eligibility for participation in the Opening Auction. LOO orders received after the Opening Auction Lock-out Time are rejected. On-open orders cannot be canceled between the Opening Auction Lock-in Time and the Opening Auction match.

On-Close Orders

Specifically request an execution at the closing price. Executable only in the Closing Auction (or Volatility Auction for securities where an LULD trading pause exists at or after the Closing Auction Lock-in Time). Can be Limit-On-Close ("LOC") or Market-On-Close ("MOC").

MOC orders must be received prior to the Closing Auction Lock-in Time to guarantee eligibility for participation in the Closing Auction. MOC orders and Hyper-aggressive Auction Orders received after the Closing Auction Lock-in Time are rejected. LOC orders must be received prior to the Closing Auction Lock-out Time to guarantee eligibility for participation in the Closing Auction. LOC orders received after the Closing Auction Lock-out Time are rejected. Between the Closing Auction Lock-in Time and immediately prior to 3:55 p.m. (i.e., five minutes before the Closing Auction match), on-close orders can be canceled and/or modified only if the participant 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 3:55 p.m. (i.e., five minutes before the Closing Auction match) for any reason.

Order Entry Reference for the Auction Book

Order Type	IEX FIX Specification Field (FIX Tag)	
Market-On-Open (MOO)	OrdType(40) = 1 (Market)	TimeInForce(59) = 2 (On-open)
Market-On-Close (MOC)	ExecInst(18) = i (IEX Only)	TimeInForce(59) = 7 (On-close)
Limit-On-Open (LOO)	OrdType(40) = 2 (Limit)	TimeInForce(59) = 2 (On-open)

Limit-On-Close (LOC)	ExecInst(18) = i (IEX Only) Price(44) = [price]	TimeInForce(59) = 7 (On-close)
DAY	TimeInForce(59) = 0 (DAY)	
GTX	TimeInForce(59) = 5 (GTX)	

Note that the above is not a complete list of all FIX tag combinations eligible for auctions on Investors Exchange. Refer to this specification and the [IEX FIX Specification](#) for details about order eligibility in each IEX auction type and their FIX implementation.

Any on-open or on-close order with a non-zero MinQty(110) will be rejected upon receipt. In addition, on-open or on-close orders with OrdType(40) = P will be rejected. Any on-open or on-close order with a MaxFloor(111) or Anti-Internalization Group ID(7928) value will be accepted, however these instructions will not be enforced during the auction match.

Cancel On Disconnect

IEX offers participants 3 options for canceling orders as a result of a session disconnect:

1. Cancel orders on the Continuous Book only (default)
2. Cancel all open orders (Continuous Book and Auction Book) *
3. Do not cancel any open orders

* If disconnect occurs between the Lock-in Time and the auction match, orders on the Auction Book that are to participate in the auction will not be canceled. Prior to the Opening Auction, DAY and GTX limit orders will convert to LOO orders and receive a pending cancel via FIX.

To change the Cancel on Disconnect setting for any order entry sessions, contact IEX Market Operations.

Execution Priority

Orders on the IEX Order Book are ranked and execute in the Opening and Closing Auctions in Auction Priority, which can be described simply as price - display - time priority.

Opening/Closing Auction Execution Priority

1. MOO/MOC orders execute in time priority.
2. All other Eligible Auction Orders priced more aggressively than the official auction price execute in price - display - time priority.
3. Eligible Auction Orders priced equal to the official auction price execute in display - time priority.

Contingency Procedures

In the event of systemic issues, the determination to use the Primary or Secondary Contingency Procedures will be made by the President of IEX or any Senior Vice President designated by the President. IEX will publicly announce at the earliest possible time the initiation of the Primary or Secondary Contingency Procedures via a System Status, Trading Alert, and email notification directories.

IEX will employ the Primary Contingency Procedures if at all possible, and will employ the Secondary Contingency Procedures only if it determines that both the standard closing procedures and the Primary Contingency Procedures are unavailable.

If IEX employs the Primary Contingency Procedures for the Opening Auction, the Regular Market Session will begin either as scheduled at 9:30 a.m. or upon resolution of the disruption that triggered IEX to operate the contingency procedures.

If IEX employs the Primary or Secondary Contingency Procedures for the Closing Auction, the Post-Market Session will begin either as scheduled at 4:00 p.m. or upon resolution of the disruption that triggered IEX to operate the contingency procedures.

Primary Contingency Procedures

In the event of systemic issues at IEX at the time of an Opening/Closing Auction, IEX reserves the right to employ the following Primary Contingency Procedures.

