

Required fields are shown with yellow backgrounds and asterisks.

Filing by NASDAQ BX, Inc.
Pursuant to Rule 19b-4 under the Securities Exchange Act of 1934

Initial * <input checked="" type="checkbox"/>	Amendment * <input type="checkbox"/>	Withdrawal <input type="checkbox"/>	Section 19(b)(2) * <input checked="" type="checkbox"/>	Section 19(b)(3)(A) * <input type="checkbox"/>	Section 19(b)(3)(B) * <input type="checkbox"/>
Pilot <input type="checkbox"/>			Rule		
Extension of Time Period for Commission Action * <input type="checkbox"/>		Date Expires * <input type="text"/>	<input type="checkbox"/> 19b-4(f)(1)	<input type="checkbox"/> 19b-4(f)(4)	
			<input type="checkbox"/> 19b-4(f)(2)	<input type="checkbox"/> 19b-4(f)(5)	
			<input type="checkbox"/> 19b-4(f)(3)	<input type="checkbox"/> 19b-4(f)(6)	

Notice of proposed change pursuant to the Payment, Clearing, and Settlement Act of 2010	Security-Based Swap Submission pursuant to the Securities Exchange Act of 1934
Section 806(e)(1) * <input type="checkbox"/>	Section 806(e)(2) * <input type="checkbox"/>
	Section 3C(b)(2) * <input type="checkbox"/>

Exhibit 2 Sent As Paper Document <input type="checkbox"/>	Exhibit 3 Sent As Paper Document <input type="checkbox"/>
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Description
Provide a brief description of the action (limit 250 characters, required when Initial is checked *).

Contact Information
Provide the name, telephone number, and e-mail address of the person on the staff of the self-regulatory organization prepared to respond to questions and comments on the action.

First Name * Angela	Last Name * Dunn
Title * Principal Associate General Counsel	
E-mail * angela.dunn@nasdaq.com	
Telephone * (215) 496-5692	Fax <input type="text"/>

Signature
Pursuant to the requirements of the Securities Exchange Act of 1934,
has duly caused this filing to be signed on its behalf by the undersigned thereunto duly authorized.
(Title *)

Date 07/20/2020	EVP and Chief Legal Counsel
By John Zecca (Name *)	<input type="text"/>

NOTE: Clicking the button at right will digitally sign and lock this form. A digital signature is as legally binding as a physical signature, and once signed, this form cannot be changed.

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 the Proposed Rule Change

(a) Nasdaq BX, Inc. (“BX” or “Exchange”), pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)¹ and Rule 19b-4 thereunder,² is filing with the Securities and Exchange Commission (“Commission”) a proposal to amend Options 2, Section 4, “Obligations of Market Makers and Lead Market Makers”; Options 3, Section 7, “Types of Orders and Order and Quote Protocols”; Options 3, Section 8, titled “Opening and Halt Cross”; Options 4A, Section 11, “Trading Sessions”; and Options 6B, Section 1, “Exercise of Options Contracts”.

A notice of the proposed rule change for publication in the Federal Register is attached 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

The proposed rule change was approved by senior management of the Exchange pursuant to authority delegated by the Board of Directors (the “Board”) on December 13, 2019. Exchange staff will advise the Board of any action taken pursuant to delegated authority. No other action is necessary for the filing of the rule change.

Questions and comments on the proposed rule change may be directed to:

Angela Saccomandi Dunn
Principal Associate General Counsel
Nasdaq, Inc.
215-496-5692

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b-4.

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

a. Purpose

The Exchange proposes to amend Options 2, Section 4, “Obligations of Market Makers and Lead Market Makers”; Options 3, Section 7, “Types of Orders and Order and Quote Protocols”; Options 3, Section 8, titled “Opening and Halt Cross”; Options 4A, Section 11, “Trading Sessions”; and Options 6B, Section 1, “Exercise of Options Contracts” in connection with a technology migration to an enhanced Nasdaq, Inc. (“Nasdaq”) architecture which results in higher performance, scalability, and more robust functionality. With this System migration, BX intends to adopt certain opening functionality, which currently exists on Nasdaq Phlx LLC (“Phlx”) at Options 3, Section 8, “Options Opening Process.”

These proposed enhancements will allow BX to continue to have a robust Opening Process. Broadly, the Exchange’s proposal is intended to create an opening process similar to Phlx, however, unlike Phlx, BX will not require its Lead Market Makers to enter Valid Width Quotes during the opening.³ Today, BX Lead Market Makers are not required to quote during the opening, that will remain unchanged. Today, BX Lead Market Makers may quote during the opening, but they are not obligated to quote.⁴ BX Lead Market Makers are required to quote intra-day.⁵ The Exchange proposes to retain the Valid Width NBBO requirements with respect to Opening With a

³ See Phlx Options 3, Section 8(d)(i).

⁴ Other options markets do not require their lead market makers to quote during the opening. See Cboe Exchange, Inc. Rule 5.31. See also The Nasdaq Options Market LLC Options 3, Section 8.

⁵ See BX Options 2, Section 4(j).

Trade pursuant to proposed Options 3, Section 8(i) and (j). The Exchange's proposal would maintain BX's ability to open with a BBO (no trade) pursuant to proposed Options 3, Section 8(f) either with: (1) a Valid Width NBBO; (2) upon the opening of a certain number of away markets; or (3) if a certain amount of time has passed since the commencement of the Opening Process. When opening with a trade, BX's proposal will adopt Phlx's Opening Processes to further limit the current opening price boundaries on BX.⁶ The proposal would align BX's current Valid Width NBBO requirements to Phlx's Quality Opening Markets requirements.⁷ Phlx's Opening Process requires tighter Valid Width Quotes to open Phlx as compared to the proposed opening for BX.⁸ Today, Phlx's

⁶ See proposed BX Options 3, Section 8(i).

⁷ Phlx's Quality Opening Market is a bid/ask differential applicable to the best bid and offer from all Valid Width Quotes defined in a table to be determined by the Exchange and published on the Exchange's web site. The calculation of Quality Opening Market is based on the best bid and offer of Valid Width Quotes. The differential between the best bid and offer are compared to reach this determination. The allowable differential, as determined by the Exchange, takes into account the type of security (for example, Penny Pilot versus non-Penny Pilot issue), volatility, option premium, and liquidity. The Quality Opening Market differential is intended to ensure the price at which the Exchange opens reflects current market conditions. See Phlx Options 3, Section 8(a)(viii).

Similarly, BX's Valid Width NBBO is the combination of all away market quotes and Valid Width Quotes received over the SQF. The Valid Width NBBO will be configurable by the underlying security, and tables with valid width differentials, which will be posted by the Exchange on its website. Away markets that are crossed will void all Valid Width NBBO calculations. If any Market Maker quotes on the Exchange are crossed internally, then all Exchange quotes will be excluded from the Valid Width NBBO calculation. These two concepts both provide the applicable bid/ask differential and ensure the price at which the Exchange opens reflects current market conditions.

⁸ BX's Valid Width Quote is a two-sided electronic quotation, submitted by a Market Maker, quoted with a difference not to exceed \$5 between the bid and offer regardless of the price of the bid. See proposed BX Options 3, Section 8(a)(9). This is compared to Phlx's Valid Width Quote which is a two-sided electronic quotation submitted by a Phlx Electronic Market Maker that meets the

Opening Process is more stringent than BX's current opening. This proposal seeks to provide a process for BX, when opening with a trade, that requires tighter boundaries similar to Phlx. The Exchange's proposal is described in greater detail below.

The Exchange proposes to amend the title of Options 3, Section 8 from "Opening and Halt Cross" to "Options Opening Process" to conform the title to Phlx's Rule at Options 3, Section 8, "Options Opening Process." The Exchange also proposes to amend the title of Options 3, Section 8, within Options 4A, Section 11, Trading Session, and Options 6B, Section 1, Exercise of Options Contracts, to conform the title to "Options Opening Process" as proposed herein.

Definitions

The Exchange proposes to amend the current "Definitions" section at proposed BX Options 3, Section 8(a). The Exchange proposes to remove the text "For purposes of this Rule the term:" and instead state, "The Exchange conducts an opening for all option series traded on the Exchange using its System." This rule text change is intended to conform to Phlx Options 3, Section 8(a).

following requirements: options on equities and index options bidding and/or offering so as to create differences of no more than \$.25 between the bid and the offer for each option contract for which the prevailing bid is less than \$2; no more than \$.40 where the prevailing bid is \$2 or more but less than \$5; no more than \$.50 where the prevailing bid is \$5 or more but less than \$10; no more than \$.80 where the prevailing bid is \$10 or more but less than \$20; and no more than \$1 where the prevailing bid is \$20 or more, provided that, in the case of equity options, the bid/ask differentials stated above shall not apply to in-the-money series where the market for the underlying security is wider than the differentials set forth above. For such series, the bid/ask differentials may be as wide as the quotation for the underlying security on the primary market, or its decimal equivalent rounded down to the nearest minimum increment. The Exchange may establish differences other than the above for one or more series or classes of options. See Phlx Options 3, Section 8(a)(ix).

The Exchange proposes to amend and alphabetize the current definitions within Options 3, Section 8(a). The Exchange proposes to set forth the following terms, which are described below: “Away Best Bid or Offer” or “ABBO;” “imbalance;” “market for the underlying security;” “Opening Price;” “Opening Process;” “Potential Opening Price;” “Pre-Market BBO;” “Valid Width National Best Bid or Offer” or “Valid Width NBBO;” “Valid Width Quote,” and “Zero Bid Market.” The Exchange is conforming the definitions within Options 3, Section 8(a) to start with “A” or “An,” as appropriate.

The Exchange proposes to relocate and amend the term “Away Best Bid or Offer” or “ABBO” from current BX Options 3, Section 8(a)(7) to proposed Options 3, Section 8(a)(1). The words “shall mean” are replaced by “is,” but otherwise the description remains the same.

The Exchange proposes to relocate “imbalance” from current BX Options 3, Section 8(a)(1) to proposed Options 3, Section 8(a)(2) and amend the language to provide that an imbalance is the number of unmatched contracts priced through the Potential Opening Price. Currently, the term “imbalance” is defined as “the number of contracts of eligible interest that may not be matched with other order contracts at a particular price at any given time.” The Exchange proposes to adopt the Phlx definition.⁹ The Exchange will be defining Potential Opening Price within this rule change and therefore the new proposed imbalance definition would be more applicable with that definition.

The Exchange proposes to relocate “market for the underlying security” from current BX Options 3, Section 8(a)(5) to proposed Options 3, Section 8(a)(3).¹⁰ Today

⁹ See Phlx Options 3, Section 8(a)(xi).

¹⁰ This term is identical to Phlx’s Options 3, Section 8(a)(ii).

Options 3, Section 8(a)(5) describes “market for the underlying security” as “...either the primary listing market, the primary volume market (defined as the market with the most liquidity in that underlying security for the previous two calendar months), or the first market to open the underlying security, as determined by the Exchange on an issue-by-issue basis and announced to the membership on the Exchange’s website.” The Exchange proposes to amend this definition by replacing the term “primary volume market” with “an alternative market designated by the primary market.” The Exchange anticipates that an alternative market would be necessary if the primary listing market were impaired.¹¹ In the event that a primary market is impaired and utilizes its designated alternative market, the Exchange would utilize that market as the underlying.¹² The Exchange further proposes an additional contingency, in the event that the primary market is unable to open, and an alternative market is not designated (and/or the designated alternative market does not open), the Exchange may utilize a non-primary market to open all underlying securities from the primary market. The Exchange will select the non-primary market with the most liquidity in the aggregate for all underlying securities that trade on the primary market for the previous two calendar months, excluding the primary and alternate markets. In order to open an option series it would require an equity market’s underlying quote. If another equity market displays opening prices for the underlying security, the Exchange proposes to utilize those quotes. This

¹¹ The primary listing market and the primary volume market, as defined in BX’s Rules, could be the same market and therefore an alternative market is not available under the current Rule.

¹² For example, in the event that the New York Stock Exchange LLC was unable to open because of an issue with its market and it designated NYSE Arca, Inc. (“NYSE Arca”) as its alternative market, then BX would utilize NYSE Arca as the market for the underlying.

proposed change to the current System would allow the Exchange to open in situations, where the primary market is experiencing an issue, and also where an alternative market designated by the primary market may not be designated by the primary market, or is unable to open. Utilizing a non-primary market with the most liquidity in the aggregate for all underlying securities for the previous two calendar months will ensure that the Exchange opens with quotes which are representative of the volume on that primary market. The Exchange believes that this proposal will enable it to open in the event that there are issues with the primary market or the alternate market assigned by the primary.

The Exchange proposes a new definition, “Opening Price,” at proposed Options 3, Section 8(a)(4). This proposed definition would state that the Opening Price is described in sections (i) and (k). This proposed definition is the same as Phlx Options 3, Section 8(a)(iii).

The Exchange proposes a new definition, “Opening Process,” at proposed Options 3, Section 8(a)(5). This proposed definition would state that “Opening Process” is described in section (d). This proposed definition is the same as Phlx Options 3, Section 8(a)(iv).

The Exchange proposes a new definition, “Potential Opening Price,” at proposed Options 3, Section 8(a)(6). This proposed definition would state that Potential Opening Price is described in section (h). This proposed definition is the same as Phlx Options 3, Section 8(a)(vi).

The Exchange proposes a new definition, “Pre-Market BBO,” at Options 3, Section 8(a)(7). This proposed definition would state that Pre-Market BBO is the highest

bid and lowest offer among Valid Width Quotes. The term “Valid Width Quote” is defined below. This proposed definition is the same as Phlx Options 3, Section 8(a)(vii).

The Exchange proposes to relocate and amend the definition of “Valid Width National Best Bid or Offer” or “Valid Width NBBO” from current BX Options 3, Section 8(a)(6) to proposed Options 3, Section 8(a)(8). The Exchange proposes to replace the words “shall mean” with “is” and also replace the rule text which states, “any combination of BX Options-registered Market Maker order and quotes received over the SQF¹³ Protocols within a specified bid/ask differential as established and published by the Exchange,” with the proposed term “Valid Width Quote.” The Exchange also proposes a grammatical correction to add “the underlying security” instead of “underlying” and also add “which” in the second sentence. Finally, the Exchange proposes to amend the last sentence to: (1) replace “BX Options” with “Exchange;” (2) remove references to Market Maker “orders” and only refer to quotes; and (3) change the term “such” to “Exchange” to make clear that all local quotes would be excluded from the Valid Width NBBO, when any local quotes are crossed. This proposed change to the definition will align BX’s consideration of only Market Maker quotes, and not orders, with Phlx Options 3, Section 8. BX’s current rule includes Market Maker orders, Market

¹³ “Specialized Quote Feed” or “SQF” is an interface that allows Market Makers to connect, send, and receive messages related to quotes, Immediate-or-Cancel Orders, and auction responses into and from the Exchange. Features include the following: (1) options symbol directory messages (e.g. underlying instruments); (2) System event messages (e.g., start of trading hours messages and start of opening); (3) trading action messages (e.g., halts and resumes); (4) execution messages; (5) quote messages; (6) Immediate-or-Cancel Order messages; (7) risk protection triggers and purge notifications; (8) opening imbalance messages; (9) auction notifications; and (10) auction responses. The SQF Purge Interface only receives and notifies of purge request from the Market Maker. Market Makers may only enter interest into SQF in their assigned options series. See Options 3, Section 7(d)(1)(B).

Maker quotes and away market quotes as part of the Valid Width NBBO calculation. The Exchange proposes to amend the Valid Width NBBO to exclude Market Maker orders and only include Market Maker Valid Width Quotes and away market quotes. This would exclude Opening Sweeps, which are orders that are entered by Market Makers through SQF.¹⁴ The Exchange proposes to exclude such orders from the Valid Width NBBO because Opening Sweeps are considered eligible interest during the Opening Process.

The Exchange proposes a new definition, “Valid Width Quote,” at proposed Options 3, Section 8(a)(9). This proposed definition would state that a Valid Width Quote is a two-sided electronic quotation, submitted by a Market Maker, quoted with a difference not to exceed \$5 between the bid and offer regardless of the price of the bid. However, respecting in-the-money series where the market for the underlying security is wider than \$5, the bid/ask differential may be as wide as the quotation for the underlying security on the primary market, or its decimal equivalent rounded down to the nearest minimum increment. The Exchange may establish differences other than the above for one or more series or classes of options. The bid/ask differentials on BX differ from Phlx. Phlx Options 3, Section 8(a)(ix), similar to proposed BX Options 3, Section 8(a)(9), permits the bid/ask differential to be as wide as the quotation for the underlying security on the primary market, or its decimal equivalent rounded down to the nearest

¹⁴ Proposed BX Options 3, Section 7(a)(9) provides, “Opening Sweep” is a one-sided order entered by a Market Maker through SQF for execution against eligible interest in the System during the Opening Process. This order type is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments. The Opening Sweep will only participate in the Opening Process pursuant to Options 3, Section 8 and will be cancelled upon the open if not executed.”

minimum increment. Also, both markets would permit the Exchange to establish differences, other than as stated for one or more series or classes of options. Both markets refer back to their respective intra-day differentials. BX refers to a difference not to exceed \$5 between the bid and offer, similar to BX Options 2, Section 4(f) and 5(d)(2). Phlx refers to differentials so as to create differences of no more than \$.25 between the bid and the offer for each option contract for which the prevailing bid is less than \$2; no more than \$.40 where the prevailing bid is \$2 or more but less than \$5; no more than \$.50 where the prevailing bid is \$5 or more but less than \$10; no more than \$.80 where the prevailing bid is \$10 or more but less than \$20; and no more than \$1 where the prevailing bid is \$20 or more, similar to Phlx Options 8, Section 27(c)(1)(A).¹⁵

Finally, the Exchange proposes a new definition, “Zero Bid Market,” at proposed Options 5, Section 8(a)(10). This proposed new definition would state that a Zero Bid Market is where the best bid for an options series is zero. This proposed definition is the same as Phlx Options 3, Section 8(a)(x).

The Exchange believes that these definitions will bring additional clarity to the proposed rule.

The Exchange proposes to eliminate the term “Order Imbalance Indicator” at current BX Options 3, Section 8(a)(2).¹⁶ This term is no longer necessary as the

¹⁵ Phlx’s bid/ask differentials in the opening are similar to those for the trading floor.

¹⁶ The Order Imbalance Indicator shall disseminate the following information: (A) “Current Reference Price” shall mean an indication of what the opening cross price would be at a particular point in time; (B) the number of contracts of Eligible Interest that are paired at the Current Reference Price; (C) the size of any Imbalance; and (D) the buy/sell direction of any Imbalance. See BX Options 3, Section 8(a)(2).