Opening Auction

IEX will publicly announce that no Opening Auction will occur. The price of the Initial Last Sale Eligible Trade will be used for the IEX Official Opening Price, if such price is generated in the first one minute of the regular market hours. The IEX Official Opening Price will be published to the Consolidated Tape. IEX will execute orders on the Auction Book at the IEX Official Opening Price. Any unmatched shares 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 participants.

If a security's IEX Official Opening Price cannot be determined based on this procedure, IEX will not publish an Official Opening Price for the security and cancel all on-open orders on the Auction Book.

Closing Auction

IEX will publicly announce that no Closing Auction will occur. The price of the Final 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 Auction Book at the IEX Official Closing Price. Any unmatched shares 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 participants.

If a security's IEX Official Closing Price cannot be determined based on this procedure, IEX will not publish an Official Closing Price for the security and cancel all on-close orders on the Auction Book.

Closing Auction Secondary Contingency Procedures

If IEX publicly announces at or before 3:00 p.m. that it will employ the Closing Auction Secondary Contingency Procedures for one or more securities, it will designate a back-up exchange for those securities, cancel all open interest designated for the IEX Closing Auction residing on the IEX Order Book in order to give participants the opportunity to route their orders to alternative execution venues, and the IEX Official Closing Price for each security will be determined based on the following hierarchy:

1. The IEX Official Closing Price will be the official closing price established for the security under the rules of the designated back-up exchange. The Nasdaq Stock Market is the default back-up exchange for IEX.
2. 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 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.
3. If there are no last sale eligible trades reported to the Consolidated Tape during the last five minutes of regular market hours, the IEX Official Closing Price of such security will be the Final Last Sale Eligible Trade for the

security on that trading day.

4. If there were no last sale eligible trades reported to the Consolidated Tap on that trading day, the IEX Official Closing Price will be the prior day's official closing price.

If IEX publicly announces after 3:00 p.m. that it will employ the Secondary Contingency Procedures for one or more securities, it will cancel all open interest designated for the IEX Closing Auction residing on the IEX Order Book in order to give participants the opportunity to route their orders to alternative execution venues, and the IEX Official Closing Price for each security will be determined based on the following hierarchy:

1. The IEX Official Closing Price will be the VWAP of the last sale eligible trades reported to the Consolidated Tape during the last five 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.
2. If there are no last sale eligible trades reported to the Consolidated Tape during the last five minutes of regular market hours, the IEX Official Closing Price of such security will be the Final Last Sale Eligible Trade for the security on that trading day.
3. If there were no last sale eligible trades reported to the Consolidated Tap on that trading day, the IEX Official Closing Price will be the prior day's official closing price.

If a security's IEX Official Closing Price cannot be determined based on these hierarchies, IEX will not publish an Official Closing Price for the security.

IPO/HALT AUCTION

The IEX IPO/Halt Auction provides a mechanism that has been designed to allow participants to match a maximum number of shares at a single price for new issues and securities coming out of a trading halt based on supply and demand. In the event of a volume based tie at multiple price levels, the IPO/Halt Auction price will be determined by the price at which shares will remain unexecuted in the auction. In the event of a tie at multiple price levels, the IPO/Halt Auction price will be determined by the price closest to the Volume Based Tie Breaker. The IPO Auction is used to launch a new issue on the first day of trading on IEX and for a corporate IPO. The Halt Auction is used to resume trading after a regulatory halt or market wide circuit breaker.

IEX will disseminate a halt for IPOs and new issues at 7:45 a.m. on the morning of the IPO Auction. In addition, an administrative message will be published to the Consolidated Tape on the morning of the IPO Auction for IPOs and new issues. The administrative message will contain information about the issue price and the expected time of the IPO Auction.

During an IPO/Halt Auction, IEX disseminates IEX Auction information to market participants via TOPS and AIMM at the start of the Display Only Period. IEX Auction information contains valuable details about IPO/Halt Auction orders as well as relevant pricing information of new issues and securities coming out of a trading halt.

The default scheduled time of an IPO Auction for a corporate IPO is 10:15 a.m., but is subject to change based on underwriter request. The default scheduled time of an IPO Auction for a new issue is 9:30 a.m., but is subject to change based on underwriter request.

Once the IPO (Halt) Auction is conducted, the IEX Official Opening Price (IEX Reopening Trade) for the security will be disseminated to the Consolidated Tape along with a bulk execution (as a bulk execution). If there is insufficient trading interest in the IEX System to execute the Halt Auction (i.e., the lack of any bid interest priced to be marketable against any available offer interest), IEX will not conduct the Halt Auction in that security. In that case, IEX will instead use the

Initial Last Sale Eligible Trade as the IEX Reopening Trade in that security.