Exchange is amending the manner in which imbalances are handled on BX. Today, the Order Imbalance Indicator describes a message that is disseminated by electronic means, and contains information about Eligible Interest and the price in penny increments at which such interest would execute at the time of dissemination. BX would disseminate the number of unmatched contracts priced through the Potential Opening Price, similar to Phlx.¹⁷

The Exchange proposes to eliminate the term “BX Opening Cross” at current BX Options 3, Section 8(a)(3).¹⁸ This term is being replaced by the new term “Opening Process” at proposed BX Options 3, Section 8(a)(5) and provides, “An Opening Process is described herein in section (d).”

The Exchange proposes to eliminate the term “Eligible Interest” at current BX Options 3, Section 8(a)(4).¹⁹ The Exchange describes eligible interest within proposed BX Options 3, Section 8(b), similar to Phlx. The defined term is no longer necessary.

¹⁷ BX’s proposed imbalance message would include the symbol, side of the imbalance, size of matched contracts, size of the imbalance, and Potential Opening Price bounded by the Pre-Market BBO. See proposed BX Options 3, Section 8(k)(1).

¹⁸ “BX Opening Cross” shall mean the process for opening or resuming trading pursuant to this Rule and shall include the process for determining the price at which Eligible Interest shall be executed at the open of trading for the day, or the open of trading for a halted option, and the process for executing that Eligible Interest.

¹⁹ “Eligible Interest” shall mean any quotation or any order that may be entered into the system and designated with a time-in-force of IOC (immediate-or-cancel), DAY (day order), GTC (good-till-cancelled), and OPG (On the Open Order). However, orders received via FIX protocol prior to the BX Opening Cross designated with a time-in-force of IOC will be rejected and shall not be considered eligible interest. Orders received via SQF prior to the BX Opening Cross designated with a time-in-force of IOC will remain in-force through the opening and shall be cancelled immediately after the opening.

Eligible Interest

The first part of the Opening Process determines what constitutes eligible interest. The Opening Process is a price discovery process which considers interest, both on BX and away markets, to determine the optimal bid and offer with which to open the market. The Opening Process seeks the price point at which the most number of contracts may be executed, while protecting away market interest.

Proposed BX Options 3, Section 8(b) explains the eligible interest that will be accepted during the Opening Process which includes, Valid Width Quotes, Opening Sweeps²⁰ and orders. Quotes,²¹ other than Valid Width Quotes, will not be included in the Opening Process. This rule text is identical to Phlx Options 3, Section 8(b), except that certain text not relevant to BX is not included.²² Opening Sweeps may be submitted through the Specialized Quote Feed or “SQF” protocol, which permits one-sided orders to be entered by a Market Maker.²³

The Exchange proposes to define an “Opening Sweep” within BX Options 3, Section 8(b)(9) as defined at proposed BX Options 3, Section 7(a)(9). This description for an Opening Sweep is the same as Phlx Options 3, Section 8(b)(i), which cites to a

²⁰ See proposed BX Options 3, Section 7(a)(9).

²¹ The term quotes shall refer to a two-sided quote.

²² Phlx describes what a Non-SQT Market Maker may submit. An “SQT” is a Streaming Quote Trader. That term is defined within Phlx Options 1, Section 1(b)(54) and is specific to Phlx. No such term exists on BX. Further, Phlx has All-or-None Orders which are permitted to rest on the Order Book. See Phlx Options 3, Section 7(b)(5). BX’s All-or-None Orders must be executed in its entirety or not at all, and do not rest on the Order Book. See BX Options 3, Section 7(a)(8). The behavior of All-or-None Orders is not relevant for BX’s Opening because they do not rest on the Order Book and are rejected pre-opening.

²³ See note 13 above.

similar provision in Phlx's rules at Options 3, Section 7(b)(6). As proposed, an Opening Sweep is a Market Maker order submitted for execution against eligible interest in the System during the Opening Process. Market participants may specify orders for the Opening Process by placing a TIF of "OPG" on the order as explained below. All Participants may submit interest into the Opening Process.

Additionally, the Exchange proposes to amend current BX Options 3, Section 7(a)(9) to remove the current order type described as "On the Open Order" and instead adopt an "Opening Sweep" order type similar to Phlx at Options 3, Section 7(b)(6). While the "On the Open Order" and "Opening Sweep" are similar, in that both order types may only be entered during the Opening Process, and both cancel back the unexecuted portion of the order, the Exchange believes that utilizing the same terminology and level of detail in describing this order type, as Phlx's current description of an Opening Sweep, will conform the Opening Process of these two Nasdaq affiliated markets. As is the case today, only a Market Maker may enter an Opening Sweep into SQF for execution against eligible interest in the System during the Opening Process. The Exchange provides additional information about the order type, similar to Phlx. This order type is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments.²⁴ The Opening Sweep will only participate in the Opening Process, pursuant to Options 3, Section 8, and will be cancelled upon the open if not executed. This sentence provides additional context to the Opening Sweep, and is the same as Phlx's rule.

²⁴ Automated Quotation Adjustments are described within BX Options 3, Section 15(c)(2).

Further, BX currently permits orders marked with a “Time In Force” or “TIF” of “On the Open Order” or “OPG” to be utilized to specify orders for submission into the Opening Cross.²⁵ This TIF of “OPG” means for orders so designated, that if after entry into the System, the order is not fully executed in its entirety during the Opening Cross, the order, or any unexecuted portion of such order, will be cancelled back to the entering participant. Similar to Phlx Options 3, Section 7(c)(3), BX proposes to replace the “On the Open Order”²⁶ TIF with an “Opening Only” or “OPG” TIF, which can only be executed in the Opening Process pursuant to Options 3, Section 8. Any portion of the order that is not executed during the Opening Process is cancelled. This order type is not subject to any protections listed in Options 3, Section 15.²⁷ Finally, the Exchange proposes to note that OPG orders may not route.

The Exchange also proposes rule text within Options 3, Section 8(b)(1)(A) which is similar to Phlx Options 3, Section 8(b)(i)(A). BX proposes to state within Options 3, Section 8(b)(1)(A):

A Market Maker assigned in a particular option may only submit an Opening Sweep if, at the time of entry of the Opening Sweep, the Market Maker has already submitted and maintained a Valid Width Quote. All Opening Sweeps in the affected series entered by a Market Maker will be

²⁵ See current BX Options 3, Section 7(a)(9).

²⁶ See current BX Options 3, Section 7(b)(1).

²⁷ Phlx Options 3, Section 7(c)(3) provides that an OPG Order is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments. Today, OPG Orders on Phlx are not subject to any protections, including Automated Quotation Adjustments protections. Phlx intends to file a rule change to remove the rule text which provides, “except for Automated Quotation Adjustments,” as OPG Orders are not subject to that risk protection. BX will not include the exception in the proposed rule text. OPG Orders are handled in the same manner by the Phlx System today and the BX System, as proposed.

cancelled immediately if that Market Maker fails to maintain a continuous quote with a Valid Width Quote in the affected series.

The proposed rule text is similar to Phlx Options 3, Section 8(b)(i)(A). Since the protocol over which an Opening Sweep is submitted is used for Market Maker quoting, the acceptance of an Opening Sweep was structured to rely on the Valid Width Quote. An Opening Sweep may only be submitted by a Market Maker when he/she has a Valid Width Quote in the affected series.

The Exchange proposes rule text within Options 3, Section 8(b)(1)(B), which is similar to Phlx Options 3, Section 8(b)(i)(B). BX proposes to state within Options 3, Section 8(b)(1)(B):

Opening Sweeps may be entered at any price with a minimum price variation applicable to the affected series, on either side of the market, at single or multiple price level(s), and may be cancelled and re-entered. A single Market Maker may enter multiple Opening Sweeps, with each Opening Sweep at a different price level. If a Market Maker submits multiple Opening Sweeps, the System will consider only the most recent Opening Sweep at each price level submitted by such Market Maker in determining the Opening Price. Unexecuted Opening Sweeps will be cancelled once the affected series is open.

The Exchange proposes to state at proposed BX Options 3, Section 8(b)(2) that, “The System will allocate interest pursuant to Options 3, Section 10.” Options 3, Section 10 is the Exchange’s allocation methodology which would apply to allocation in the Opening Process. This rule text is similar to Phlx Options 3, Section 8(b)(ii).²⁸ Today,

²⁸ Current BX Options 3, Section 8(b)(5) states, “If the BX Opening Cross price is selected and fewer than all contracts of Eligible Interest that are available in BX Options would be executed, all Eligible Interest shall be executed at the BX Opening Cross price in accordance with the execution algorithm assigned to the associated underlying option.” The Exchange would continue to allocate pursuant to the Exchange’s allocation methodology within Options 3, Section 10. Further, in accordance with current BX Options 3, Section 8(b)(6), all eligible interest will be executed at the Opening Price and disseminated on OPRA.

BX allocates pursuant to Options 3, Section 10 within its opening. The allocation methodology is not being amended with this proposal.

The Exchange proposes to reserve Options 3, Section 8(c). Phlx discusses Floor Broker orders within Options 3, Section 8(c). BX does not have a Trading Floor and is reserving this section to retain similar lettering/numbering as compared to Phlx.

Pursuant to proposed BX Options 3, Section 8(d), eligible interest may be submitted into BX's System and will be received starting at the times noted herein. Specifically, Market Maker Valid Width Quotes and Opening Sweeps received starting at 9:25 AM will be included in the Opening Process. Orders entered at any time before an option series opens are included in the Opening Process. This proposed language adds specificity to the rule regarding the submission of Valid Width Quotes and Opening Sweeps. The 9:25 AM trigger is intended to tie the option Opening Process to quoting in the majority of the underlying securities; it presumes that option quotes submitted before any indicative quotes have been disseminated for the underlying security may not be reliable or intentional. Therefore, the Exchange has chosen a reasonable timeframe at which to begin utilizing option quotes, based on the Exchange's experience when underlying quotes start becoming available. BX's current rule at Options 3, Section 8(b) provides the Opening Cross shall occur at or after 9:30 if the dissemination of a regular market hours quote or trade by the market for the underlying security has occurred or in the case of index options the Exchange has received the opening price of the underlying index. The Exchange continues to rely on the underlying price with this proposal.

Proposed BX Options 3, Section 8(d)(1) describes when the Opening Process may begin with specific time-related triggers. The proposed rule provides that the Opening

Process for an option series will be conducted pursuant to proposed Options 3, Section 8 (f) through (k) on or after 9:30 AM, when the System has received the opening trade or quote on the market for the underlying security in the case of equity options or in the case of index options. This requirement is intended to tie the option Opening Process to receipt of liquidity. This rule text differs from Phlx's rule at Options 3, Section 8(d)(i).²⁹ Phlx's rule describes quoting requirements for Lead Market Makers. Today, BX, unlike Phlx, does not require its Lead Market Makers to submit Valid Width Quotes. BX is not proposing to adopt the same quoting requirements during the Opening Process that exist on Phlx. Therefore, the Phlx requirement for Lead Market Makers would not be applicable to BX. Further, proposed BX Options 3, Section 8(d)(3) makes clear that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. Therefore, the Exchange does not note within proposed Options 3, Section 8(d)(1) that the ABBO may not be crossed.

²⁹ Phlx Options 3 Section 8(d)(i) provides, "The Opening Process for an option series will be conducted pursuant to paragraphs (f) - (k) below on or after 9:30 AM if: the ABBO, if any, is not crossed; and the System has received, within two minutes (or such shorter time as determined by the Exchange and disseminated to membership on the Exchange's web site) of the opening trade or quote on the market for the underlying security in the case of equity options or, in the case of index options, within two minutes of the receipt of the opening price in the underlying index (or such shorter time as determined by the Exchange and disseminated to membership on the Exchange's web site), or within two minutes of market opening for the underlying currency in the case of U.S. dollar-settled FCO (or such shorter time as determined by the Exchange and disseminated to membership on the Exchange's web site) any of the following: (A) the Lead Market Maker's Valid Width Quote; (B) the Valid Width Quotes of at least two Phlx Electronic Market Makers other than the Lead Market Maker; or (C) if neither the Lead Market Maker's Valid Width Quote nor the Valid Width Quotes of two Phlx Electronic Market Makers have been submitted within such timeframe, one Phlx Electronic Market Maker has submitted a Valid Width Quote."

The Exchange is proposing to state in proposed BX Options 3, Section 8(d)(2), similar to Phlx Options 3, Section 8(d)(ii), that for all options, the underlying security, including indexes, must be open on the market for the underlying security for a certain time period to be determined by the Exchange for the Opening Process to commence. The Exchange is proposing that the time period be no less than 100 milliseconds and no more than 5 seconds.³⁰ This proposal is intended to permit the price of the underlying security to settle down and not flicker back and forth among prices after its opening. It is common for a stock to fluctuate in price immediately upon opening; such volatility reflects a natural uncertainty about the ultimate Opening Price, while the buy and sell interest is matched. The Exchange is proposing a range of no less than 100 milliseconds and no more than 5 seconds, in order to ensure that it has the ability to adjust the period for which the underlying security must be open on the primary market. The Exchange may determine that in periods of high/low volatility that allowing the underlying to be open for a longer/shorter period of time may help to ensure more stability in the marketplace prior to initiating the Opening Process.

BX is not adopting Phlx Rules at Options 3, Section 8(d)(iii) and (iv), which describe quoting obligations for Phlx Lead Market Makers once an underlying security in the assigned option series has opened for trading. As noted above, the quoting obligations described in Phlx's rule do not apply in BX's current rule, as BX does not

³⁰ The Phlx Opening Process is set at 100 milliseconds. The Exchange believes that 100 milliseconds is the appropriate amount of time given the experience with the Phlx market. The Exchange would set the timer for BX initially at 100 milliseconds. The Exchange will issue a notice to provide the initial setting and, would, thereafter, issue a notice if it were to change the timing, which may be between 100 milliseconds and 5 seconds. If the Exchange were to select a time not between 100 milliseconds and 5 seconds, it would be required to file a rule proposal with the Commission.

require Lead Market Makers to quote in the Opening Process today. The Exchange's proposal does not require Lead Market Makers to quote during the Opening Process.

Similar to Phlx Options 3, Section 8(d)(v), BX proposed within Options 3, Section 8(d)(3) to provide that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. Once this condition no longer exists, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k). All eligible opening interest will continue to be considered during the Opening Process when the process is re-started. The proposed rule reflects that the ABBO cannot be crossed for the Opening Process to proceed. These events are indicative of uncertainty in the marketplace of where the option series should be valued. In these cases, the Exchange will wait for the ABBO to become uncrossed before initiating the Opening Process to ensure that there is stability in the marketplace in order to assist the Exchange in determining the Opening Price, or for a Valid Width Quote to be submitted. Unlike Phlx Options 3, Section 8(d)(v),³¹ BX will not consider if a Valid Width Quote(s) is no longer present. Unlike Phlx, BX does not require its Lead Market Makers to quote in the Opening Process. This requirement is not necessary for BX as BX's market would open with a BBO, pursuant to Options 3, Section 8(f), unless the ABBO becomes crossed. While, BX is not adopting Phlx's requirement to quote in the Opening Process, certain protections exist within proposed Options 3, Section 8(d)(4). A Valid Width NBBO must be present for BX to open with a trade pursuant to this proposal.

³¹ Phlx Options 3, Section 8(d)(v) provides, "The Opening Process will stop and an option series will not open if the ABBO becomes crossed or when a Valid Width Quote(s) pursuant to paragraph (d)(i) is no longer present. Once each of these conditions no longer exist, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below."

The Exchange proposes to add rule text within proposed Options 3, Section 8(d)(4) to provide a scenario, which is specific to BX, and would not be applicable to Phlx. The Exchange proposes that an Opening Process will stop and an options series will not open, if a Valid Width NBBO is no longer present, pursuant to paragraph (i)(2). Once this condition no longer exists, the Opening Process in the affected options series will start again, pursuant to paragraphs (j) and (k) below. Today, BX would not open with a trade unless there is a Valid Width NBBO present. This would remain the case with this proposal. The Exchange believes that the addition of this text provides market participants with an expectation of the circumstances under which the Exchange would open an option series, as well as price protection afforded to interest attempting to participate in the Opening Process on BX.

Reopening After a Trading Halt

Proposed BX Options 3, Section 8(e) is intended to provide information regarding the manner in which a trading halt would impact the Opening Process similar to Phlx Options 3, Section 8(e). Proposed BX Options 3, Section 8(e) states that “[t]he procedure described in this Rule will be used to reopen an option series after a trading halt. If there is a trading halt or pause in the underlying security, the Opening Process will start again irrespective of the specific times listed in paragraph (d).” This last sentence makes clear that this rule applies to openings related to the normal market opening, as well as intra-day re-openings following a trading halt. Current BX Options 3, Section 8(b) similarly provides that an Opening Cross shall occur when trading resumes after a trading halt. The Exchange is not amending this provision, rather the text is being presented similar to Phlx’s Options 3, Section 8.

Opening with a BBO

Proposed BX Options 3, Section 8(f) describes when the Exchange may open with a quote on its market (no trade). The proposed rule states,

Opening with a BBO (No Trade). If there are no opening quotes or orders that lock or cross each other, and no routable orders locking or crossing the ABBO, the System will open with an opening quote by disseminating the Exchange's best bid and offer among quotes and orders ("BBO") that exist in the System at that time, if any of the below conditions are satisfied:

- (1) A Valid Width NBBO is present;
- (2) A certain number of other options exchanges (as determined by the Exchange) have disseminated a firm quote on OPRA; or
- (3) A certain period of time (as determined by the Exchange) has elapsed.

Unlike Phlx, which provides that certain conditions may not exist,³² BX's proposal affirmatively states that the System will open with no trade provided one of the three conditions within Options 3, Section 8(f) are met. These three conditions are similar to BX's current rule text within Options 3, Section 8(b). BX's proposal at proposed Options 3, Section (f)(1) provides that that the System will open, provided any one of the three conditions are met, and one of those conditions is a Valid Width NBBO, as noted in (f)(1). Subject to Options 3, Section 8(f)(2), an options series may open if a certain number of other options exchanges (as determined by the Exchange) have disseminated a

³² Phlx Options 3, Section 8(f) states, "Opening with a PBBO (No Trade). If there are no opening quotes or orders that lock or cross each other and no routable orders locking or crossing the ABBO, the System will open with an opening quote by disseminating the Exchange's best bid and offer among quotes and orders ("PBBO") that exist in the System at that time, unless all three of the following conditions exist: (i) a Zero Bid Market; (ii) no ABBO; and (iii) no Quality Opening Market. If all of these conditions exist, the Exchange will calculate an Opening Quote Range pursuant to paragraph (j) and conduct the Price Discovery Mechanism pursuant to paragraph (k) below."

firm quote on OPRA.³³ Also, an options series will open if a certain period of time, as determined by the Exchange, has elapsed pursuant to Options 3, Section 8(f)(3).³⁴ Unlike Phlx which requires a Lead Market Maker to quote during the Opening Process, BX requires a Valid Width NBBO to open. Phlx's rule will open with a Valid Width Quote, unless all of the conditions in Phlx Options 3, Section 8(f) exist. The three conditions noted in Phlx, (i) a Zero Bid Market; (ii) no ABBO; and (iii) no Quality Opening Market, would cause Phlx to calculate an OQR because it could not open with a trade. The Exchange notes that the concept is similar for Phlx and BX, except that the triggers for opening are different, a Valid Width Quote as compared to a Valid Width NBBO (e.g. BX does not require a Lead Market Maker to quote to open an option series and, thus does not require a Valid Width Quote to open). BX does not require a Valid Width Quote and, therefore, requires the conditions within proposed BX Options 3, Section 8(f) to open with a BBO Conversely, Phlx requires a Valid Width Quote and, therefore, once that Valid Width Quote is available, Phlx would consider if all of the three conditions noted within Phlx Options 3, Section 8(f) exist to ensure there are no impediments to opening with a PBBO (Phlx's BBO).