Note that DAY and IOC market orders and IOC limit orders received during a Halt Auction Order Acceptance Period are accepted and are not canceled until they have been processed in the auction or they have been explicitly canceled by a participant. Such market orders that are not filled in the auction will be canceled at the conclusion of the auction.

IEX Official IPO Opening Price

Upon completion of an IPO Auction, the IEX Official Opening Price for the newly issued security will be disseminated to the Consolidated Tape along with a bulk execution. The IEX Official IPO Opening Price will be the price that resulted from the IPO Auction.

The IEX Official IPO Opening Price will be represented by a sale condition code of 'Q' (Market Center Official Open) in Category 4. The bulk execution will be represented by a sale condition code of 'O' (Market Center Opening Trade) in Category 2 and a sale condition code of 'X' (Cross Trade) in Category 4. If the auction match results in an odd lot execution, the bulk execution will be represented by a sale condition code of 'O' (Market Center Opening Trade) in Category 2 and a sale condition code of 'I' (Odd Lot Trade) in Category 4.

These are the same codes used for the standard IEX Official Opening Price disseminated at market open.

IEX Reopening Trade

Upon completion of a Halt Auction, the IEX Reopening Trade for the security will be disseminated to the Consolidated Tape as a bulk execution. The IEX Reopening Trade will be the execution that resulted from the Halt Auction.

The IEX Reopening Trade will be represented by a sale condition code of '5' (Market Center Reopening Trade) in Category 2 and a sale condition code of 'X' (Cross Trade) in Category 4. If the auction match results in an odd lot execution, the IEX Reopening Trade will be represented by a sale condition code of '5' (Market Center Reopening Trade) in Category 2 and a sale condition code of 'I' (Odd Lot Trade) in Category 4.

If a security does not have a Halt Auction (e.g., there is insufficient interest to conduct an auction), continuous trading begins by canceling all on-auction orders and transferring any queued orders to the Continuous Book; the IEX Reopening Trade will be the Initial Last Sale Eligible Trade and will be represented by a sale condition code of '5' (Market Center Reopening Trade) in Category 2.

IPO/Halt Auction Order Types

At the time of the auction match, IEX will not enforce the Anti-Internalization attributes on any order, but will enforce the attribute for any unfilled shares remaining after an auction which are released to the Continuous Book.

Limit Orders

Limit orders are executable from the IPO/Halt Auction time to 5:00 p.m.; includes DAY (executable from the IPO/Halt Auction time, if after 9:30 a.m., to 4:00 p.m.), GTX (executable from the IPO/Halt Auction time, if after 9:30 a.m., to 5:00 p.m.), SYS, GTT, IOC, and FOK orders. All limit orders with the exception of orders marked FOK participate in the IPO/Halt Auction. IOC limit orders may be used in Halt Auctions to achieve on-auction behavior, similar to an LOO in the IPO Auction (i.e., cancel any unexecuted portions of the limit order at the conclusion of the auction process).

DAY and GTX limit orders are accepted between 8:00 and 4:00 p.m. (DAY orders) / 5:00 p.m. (GTX orders). DAY and GTX limit orders do not participate in Halt Auctions occurring during the Pre-Market Session. DAY limit orders do not

participate in Halt Auctions occurring during the Post-Market Session.

Displayed interest from limit orders on the Continuous Book at the time of the halt dissemination will participate in the auction process using their Resting Price for ranking purposes, and will be reflected in the IEX Auction information published. Non-displayed and non-displayed portions of limit orders on the Continuous Book at the time of the halt dissemination **will not** participate in the Halt Auction. Non-displayed limit orders and reserve limit orders with non-displayed portions are accepted during the Order Acceptance Period and participate in the IPO/Halt Auction ranked at their limit price with display priority for the full order quantity. Unfilled shares from limit orders remaining at the conclusion of the IPO/Halt Auction are released to the Continuous Book, with the exception of IOC limit orders.

An imbalance only order is not an available order type, and imbalance only orders are not accepted or executed by IEX.

Market Orders

Executable from 9:30 a.m. to 4:00 p.m., includes DAY, IOC, and FOK. All market orders with the exception of orders marked FOK **participate** in IPO/Halt Auctions during the Regular Market Session. Market orders are not included in a Halt Auction scheduled to occur outside of the Regular Market Session. DAY and IOC market orders are accepted during the Order Acceptance Period for an IPO Auction, however FOK market orders are rejected during this time. Unfilled market order shares remaining at the conclusion of the IPO/Halt Auction will be canceled.