Current BX Options 3, Section 8(b)(2) provides that “[i]f no trade is possible on BX, then BX will open dependent upon one of the following: (A) A Valid Width NBBO is present; (B) A certain number of other options exchanges (as determined by the Exchange) have disseminated a firm quote on OPRA; or (C) A certain period of time (as

³³ BX currently requires at least two other options exchanges to open. The setting will be initially set at two away options exchanges with this new proposal.

³⁴ BX currently requires 15 minutes to pass with respect to this setting, The setting will remain at 15 minutes with this proposal.

determined by the Exchange) has elapsed.” It will continue to permit one of these 3 scenarios to open an options series on BX. The Exchange also notes that a Valid Width NBBO must be present to open, pursuant to Options 3, Section 8(j) or (k), which are described below.

Further Opening Processes

If, as proposed, an opening did not occur pursuant to proposed paragraph (e) (Reopening After a Trading Halt) and there are opening Valid Width Quotes, or orders, that lock or cross each other, the System will calculate the Pre-Market BBO.³⁵ The Pre-Market BBO only uses Valid Width Quotes, which provide both a bid and offer as compared to orders which are one-sided. The rule text of proposed BX Options 3, Section 8(g) provides, “If there are opening Valid Width Quotes or orders that lock or cross each other, the System will calculate the Pre-Market BBO.” This rule text is the same as Phlx Options 3, Section 8(g). The Exchange calculates a Pre-Market BBO in order for the Exchange to open with a trade pursuant to proposed Options 3, Section 8(i), to ensure that the Pre-Market BBO is a Valid Width NBBO, which is required to open the market.³⁶ The Exchange does not disseminate a Pre-Market BBO, rather, the Exchange disseminates imbalance messages to notify Participants of available trading opportunities on BX during the Opening Process.

Potential Opening Price

³⁵ See proposed BX Options 3, Section 8(g).

³⁶ The Pre-Market BBO is calculated to ensure, when the Exchange opens with a trade, a Valid Width NBBO is present, particularly when there is no away market quote or when the away market quote is not a Valid Width NBBO.

Current BX Options 3, Section 8(b)(4) provides that the “[t]he BX Opening Cross shall occur at the price that maximizes the number of contracts of eligible interest in BX Options to be executed at or within the ABBO and within a defined range, as established and published by the Exchange, of the Valid Width NBBO.” The proposed Opening Process seeks to maximize the number of number of contracts of eligible interest that will execute during the Opening Process. The Exchange proposes to establish boundaries, similar to Phlx, to establish the Opening Price. The ABBO will continue to be considered as part of the Potential Opening Price. Proposed BX Options 3, Section 8(i) describes the manner in which the ABBO is considered in arriving at the Potential Opening Price.

Proposed BX Options 3, Section 8(h), similar to Phlx Options 3, Section 8(h), describes the general concept of how the System calculates the Potential Opening Price under all circumstances, once the Opening Process is triggered. The first sentence of that paragraph describes a Potential Opening Price as a price where the System may open once all other Opening Process criteria is met. Next, the rule text provides, “[t]o calculate the Potential Opening Price, the System will take into consideration all Valid Width Quotes and orders (including Opening Sweeps) for the option series and identify the price at which the maximum number of contracts can trade (“maximum quantity criterion”). In addition, paragraphs (i)(1)(C) and (j)(5) - (7) below contain additional provisions related to the Potential Opening Price.” The proposal attempts to maximize the number of contracts that can trade, and is intended to find the most reasonable and suitable price, relying on the maximization to reflect the best price.

Proposed BX Options 3, Section 8(h)(1) presents the scenario for more than one Potential Opening Price. Proposed Options 3, Section 8(h)(1) provides,

More Than One Potential Opening Price. When two or more Potential Opening Prices would satisfy the maximum quantity criterion and leave no contracts unexecuted, the System takes the highest and lowest of those prices and takes the mid-point; if such mid-point is not expressed as a permitted minimum price variation, it will be rounded to the minimum price variation that is closest to the closing price for the affected series from the immediately prior trading session. If there is no closing price from the immediately prior trading session, the System will round up to the minimum price variation to determine the Opening Price.

Proposed BX Options 3, Section 8(h)(2) presents the scenario for two or more Potential Opening Prices. Proposed Options 3, Section 8(h)(2) provides, “If two or more Potential Opening Prices for the affected series would satisfy the maximum quantity criterion and leave contracts unexecuted, the Opening Price will be either the lowest executable bid or highest executable offer of the largest sized side.” This, again, bases the Potential Opening Price on the maximum quantity that is executable.

Proposed BX Options 3, Section 8(h)(3) provides that “[t]he Opening Price is bounded by the better away market price that cannot be satisfied with the Exchange routable interest.” The Exchange does not open with a trade at a price that trades through another market’s BBO. This process, importantly, breaks a tie by considering the largest sized side and away markets, which are relevant to determining a fair Opening Price.

The System applies certain boundaries to the Potential Opening Price to help ensure that the price is a reasonable one by identifying the quality of that price; if a well-defined, fair price can be found within these boundaries, the option series can open at that price without going through a further price discovery mechanism.

Proposed BX Options 3, Section 8(i), Opening with a Trade, provides:

The Exchange will open the option series for trading with a trade on Exchange interest only at the Opening Price, if any of these conditions occur:

(A) the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO, which is also a Valid Width NBBO;

(B) the Potential Opening Price is at or within the non-zero bid ABBO, which is also a Valid Width NBBO, if the Pre-Market BBO is crossed; or

(C) where there is no ABBO, the Potential Opening Price is at or within the Pre-Market BBO, which is also a Valid Width NBBO.

For the purposes of calculating the mid-point the Exchange will use the better of the Pre-Market BBO or ABBO as a boundary price and will open that options series for trading with an execution at the resulting Potential Opening Price.³⁷

These boundaries serve to validate the quality of the Opening Price. Proposed BX Options 3, Section 8(i), provides that the Exchange will open the option series for trading with an execution at the resulting Potential Opening Price, as long as it is within the defined boundaries regardless of any imbalance. The Exchange believes that since the Opening Price can be determined within a well-defined boundary and not trading through other markets, it is fair to open the market immediately with a trade and to have the remaining interest available to remain on the Order Book to be potentially executed in the

³⁷ BX's current rule at Options 3, Section 8(b)(4)(B) states, "If more than one price exists under subparagraph (A), and there are no contracts that would remain unexecuted in the cross, the BX Opening Cross shall occur at the midpoint price, rounded to the penny closest to the price of the last execution in that series (and in the absence of a previous execution price, the price will round up, if necessary) of (1) the National Best Bid or the last offer on BX Options against which contracts will be traded whichever is higher, and (2) the National Best Offer or the last bid on BX Options against which contracts will be traded whichever is lower." This process for considering the mid-point is being eliminated in favor of Phlx's methodology for calculating the mid-point as described in proposed BX Options 3, Section 8(h).

displayed market. Using a boundary-based price counterbalances opening faster at a less bounded and perhaps less expected price and reduces the possibility of leaving an imbalance.

Proposed BX Options 3, Section 8(i)(2), provides that if there is more than one Potential Opening Price which meets the conditions set forth in proposed BX Options 3, Section 8(i)(1)(A), (B) or (C), where (A) no contracts would be left unexecuted and (B) any value used for the mid-point calculation (which is described in subparagraph (g)) would cross either: (i) the Pre-Market BBO or (ii) the ABBO, then the Exchange will open the option series for trading with an execution and use the best price which the Potential Opening Price crosses as a boundary price for the purpose of the mid-point calculation. If these aforementioned conditions are not met, but a Valid Width NBBO is present, an Opening Quote Range is calculated as described in proposed BX Options 3, Section 8(j) and the price discovery mechanism, described in proposed BX Options 3, Section 8(k), would commence. The proposed rule explains the boundary, as well as the price basis for the mid-point calculation, to enable the market to immediately open with a trade, which improves the detail included in the rule. The Exchange believes that this process is logical because it seeks to select a fair and balanced price. This rule text is similar to Phlx Options 3, Section 8(i).

Today, BX has the concept of a Valid Width NBBO in its current rule. Rather than adopt Phlx's notion of a Quality Opening Market,³⁸ which is very similar to the

³⁸ Phlx's Quality Opening Market is a bid/ask differential applicable to the best bid and offer from all Valid Width Quotes defined in a table to be determined by the Exchange and published on the Exchange's web site. The calculation of Quality Opening Market is based on the best bid and offer of Valid Width Quotes. The differential between the best bid and offer are compared to reach this

concept of a Valid Width NBBO, BX retained the concept of a Valid Width NBBO. Phlx's rules at Options 3, Section 8(d), require a Valid Width Quote. The calculation of Phlx's Quality Opening Market is based on the best bid and offer of Valid Width Quotes. BX's proposed rule will only require a Valid Width NBBO, which is the combination of all away market quotes and Valid Width Quotes received over SQF. Unlike Phlx's requirements in Options 3, Section 8(d), which require a Lead Market Maker's quote, a BX Lead Market Maker may quote during the Opening Process, but is not required to quote in the Opening Process. BX's proposed rule retained the concept of a Valid Width NBBO because there is no requirement for Lead Market Makers to submit a Valid Width Quote. In contrast, Phlx utilized a Quality Opening Market concept.

BX's Valid Width NBBO is configurable by underlying, and a table with valid width differentials is available on BX's webpage.³⁹ Away markets that are crossed (e.g. Cboe crosses MIAX, BOX crosses CBOE) will void all Valid Width NBBO calculations.

determination. The allowable differential, as determined by the Exchange, takes into account the type of security (for example, Penny Pilot versus non-Penny Pilot issue), volatility, option premium, and liquidity. The Quality Opening Market differential is intended to ensure the price at which the Exchange opens reflects current market conditions. See Phlx Options 3, Section 8(a)(viii).

Similarly, BX's Valid Width NBBO is the combination of all away market quotes and Valid Width Quotes received over the SQF. The Valid Width NBBO will be configurable by the underlying security, and tables with valid width differentials, which will be posted by the Exchange on its website. Away markets that are crossed will void all Valid Width NBBO calculations. If any Market Maker quotes on the Exchange are crossed internally, then all Exchange quotes will be excluded from the Valid Width NBBO calculation. These two concepts both provide the applicable bid/ask differential and ensure the price at which the Exchange opens reflects current market conditions.

³⁹

See
https://www.nasdaqtrader.com/Content/TechnicalSupport/BXOptions_SystemSettings.pdf.

If any Market Maker quotes on BX Options are crossed internally, then all such quotes will be excluded from the Valid Width NBBO calculation. Within the Valid Width NBBO, all away market quotes and any combination of Market Maker Valid Width Quotes, whether they include the Exchange's Best Bid or Offer or not, are represented. The price discovery on BX currently includes not only Market Maker quotes, but also away market interest, this will remain the same with the proposal. The following examples illustrate the calculation of the Valid Width NBBO:

Example 1: (away markets are crossed)

Assume the Valid Width NBBO bid/ask differential is set by BX at .10.

Market Maker1 is quoting on the Exchange 1.05-1.15

Market Maker2 is quoting on the Exchange 1.00-1.10

BX BBO 1.05-.1.10

Assume Cboe is quoting .90-1.10

Assume MIAX is quoting .70-.85.

Since the ABBO is crossed (.90-.85), Valid Width NBBO calculations are not taken into account until the away markets are no longer crossed. Once the away markets are no longer crossed, the Exchange will determine if a Valid Width NBBO can be calculated. Assume the ABBO uncrosses because MIAX updates their quote to .90-1.15, the BX BBO of 1.05-1.10 is considered a Valid Width NBBO. Pursuant to proposed Options 3, Section 8(f), BX Options will open with no trade and BBO disseminated as 1.05-1.10.

Example 2: (BX Options orders/quotes are crossed, ABBO is Valid Width NBBO)

Assume that the Valid Width NBBO bid/ask differential is set by the Exchange at .10.

Market Maker1 is quoting on the Exchange 1.05-1.15 (10x10 contracts)

Market Maker2 is quoting on the Exchange .90-.95 (10x10 contracts)

BX BBO crossed, 1.05-.95, while another Market Maker3 is quoting on the Exchange at .90-1.15 (10x10 contracts).

Since the BX BBO is crossed, the crossing quotes are excluded from the Valid Width NBBO calculation. However, assume Cboe is quoting .95-1.10 and MIAX is quoting .95-1.05, resulting in an uncrossed ABBO of .95-1.05.

The ABBO of .95-1.05 meets the required .10 bid/ask differential and is considered a Valid Width NBBO. As Market Maker1 and Market Maker2 have 10 contracts each, these contracts will cross because there is more than one price at which those contracts could execute. The opening will occur with 10 contracts executing at 1.00, which is the mid-point of the NBBO.

At the end of the Opening Process, only the quote from Market Maker3 remains so the BX Options disseminated quote at the end of Opening Process will be .90-1.15 (10x10 contracts).

The requirement of a Valid Width NBBO being present continues to ensure that the Opening Price is rationally based on what is present in the broader marketplace during the Opening Process. As noted herein, the Valid Width NBBO includes all away market quotes. A Potential Opening Price must be at or within the ABBO, provided the market opened prior to calculation an OQR as discussed below.

Proposed BX Options 3, Section 8(j) provides that the System will calculate an Opening Quote Range (“OQR”) for a particular option series that will be utilized in the price discovery mechanism if the Exchange has not opened subject to any of the provisions described above. Provided the Exchange has been unable to open the option series⁴⁰ the OQR would broaden the range of prices at which the Exchange may open. This would allow additional interest to be eligible for consideration in the Opening Process. The OQR is an additional type of boundary beyond the boundaries mentioned in proposed BX Options 3, Section 8(h) and (i). OQR is intended to limit the Opening Price to a reasonable, middle ground price and thus reduce the potential for erroneous trades during the Opening Process. Although the Exchange applies other boundaries such as the BBO, the OQR provides a range of prices that may be able to satisfy additional contracts,

⁴⁰ This would refer to an opening pursuant to proposed BX Options 3, Section 8(f) or (i).

while still ensuring a reasonable Opening Price. The Exchange seeks to execute as much volume as is possible at the Opening Price. OQR is constrained by the least aggressive limit prices within the broader limits of OQR. The least aggressive buy order or Valid Width Quote bid and least aggressive sell order or Valid Width Quote offer within the OQR will further bound the OQR. Although the Exchange applies other boundaries such as the BBO, the OQR is outside of the BBO. It is meant to provide a price that can satisfy more size without becoming unreasonable. Below is an example of the manner in which OQR is constrained.

OQR Example: Assume the below pre-opening interest:

Lead Market Maker quotes 4.10 (100) x 4.20 (50)
 Order1: Public Customer Buy 300 @ 4.39
 Order2: Public Customer Sell 50 @ 4.13
 Order3: Public Customer Sell 5 @ 4.29
 Opening Quote Range configuration in this scenario is +/- 0.10

9:30 a.m. events occur, underlying opens
 First imbalance message: Buy imbalance @ 4.20, 100 matched, 200 unmatched
 Next 3 imbalance messages: Buy imbalance @ 4.29, 105 matched, 195 unmatched
 Potential Opening Price calculation would have been $4.20 + 0.10 = 4.30$, but OQR is further bounded by the least aggressive Sell order @ 4.29

Order1 executes against Order 2 50 @ 4.29
 Order1 executes against Lead Market Maker quote 50 @ 4.29
 Order1 executes against Order 3 5 @ 4.29
 Remainder of Order1 cancels as it is through the Opening Price
 Lead Market Maker quote purges as its entire offer side volume has been exhausted

Specifically, to determine the minimum value for the OQR, an amount, as defined in a table to be determined by the Exchange, will be subtracted from the highest quote bid among Valid Width Quotes on the Exchange and on the away market(s), if any, except as provided in proposed BX Options 3, Section 8(j) paragraphs (3) and (4). To determine the maximum value for the OQR, an amount, as defined in a table to be determined by

the Exchange, will be added to the lowest quote offer among Valid Width Quotes on the Exchange and on the away market(s), if any, except as provided in proposed BX Options 3, Section 8(j) paragraphs (3) and (4).⁴¹ However, if one or more away markets are disseminating a BBO that is not crossed, and there are Valid Width Quotes on the Exchange that cross each other or are marketable against the ABBO, then the minimum value for the OQR will be the highest away bid.⁴² It should be noted that the Opening Process would stop and an option series will not open if the ABBO becomes crossed, pursuant to proposed Options 3, Section 8(d)(3). In addition, the maximum value for the OQR will be the lowest away offer.⁴³

If there is more than one Potential Opening Price possible, where no contracts would be left unexecuted, any price used for the mid-point calculation (which is described in proposed BX Options 3, Section 8(h)(3)), that is outside of the OQR, will be restricted to the OQR price on that side of the market for the purposes of the mid-point calculation. BX Options 3, Section 8(j)(4) continues the theme of relying on both maximizing executions and looking at the correct side of the market to determine a fair price.

Proposed BX Options 3, Section 8(j)(5) deals with the situation where there is an away market price involved. If there is more than one Potential Opening Price possible, where no contracts would be left unexecuted, pursuant to proposed BX Options 3, Section 8(h)(3), when contracts will be routed, the System will use the away market price

⁴¹ See proposed BX Options 3, Section 8(j)(2).

⁴² See proposed BX Options 3, Section 8(j)(3)(A).

⁴³ See proposed BX Options 3, Section 8(j)(3)(B).

as the Potential Opening Price. The Exchange is seeking to execute the maximum amount of volume possible at the Opening Price. The Exchange will enter into the Order Book any unfilled interest at a price equal to or inferior to the Opening Price.⁴⁴ It should be noted, the Exchange will not trade through an away market.⁴⁵

Finally, proposed BX Options 3, Section 8(j)(6) provides if the Exchange determines that non-routable interest can execute the maximum number of Exchange contracts against Exchange interest, after routable interest has been determined by the System to satisfy the away market, then the Potential Opening Price is the price at which the maximum number of contracts can execute, excluding the interest which will be routed to an away market, which may be executed on the Exchange as described in proposed BX Options 3, Section 8(h). This continues the theme of trying to satisfy the maximum amount of interest during the Opening Process. This is similar to Phlx Options 3, Section 8(j). BX's proposed rule at Options 3, Section 8(j)(6) provides that the System will route all routable interest pursuant to Options 3, Section 10(a)(1).⁴⁶ Both Phlx and the proposed BX rule cite to their respective allocation rules.⁴⁷

⁴⁴ See proposed BX Options 3, Section 8(k)(5).