Pegged Orders

Pegged orders are executable from the IPO/Halt Auction time to 4:00 p.m.; includes DAY, SYS, GTX, GTT, IOC, and FOK. All pegged orders are **excluded** from an IPO/Halt Auction.

Routable Orders

Limit or market orders may be marked as routable. At the conclusion of an IPO/Halt Auction, a routable DAY (between 9:30 a.m. and 4:00 p.m.), GTX (between 9:30 a.m. and 5:00 p.m.), SYS, or GTT limit order will be released to the Continuous Book. A routable limit order will be routed when an away market locks or crosses the order's limit price, per Re-sweep specifications.

On-Open Orders

Executable in an IPO Auction. Executable in a Halt Auction for securities that have not traded during the Regular Market Session on that trading day. Can be Limit-On-Open ("LOO") or Market-On-Open ("MOO").

LOO and MOO orders may be entered during the Order Acceptance Period for an IPO Auction, or Halt Auctions for securities that have not traded during the Regular Market Session on that trading day. LOO and MOO orders must be received prior to the auction match to guarantee eligibility for participation in the IPO/Halt Auction. Unfilled shares remaining from LOO and MOO orders at the conclusion of the IPO/Halt Auction will be canceled.

On-Close Orders

Executable only in the Closing/Volatility Auction. Can be Limit-On-Close ("LOC") or Market-On-Close ("MOC"). LOC and MOC orders received prior to the start of the IPO Auction Order Acceptance Period will be rejected.

Execution Priority

Orders on the IEX Order Book are ranked and execute in the IPO/Halt Auction in Auction Priority, which can be described simply as price - time priority.

IPO/Halt Auction Execution Priority

1. Market and MOO orders execute in time priority.
2. All other Eligible Auction Orders priced more aggressively than the official auction price execute in price - time priority.
3. Eligible Auction Orders priced equal to the official auction price execute in time priority.

Contingency Procedures

In the event of systemic issues, the determination to use the Primary Contingency Procedures will be made by the President of IEX or any Senior Vice President designated by the President. IEX will publicly announce at the earliest possible time the initiation of the Contingency Procedures via a System Status, Trading Alert, and email notification directories.

If IEX employs the Contingency Procedures for the Halt Auction, trading for the security will begin upon resolution of the disruption that triggered IEX to operate the contingency procedures.

If IEX employs the Contingency Procedures for the IPO Auction, trading for the security will begin upon resolution of the disruption that triggered IEX to operate the contingency procedures.

Contingency Procedures

In the event of systemic issues at IEX at the time of an IPO/Halt Auction, IEX reserves the right to employ the following Contingency Procedures.

Halt Auction

IEX will publicly announce that no Halt Auction will occur and open the security for trading without an auction.

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 IEX Order Book and disseminate a new scheduled time for the Order Acceptance Period and auction match.

VOLATILITY AUCTION

The Volatility Auction is used to resume trading for a security subject to a LULD trading pause. The IEX Volatility Auction provides a mechanism that has been designed to allow participants to match a maximum number of shares at a single price for securities coming out of an LULD trading pause based on supply and demand. In the event of a volume based tie at multiple price levels, the Volatility Auction price will be determined by the price at which shares will remain unexecuted in the auction. In the event of a tie at multiple price levels, the Volatility Auction price will be determined by the price closest to the Volume Based Tie Breaker.

IEX will delay execution of the Volatility Auction if the clearing price at the time of the auction match is an Impermissible Price. Each time this occurs, the Volatility Auction will be extended in five-minute increments and the Volatility Auction Collar is expanded in the direction of the Impermissible Price. This process of extension and collar expansion continues until such time as sufficient trading interest exists at a clearing price inside the latest Volatility Auction Collar. If an

LULD trading pause exists at or after the Closing Auction Lock-in Time (i.e., 3:50 p.m.) and before the Closing Auction, IEX will not conduct a Closing Auction in the subject security and will instead utilize the Volatility Auction to arrive at the IEX Official Closing Price at the conclusion of the Regular Market Session (i.e., 4:00 p.m.). If IEX continues to delay execution of the Volatility Auction until 5:00 p.m., IEX will not conduct a Volatility Auction in the subject security and will instead use the Final Last Sale Eligible Trade as the IEX Official Closing Price in that security for that trading day. In that event, all orders will be canceled back to the entering firms at 5:00 p.m.

During a Volatility Auction, IEX disseminates IEX Auction information to market participants via TOPS and AIMM at the start of the Display Only Period. IEX Auction information contains valuable details about Volatility Auction orders as well as relevant pricing information of securities coming out of a trading pause.