⁴⁵ See current BX Options 3, Section 5(d).

⁴⁶ Phlx Options 3, Section 8(k)(C)(6) provides, "The System will execute orders at the Opening Price that have contingencies (such as, without limitation, all-or-none) and non-routable orders, such as a "Do Not Route" or "DNR" Orders, to the extent possible. The System will only route non-contingency Public Customer and Professional orders." Phlx routes Public Customer and Professional orders, while BX would route orders for all market participants.

⁴⁷ Phlx Options 3, Section 8(k)(E) provides that the allocation provisions of Options 3, Section 10 will apply.

Price Discovery Mechanism

If the Exchange has not opened pursuant to proposed paragraphs (f) or (i), after the OQR is calculated, pursuant to proposed BX Options 3, Section 8(j), the Exchange will conduct a price discovery mechanism, pursuant to proposed BX Options 3, Section 8(k), which is similar to Phlx Options 3, Section 8(k). The price discovery mechanism is the process by which the Exchange seeks to identify an Opening Price having not been able to do so following the process outlined thus far herein. The principles behind the price discovery mechanism are, as described above, to satisfy the maximum number of contracts possible by identifying a price that may leave unexecuted contracts. However, the price discovery mechanism applies a proposed, wider boundary to identify the Opening Price, and the price discovery mechanism involves seeking additional liquidity.

The Exchange believes that conducting the price discovery process in these situations protects orders from receiving a random price that does not reflect the totality of what is happening in the markets on the opening, and also further protects opening interest from receiving a potentially erroneous execution price on the opening. Opening immediately has the benefit of speed and certainty, but that benefit must be weighed against the quality of the execution price, and whether orders were left unexecuted. The Exchange believes that the proposed rule strikes an appropriate balance.

The proposed rule attempts to open using Exchange interest only to determine an Opening Price, provided certain conditions contained in proposed BX Options 3, Section 8(j) are present, to ensure market participants receive a quality execution in the opening. The proposed rule does not consider away market liquidity, for purposes of routing interest to other markets, until the price discovery mechanism pursuant to proposed paragraph (k). Rather, away market prices are considered for purposes of avoiding trade-

throughs. As a result, the Exchange might open without routing, if all of the conditions described above are met. The Exchange believes that the benefit of this process is a more rapid opening with quality execution prices. Opening with a quote, pursuant to Options 3, Section 8(f), would not require consideration of away market quotes because BX would have opened with a local quote that was not locked or crossed with the away market, provided there are no opening quotes or orders that lock or cross each other, and no routable orders locking or crossing the ABBO.⁴⁸ With respect to Opening with a Trade, pursuant to Options 3, Section 8(i), the Exchange would not consider away market interest if it could open immediately with a trade, provided that the Exchange would not trade-through an away market. If BX is locked and crossed with an away market, then the Exchange would require additional price discovery, pursuant to Options 3, Section 8(j) and (k). Finally, the Exchange considers away market interest in the Valid Width NBBO.

Today, pursuant to current BX Options 3, Section 8(b)(3) and (7), BX disseminates, by electronic means, an Order Imbalance Indicator every 5 seconds beginning between 9:20 and 9:28, or a shorter dissemination interval as established by the Exchange, with the default being set at 9:25 a.m. The start of dissemination, and a dissemination interval, are posted by BX on its website. Also, BX would disseminate an Order Imbalance Indicator for an imbalance containing marketable routable interest.⁴⁹ The Exchange proposes to continue to disseminate an imbalance, but instead of the manner in which BX utilizes an Order Imbalance Indicator today, BX would instead post

⁴⁸ See BX Options 3, Section 8(f).

⁴⁹ See current BX Options 3, Section 8(b)(3).

up to 4 Imbalance Messages which each run its own Imbalance Timer, similar to Phlx. Today, BX's imbalance process begins, even if it has no interest. With this proposal, BX's imbalance message will serve to notify Participants of the availability of interest to cross in the opening. The Exchange believes that the proposed methodology will attract interest during the Opening Process, because the imbalance message will highlight for Participants the available size that may be crossed. The Exchange believes that Phlx's process attracts additional liquidity, because the proposed amendments are intended to create a more robust experience for market participants seeking to have their orders executed during the Opening Process. The Exchange believes adopting Phlx's process improves the quality of execution of BX Options' opening by attracting more liquidity through more meaningful imbalance notifications that broadcast trading opportunities during BX's Opening Process. The proposed changes give Participants more transparency into BX's Opening Process that would afford them a better experience.

Specifically, proposed BX Options 3, Section 8(k)(1) provides that the System will broadcast an Imbalance Message for the affected series (which includes the symbol, side of the imbalance, size of matched contracts, size of the imbalance, and Potential Opening Price bounded by the Pre-Market BBO) to participants, and begin an "Imbalance Timer," not to exceed three seconds to notify Participants of available interest that may be crossed during the Opening Process. The Imbalance Timer would initially be set 200 milliseconds.⁵⁰ The Imbalance Message is intended to attract additional liquidity, much like an auction, using an auction message and timer. The

⁵⁰ The Phlx timer is currently set at 200 milliseconds. The Exchange will issue a notice to provide the initial setting and would thereafter issue a notice if it were to change the timing. If the Exchange were to select a time which exceeds 3 seconds, it would be required file a rule proposal with the Commission.

Imbalance Timer would be for the same number of seconds for all options traded on the Exchange. Pursuant to this proposed rule, as described in more detail below, the Exchange may have up to 4 Imbalance Messages which each run its own Imbalance Timer.

The Exchange proposes to provide at BX Options 3, Section 8(k)(1)(A),

An Imbalance Message will be disseminated showing a “0” volume and a \$0.00 price if: (i) no executions are possible but routable interest is priced at or through the ABBO; or (ii) internal quotes are crossing each other. Where the Potential Opening Price is through the ABBO, an imbalance message will display the side of interest priced through the ABBO.

This rule text explains the information that is being conveyed when an imbalance message indicates “0” volume, such as (i) when no executions are possible and routable interest is priced at or through the ABBO; or (ii) internal quotes are crossing each other. The Imbalance Message provides detail regarding the potential state of the interest available. Where the Potential Opening Price is through the ABBO, an imbalance message will display the side of interest priced through the ABBO. The Imbalance Message provides transparency to market participants during the Opening Process. This rule text differs from Phlx Options 3, Section 8(k)(A)(1),⁵¹ which also provides, “...or there is a Valid Width Quote, but there is no Quality Opening Market.” BX, as noted herein, does not have a concept of a Quality Opening Market, but does have a concept of a Valid Width NBBO, which is always required, when attempting to open with a trade

⁵¹ Phlx Options 3, Section 8(k)(A)(1) provides, “An Imbalance Message will be disseminated showing a “0” volume and a \$0.00 price if: (i) no executions are possible but routable interest is priced at or through the ABBO; (ii) internal quotes are crossing each other; or (iii) there is a Valid Width Quote, but there is no Quality Opening Market. Where the Potential Opening Price is through the ABBO, an imbalance message will display the side of interest priced through the ABBO.”

pursuant to Options 3 Section 8(d)(4). In addition, a Valid Width Quote is always required on Phlx pursuant to Options 3, Section 8(d), but the open is not required to be quoted by a Lead Market Maker on BX. Therefore, the third prong, a Valid Width Quote from a local Market Maker, in the Phlx rule text is unnecessary for BX.

Proposed BX Options 3, Section 8(k)(2), states that any new interest received by the System will update the Potential Opening Price. An update may not result in an immediate change to the Potential Opening Price, however, the Exchange will consider new interest as it arrives and update the Potential Opening Price accordingly based on existing interest and new interest. By way of example:

Case 1 – An update which does not result in a change to Potential Opening Price
Valid Width NBBO = 0.20

CBOE market maker quotes 1.15 x 1.30 (10)

BX Market Maker quotes 1 x 1.25 (10)

Order to sell arrives for 1 contract @ 1.26 (Potential Opening Price updates, but determines there is no match, and therefore no change to lack of Potential Opening Price)

Order to buy arrives for 100 contracts @ 1.26 (Potential Opening Price updates, and changes to 1.26)

Order to buy arrives for 1000 contracts @ 1.24 (Potential Opening Price updates, but remains unchanged from 1.26)

Case 2 – An update results in a change to the Potential Opening Price
Valid Width NBBO = 0.20

CBOE market maker quotes 1.15 x 1.30 (10)

BX Market Maker quotes 1 x 1.25 (10)

Order to sell arrives for 1 contract @ 1.26 (Potential Opening Price updates, but determines there is no match, and therefore no change to lack of Potential Opening Price)

Order to buy arrives for 1000 contracts @ 1.24 (Potential Opening Price updates, but determines there is no match, and therefore no change to lack of Potential Opening Price)

Order to sell arrives for 1000 contracts @ 1.24 (Potential Opening Price updates and changes to 1.24)

If during or at the end of the Imbalance Timer, the Opening Price is at or within the OQR, the Imbalance Timer will end and the System will open with a trade at the Opening Price if the executions consist of Exchange interest only without trading through the ABBO, and without trading through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price. If no new interest comes in during the Imbalance Timer, and the Potential Opening Price is at or within OQR and does not trade through the ABBO, the Exchange will open with a trade at the end of the Imbalance Timer at the Potential Opening Price. This reflects that the Exchange is seeking to identify a price on the Exchange without routing away, yet which price may not trade through another market and the quality of which is addressed by applying the OQR boundary.