Once the Volatility Auction is conducted, the IEX Reopening Trade for the security will be disseminated to the Consolidated Tape as a bulk execution. If there is insufficient trading interest in the IEX System to execute the Volatility Auction (i.e., the lack of any bid interest priced to be marketable against any available offer interest), IEX will not conduct the Volatility Auction in that security. In that case, IEX will instead use the price of the Initial Last Sale Eligible Trade as the IEX Reopening Trade in that security.

Note that DAY and IOC market orders and IOC limit orders received during a Volatility Auction Order Acceptance Period are accepted and are not canceled until they have been processed in the auction or they have been explicitly canceled by a participant. Such market orders that are not filled in the auction will be canceled at the conclusion of the auction.

Closing with a Volatility Auction

If an LULD trading pause exists at or after the Closing Auction Lock-in Time (i.e., 3:50 p.m.) and before the Closing Auction, the Volatility Auction will be conducted at 4:00 p.m. with on-close orders and produce the IEX Official Closing Price. Participants may continue to submit LOC and limit orders marked DAY, GTX, GTT, SYS, or IOC, however MOC and market orders are rejected upon submission. Orders will remain open and participants may cancel open orders until the auction match. At the later of the Closing Auction Lock-in Time or the pause dissemination, all on-close orders will be transferred into the Volatility Auction, and non-displayed, DAY limit orders and pegged orders that were on the Continuous Book are canceled in order to allow participants to re-enter such interest as Eligible Auction Orders.⁴ Once the auction is complete, any on-close orders that are unable to participate in the auction will be canceled as will unexecuted DAY and IOC orders. All other unexecuted orders or non-displayed interest that did not participate in the auction will be released to the Continuous Book for normal processing.

If there is insufficient trading interest in the IEX System to execute a Volatility Auction at 4:00 p.m. (i.e., the lack of any bid interest priced to be marketable against any available offer interest), IEX will not conduct a Volatility Auction in that security. In that case, IEX will instead use the Final Last Sale Eligible Trade as the IEX Official Closing Price in that security for that trading day, as it does when there is insufficient trading interest to execute the Closing Auction on a daily basis.

IEX Reopening Trade

Upon completion of a Volatility Auction, the IEX Reopening Trade for the security will be disseminated to the Consolidated Tape as a bulk execution. The IEX Reopening Trade will be the execution that resulted from the Volatility

⁴ Note that non-displayed interest on the Continuous Book at the time of the pause is not eligible for the Volatility Auction, however orders with non-display instructions received during the Order Acceptance Period are Eligible Auction Orders.

Auction.

The IEX Reopening Trade will be represented by a sale condition code of '5' (Market Center Reopening Trade) in Category 2 and a sale condition code of 'X' (Cross Trade) in Category 4. If the auction match results in an odd lot execution, the IEX Reopening Trade will be represented by a sale condition code of '5' (Market Center Reopening Trade) in Category 2 and a sale condition code of 'I' (Odd Lot Trade) in Category 4.

If a security does not have a Volatility Auction (e.g., there is insufficient interest to conduct an auction), continuous trading begins by canceling all on-auction orders and transferring any queued orders to the Continuous Book; the IEX Reopening Trade will be the price of the Initial Last Sale Eligible Trade and will be represented by a sale condition code of '5' (Market Center Reopening Trade) in Category 2.

Volatility Auction Order Types

At the time of the auction match, IEX will not enforce the Anti-Internalization attributes on any order, but will enforce the attribute for any unfilled shares remaining after an auction which are released to the Continuous Book.

Limit Orders

Limit orders are executable from 8:00 a.m. to 5:00 p.m.; includes DAY (executable from 9:30 a.m., to 4:00 p.m.), GTX (executable from 9:30 a.m., to 5:00 p.m.), SYS, GTT, IOC, and FOK orders. All limit orders with the exception of orders marked FOK participate in the Volatility Auction. IOC limit orders may be used in Volatility Auctions to achieve on-auction behavior, similar to an LOO in the Opening Auction (i.e., cancel any unexecuted portions of the limit order at the conclusion of the auction process).

Displayed interest from limit orders on the Continuous Book at the time of the pause dissemination will participate in the auction process using their Resting Price for ranking purposes, and will be reflected in the IEX Auction information published. Non-displayed and non-displayed portions of limit orders on the Continuous Book at the time of the pause dissemination **will not** participate in the Volatility Auction. Non-displayed limit orders and reserve limit orders with non-displayed portions are accepted during the Order Acceptance Period and participate in the Volatility Auction ranked at their limit price with display priority for the full order quantity. Unfilled shares from limit orders remaining at the conclusion of the Volatility Auction will be released to the Continuous Book, with the exception of IOC limit orders.

An imbalance only order is not an available order type, and imbalance only orders are not accepted or executed by IEX.

Market Orders

Executable from 9:30 a.m. to 4:00 p.m., includes DAY, IOC, and FOK. All market orders with the exception of orders marked FOK **participate** in Volatility Auctions. Unfilled market order shares remaining at the conclusion of the Volatility Auction will be canceled.

Pegged Orders

Pegged orders are executable from the Volatility Auction time to 4:00 p.m.; includes DAY, SYS, GTX, GTT, IOC, and FOK. All pegged orders are **excluded** from a Volatility Auction.

Routable Orders

Limit or market orders may be marked as routable. At the conclusion of a Volatility Auction, a routable DAY (prior to 4:00 p.m.), GTX, SYS, or GTT limit order will be released to the Continuous Book. A routable limit order will be routed when an away market locks or crosses the order's limit price, per Re-sweep specifications.

On-Open Orders

Not executable in a Volatility Auction.

On-Close Orders

Executable in a Volatility Auction if the auction is scheduled at or after the conclusion of the Regular Market Session. Can be Limit-On-Close (“LOC”) or Market-On-Close (“MOC”).

MOC orders must be received prior to the Closing Auction Lock-in Time to guarantee eligibility for participation in the Volatility Auction. MOC orders received after the Closing Auction Lock-in Time are rejected from the Volatility Auction. LOC orders must be received prior to the time of the Volatility Auction match to guarantee eligibility for participation in the Volatility Auction.

Execution Priority

Orders on the IEX Order Book are ranked and execute in a Volatility Auction in Auction Priority, which can be described simply as price – time priority.

Volatility Auction Execution Priority

1. Market and MOC orders execute in time priority.
2. All other Eligible Auction Orders priced more aggressively than the official auction price execute in price – time priority.
3. Eligible Auction Orders priced equal to the official auction price execute in time priority.

Contingency Procedures

In the event of systemic issues, the determination to use the Primary Contingency Procedures will be made by the President of IEX or any Senior Vice President designated by the President. IEX will publicly announce at the earliest possible time the initiation of the Contingency Procedures via a System Status, Trading Alert, and email notification directories.

If IEX employs the Contingency Procedures for the Volatility Auction, trading for the security will begin upon resolution of the disruption that triggered IEX to operate the contingency procedures.

Contingency Procedures

In the event of systemic issues at IEX at the time of a Volatility Auction, IEX reserves the right to employ the following Contingency Procedures.

Note that IEX reserves the right to employ the Closing Auction Contingency Procedures for a Volatility Auction being used to determine the IEX Official Closing Price.

Volatility Auction

IEX will publicly announce that no Volatility Auction will occur and open the security for trading without an auction.

SHORT SALE ORDER HANDLING

Opening/Closing Auction: Short sale orders for covered securities subject to Rule 201 of Regulation SHO that are in an active short sale circuit breaker will only be eligible for execution at a price above the last NBB at the time of the auction match.

Halt/Volatility Auction: Short sale orders for covered securities subject to Rule 201 of Regulation SHO that are in an active short sale circuit breaker will only be eligible for execution at a price above the last NBB prior to the halt/pause.

Note that the auction match may produce a valid price that is higher than the limit price of an auction participating short sale order (for covered securities subject to Rule 201 of Regulation SHO) during an active short sale circuit breaker, because trading through all or portion of a short sale order is possible if the short sale order's participation in the price setting process of the auction would push the auction match price to or below the referenced NBB price.

Execution priority is outlined in more detail below to identify specifically how short sale orders for covered securities subject to Rule 201 of Regulation SHO that are in an active short sale circuit breaker are prioritized in an auction.

Auction Execution Priority with Short Sale Order Handling

1. Market, including MOO and MOC, buy and sell long orders execute in time priority, and any sell short orders that do not push the auction match price to or below the referenced NBB execute in time priority.
2. All other buy and sell long *Eligible Auction Orders* priced more aggressively than the official auction price execute in price - display - time priority (Opening/Closing Auction) or price - time priority (Halt/Volatility Auction), and any sell short orders that do not push the auction match price to or below the referenced NBB execute in price - display - time priority (Opening/Closing Auction) or price - time priority (Halt/Volatility Auction).
3. *Eligible Auction Orders* priced equal to the official auction price execute in display - time priority (Opening/Closing Auction) or time priority (Halt/Volatility Auction), and any sell short orders that do not push the auction match price to or below the referenced NBB execute in display - time priority (Opening/Closing Auction) or time priority (Halt/Volatility Auction).

During the auction match, if the inclusion of a sell short order would push the auction match price to or below the referenced NBB price, then such sell short order and all other sell short orders with lesser priority are excluded from the auction match.

TRANSFERS

Securities that transfer from another listing exchange to IEX will follow normal Opening and Closing Auction schedules on the effective date of the transfer. Pre-Market Session trading prior to the Opening Auction match at 9:30 a.m. will also be available for these securities.

EXAMPLES

To demonstrate the value of the different price indicators used in the IEX auction process for various situations, consider the following examples. Note that IEX Auction information updates are time based and are not disseminated until the *Lock-in Time*. These examples are not indicative of what would be expected in an IEX Auction update.

Market Order Only Auction

Previous closing price is \$10.05.

#	Entry Time	Buy Shares	Sell Shares	Order Type/Price	Reference Price	Imbalance Side	Imbalance Shares	Paired Shares	Indicative Price	Auction Price
1	9:27:00	1,000		MOO						
2	9:27:01		1,000	MOO						
3	9:27:02	1,000		MOO						
4	9:27:05		1,000	MOO						
5	9:28:00				\$10.05	N	0	2,000	\$10.05	\$10.05

At 9:30:00, this auction would execute 2,000 shares at \$10.05.

Limit Order Only Auction

NBBO is \$13.75 x \$14.00 (created by order 1 & 2) until 9:28:59 at which point it becomes \$13.80 x \$14.00 due to the introduction of order 10 on the Continuous Book. Previous closing price is \$10.05.

#	Entry Time	Buy Shares	Sell Shares	Order Type/Price	Reference Price	Imbalance Side	Imbalance Shares	Paired Shares	Indicative Price	Auction Price
1	9:28:30	5,000		Limit/\$13.75	\$10.050	N	0	0	0	0
2	9:28:31		5,000	Limit/\$14.00	\$13.875	N	0	0	0	0
3	9:28:42	2,000		LOO/\$14.00	\$13.875	B	2,000	0	\$14.000	0
4	9:28:43		1,000	LOO/\$13.75	\$13.875	B	1,000	1,000	\$14.000	\$14.000
5	9:28:54		2,000	LOO/\$13.90	\$13.900	S	1,000	2,000	\$13.900	\$13.900
6	9:29:00		4,000	LOO/\$13.00	\$13.750	S	3,000	2,000	\$13.750	\$13.000
7	9:29:06		6,000	LOO/\$12.00	\$13.750	S	9,000	2,000	\$13.000	\$12.000
8	9:29:29	7,000		LOO/\$13.50	\$13.750	S	9,000	2,000	\$13.500	\$13.000
9	9:29:30	9,000		LOO/\$13.75	\$13.750	N	0	11,000	\$13.750	\$13.750
10	9:29:59	1,000		Limit/\$13.80	\$13.800	S	9,000	2,000	\$13.750	\$13.750

At 9:30:00, this auction would execute 11,000 shares at \$13.75.

No Match Occurs in the Auction

The last trade during the Regular Market Session occurred at 15:15 at \$17.25. NBBO becomes \$15.00 x \$18.00 (created by order 2 & 3).

#	Entry Time	Buy Shares	Sell Shares	Order Type/Price	Reference Price	Imbalance Side	Imbalance Shares	Paired Shares	Indicative Price	Auction Price
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#	Entry Time	Buy Shares	Sell Shares	Order Type/Price	Reference Price	Imbalance Side	Imbalance Shares	Paired Shares	Indicative Price	Auction Price
1	15:54:00		4,000	LOC/\$17.00	\$17.250	S	4,000	0	0	0
2	15:55:00	5,000		Limit/\$15.00	\$17.250	S	4,000	0	0	0
3	15:56:00		3,000	Limit/\$18.00	\$16.500	N	0	0	0	0
4	15:58:00		3,000	LOC/\$17.50	\$16.500	N	0	0	0	0

As there is no match on the book at the auction match, the official closing price will be set to \$17.25.

Market/Limit Order Auction

NBBO is \$10.00 x \$10.01 (created by order 1 & 2) until 9:28:59 at which point it becomes \$10.01 x \$10.02. Previous closing price is \$10.05.

#	Entry Time	Buy Shares	Sell Shares	Order Type/Price	Reference Price	Imbalance Side	Imbalance Shares	Paired Shares	Indicative Price	Auction Price
1	9:27:01	10,000		Limit/\$10.00						
2	9:27:01		10,000	Limit/\$10.01						
3	9:27:02		10,000	Limit/\$10.02						
4	9:27:02	100,000		MOO						
5	9:28:03		50,000	MOO	\$10.010	B	50,000	50,000	\$12.006*	\$0.000**
6	9:28:07		20,000	LOO/\$9.90	\$10.010	B	30,000	70,000	\$12.006*	\$0.000**
7	9:28:20		30,000	LOO/\$10.05	\$10.010	B	30,000	70,000	\$10.050	\$10.050
8	9:29:09	20,000		LOO/\$10.10	\$10.010	B	50,000	70,000	\$10.050	\$10.100
9	9:29:20		30,000	Limit/\$10.10	\$10.010	B	50,000	70,000	\$10.050	\$10.100
10	9:29:31		50,000	LOO/\$9.99	\$10.005	N	0	120,000	\$10.005	\$10.005
11	9:29:59	50,000 (40,000 remain after fill against order 2)		Limit/\$10.01	\$10.005	N	0	120,000	\$10.015	\$10.015

At 9:30:00, this auction would execute 120,000 shares at \$10.015.

* Indicative Prices are at the Opening/Closing Auction Collar (10% of the Midpoint Price, \$10.005, above the NBB)

** Auction Book Clearing Prices are zero when there is a market order imbalance.

Limit Order Auction with Non-Displayed Interest

NBBO is \$10.00 x \$10.01 (created by order 1 & 2) until 9:27:59 at which point it becomes \$10.01 x \$10.02. Previous closing price is \$10.05.

#	Entry Time	Buy Shares	Sell Shares	Order Type/Price	Reference Price	Imbalance Side	Imbalance Shares	Paired Shares	Indicative Price	Auction Price
1	9:28:01	10,000		Limit/\$10.00	\$10.050	N	0	0	0	0
2	9:28:01		10,000	Limit/\$10.01	\$10.005	N	0	0	0	0
3	9:28:02		10,000	Limit/\$10.02	\$10.005	N	0	0	0	0
4	9:28:02	100,000		MOO	\$10.010	B	100,000	0	\$12.006*	0
5	9:28:03		50,000	MOO	\$10.010	B	50,000	50,000	\$12.006*	\$11.006
6	9:28:04		20,000	LOO/\$9.90	\$10.010	B	30,000	70,000	\$12.006*	\$11.006
7	9:28:05		30,000	LOO/\$10.05	\$10.010	B	30,000	70,000	\$10.050	\$10.050
8	9:28:06	20,000		LOO/\$10.10	\$10.010	B	50,000	70,000	\$10.050	\$10.100
9	9:28:07		30,000	Limit/\$10.10	\$10.010	B	50,000	70,000	\$10.050	\$10.100
10	9:28:31		50,000	MOO	\$10.005	N	0	120,000	\$10.005	\$10.005
11	9:28:59	50,000 (40,000 remain after fill against order 2)		Limit/\$10.01	\$10.005	N	0	120,000	\$10.015	\$10.015

At 9:30:00, this auction would execute 120,000 shares at \$10.015.

* Indicative Prices are at the Opening/Closing Auction Collar (10% above the Midpoint Price of \$10.005)

REFERENCES

Order Entry

For more information regarding auction specific order types such as LOO, LOC, MOO, and MOC, refer to the order entry specification:

- [IEX FIX Specification](#)

Market Data

For more information regarding IEX Auction information messaging, refer to the appropriate market data specification:

- [IEX TOPS Specification](#)
- IEX AIMM Specification

SUPPORT

Please email questions or comments regarding this document to marketops@iextrading.com

REVISION HISTORY

Version	Date	Change
DRAFT	TBD	Initial document

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”).

(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, 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.

- (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.
- (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 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) 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, 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. 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% 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 the upper Volatility Auction Collar, 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 \$11.55 ($\$11.00 + \$0.55 = \11.55) and a lower Volatility Auction Collar of \$9.50, thus creating a range of \$9.50 to \$11.55, within which the Volatility Auction can now occur. This means \$9.50 is the lowest price at which the Volatility Auction can occur and \$11.55 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), from the lower Volatility Auction Collar. In this example, it would result in a lower Volatility Auction Collar of \$9.03 ($\$9.50 - \$0.47 = \9.03) and an upper Volatility Auction Collar of \$11.55, thus creating a range of \$9.03 to \$11.55 within which the Volatility Auction can now occur. This means \$9.03 is the lowest price at which the Volatility Auction can occur and \$11.55 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.

.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.

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), the Opening 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);
 - (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) 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) (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 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), the Closing 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);

(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) 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) (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 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;

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 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), the Volatility 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); 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) 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), the Volatility 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); 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).

(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 11.280. 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 Depository 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.