Provided the option series has not opened pursuant to proposed Options 3, Section 8(k)(2),⁵² the System will send a second Imbalance Message with a Potential Opening Price that is bounded by the OQR (and would not trade through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price) and includes away market volume in the size of the imbalance to Participants; and concurrently initiate a Route Timer, not to exceed one second.⁵³ The Route Timer is

⁵² The System would not open pursuant to proposed Options 3, Section 8(k)(2) if the Potential Opening Price is outside of the OQR, or if the Potential Opening Price is at or within the OQR, but would otherwise trade through the ABBO, or through the limit price(s) of interest within the OQR, which is unable to be fully executed at the Potential Opening Price.

⁵³ The Route Timer would be a brief timer that operates as a pause before an order is routed to an away market. Currently, the Phlx Route Timer is set to one second. BX's Route Timer will also be initially set to one second. The Exchange will

intended to give Exchange users an opportunity to respond to an Imbalance Message before any opening interest is routed to away markets and, thereby, maximize trading on the Exchange. If during the Route Timer, interest is received by the System, which would allow the Opening Price to be within OQR, without trading through away markets and without trading through the limit price(s) of interest within OQR, which is unable to be fully executed, the System will open with trades and the Route Timer will simultaneously end. The System will monitor quotes and orders received during the Route Timer period and make ongoing corresponding changes to the permitted OQR and Potential Opening Price to reflect them.⁵⁴ This proposal serves to widen the boundary of available Opening Prices, which should similarly increase the likelihood that an Opening Price can be determined. The Route Timer, like the Imbalance Timer, is intended to permit responses to be submitted and considered by the System in calculating the Potential Opening Price. The System does not route away until the Route Timer ends.

Proposed Options 3, Section 8(k)(3)(C) provides if no trade occurred pursuant to proposed Section 8(k)(3)(B), when the Route Timer expires, if the Potential Opening Price is within OQR (and would not trade through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price), the System will determine if the total number of contracts displayed at better prices than the Exchange's Potential Opening Price on away markets ("better priced away contracts") would satisfy the number of marketable contracts available on the Exchange. This provision protects

issue a notice to Members to provide the initial setting and would thereafter issue a notice to Members, if it were to change the timing within the range of up to one second. If the Exchange were to select a time beyond one second, it would be required file a rule proposal with the Commission.

⁵⁴ See proposed BX Options 3, Section 8(k)(3)(B).

the unexecuted interest and should result in a fairer price.⁵⁵ The Exchange will open the option series by routing and/or trading on the Exchange, pursuant to proposed Options 3, Section 8(k)(3)(C) paragraphs (i) through (iii).

Proposed Options 3, Section 8(k)(3)(C)(i) provides if the total number of better priced away contracts would satisfy the number of marketable contracts available on the Exchange on either the buy or sell side, the System will route all marketable contracts on the Exchange to such better priced away markets as Intermarket Sweep Order (“ISO”),⁵⁶ designated as Immediate-or-Cancel (“IOC”)⁵⁷ Order(s), and determine an opening BX

⁵⁵ Current BX Options 3, Section 8(b)(4)(C) considers unexecuted contracts. The proposed Opening Process likewise serves to protect unexecuted interest and also execute as many contract as possible during the Opening Process. The System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order’s limit price. Any unexecuted contracts from the imbalance not traded or routed will be cancelled back to the entering participant if they remain unexecuted and priced through the Opening Price. All other interest will be eligible for trading after opening, if consistent with the Participant’s instruction as provided for within proposed Options 3, Section 8(k)(3)(E) pursuant to a Forced Opening.

⁵⁶ BX Options 3, Section 7(a)(6) provides that an “Intermarket Sweep Order” or “ISO” are limit orders that are designated as ISOs in the manner prescribed by BX and are executed within the System by Participants at multiple price levels without respect to Protected Quotations of other Eligible Exchanges as defined in Options 5, Section 1. ISOs may have any time-in-force designation except WAIT, are handled within the System pursuant to Options 3, Section 10 and shall not be eligible for routing as set out in Options 3, Section 19. ISOs with a time-in-force designation of GTC are treated as having a time-in-force designation of Day.

⁵⁷ BX Options 3, Section 7(b)(2) provides that an “Immediate Or Cancel” or “IOC” shall mean for orders so designated, that if after entry into the System a marketable order (or unexecuted portion thereof) becomes non-marketable, the order (or unexecuted portion thereof) shall be canceled and returned to the entering participant. IOC Orders shall be available for entry from the time prior to market open specified by the Exchange on its website until market close and for potential execution from 9:30 a.m. until market close. IOC Orders entered between the time specified by the Exchange on its website and 9:30 a.m. Eastern Time will be held within the System until 9:30 a.m. at which time the System shall determine whether such orders are marketable.

Best Bid or Offer (“BBO”) that reflects the interest remaining on the Exchange. The System will price any contracts routed to away markets at the Exchange’s Opening Price or pursuant to proposed Options 3, Section 8(k)(3)(C)(ii) or (iii) described below.

Routing away at the Exchange’s Opening Price is intended to achieve the best possible price available at the time the order is received by the away market.

Proposed Options 3, Section 8(k)(3)(C)(ii) provides if the total number of better priced away contracts would not satisfy the number of marketable contracts the Exchange has, the System will determine how many contracts it has available at the Exchange Opening Price. If the total number of better priced away contracts, plus the number of contracts available at the Exchange Opening Price, would satisfy the number of marketable contracts on the Exchange on either the buy or sell side, the System will contemporaneously route, based on price/time priority of routable interest, a number of contracts that will satisfy interest at away markets at prices better than the Exchange Opening Price and trade available contracts on the Exchange at the Exchange Opening Price. The System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order’s limit price pursuant to this subparagraph. This continues with the theme of maximum possible execution of the interest on the Exchange or away markets.

Proposed Options 3, Section 8(k)(3)(C)(iii) provides if the total number of better priced away contracts, plus the number of contracts available at the Exchange Opening Price, plus the contracts available at away markets at the Exchange Opening Price would satisfy the number of marketable contracts the Exchange has on either the buy or sell side, the System will contemporaneously route, based on price/time priority of routable

interest, a number of contracts that will satisfy interest at away markets at prices better than the Exchange Opening Price (pricing any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price), trade available contracts on the Exchange at the Exchange Opening Price, and route a number of contracts that will satisfy interest at away markets at prices equal to the Exchange Opening Price. This provision is intended to introduce routing to away markets potentially both at a better price than the Exchange Opening Price, as well as at the Exchange Opening Price to access as much liquidity as possible to maximize the number of contracts able to be traded as part of the Opening Process. The Exchange routes at the better of the Exchange's Opening Price or the order's limit price to first ensure the order's limit price is not violated. Routing away at the Exchange's Opening Price is intended to achieve the best possible price for the routed order, at the time the order is received by the away market. By way of example:

Example of Interest “Better Than” and “Better of the Exchange Opening Price” rule text: Options 3, Section 8(k)(3)(C)(ii), Options 3, Section 8(k)(3)(C)(iii) and Options 3, Section 8(k)(5)

BX Market Maker 1 BBO 4.00 x 4.15 (100 contracts)

Cboe 4.00 x 4.14 (100 contracts)

DNR Order to buy 105 @ 4.20

Routable SRCH Order to buy 100 contracts at 4.18

Sell 2 contracts @ 4.21

After imbalance process:

SRCH Order routes at limit price of 4.18 (better than Opening Price of 4.20) and executes at 4.14 on Cboe's offer.

DNR Order trades 100 with BX Market Maker quote (quote purges)

Proposed Options 3, Section 8(k)(3)(D) provides that the System may send up to two additional Imbalance Messages⁵⁸ (which may occur while the Route Timer is operating) bounded by OQR and reflecting away market interest in the volume. These boundaries are intended to assist in determining a reasonable price at which an option series might open. This provision is proposed to further state that after the Route Timer has expired, the processes in proposed Options 3, Section 8(k)(3)(C)(3) will repeat (except no new Route Timer will be initiated). No new Route Timer is initiated, because after the Route Timer has been initiated and subsequently expired, no further delay is needed before routing contracts. This is the case if at any point thereafter the Exchange is able to satisfy the total number of marketable contracts the Exchange has by executing on the Exchange and routing to other markets.

Proposed Options 3, Section 8(k)(3)(E), entitled “Forced Opening,” will describe what happens as a last resort in order to open an options series when the processes described above have not resulted in an opening of the options series. Under this process, called a Forced Opening, after all additional Imbalance Messages have occurred, pursuant to proposed subparagraph (D), the System will open the series by executing as many contracts as possible by routing to away markets at prices better than the Exchange Opening Price for their disseminated size, trading available contracts on the Exchange at the Exchange Opening Price bounded by OQR (without trading through the limit price(s)

⁵⁸ The first two Imbalance Messages always occur if there is interest which will route to an away market. If the Exchange is thereafter unable to open at a price without trading through the ABBO, up to two more Imbalance Messages may occur based on whether or not the Exchange has been able to open before repeating the Imbalance Process. The Exchange may open prior to the end of the first two Imbalance Messages provided routing is not necessary.

of interest within OQR, which is unable to be fully executed at the Opening Price). The System will also route contracts to away markets at prices equal to the Exchange Opening Price at their disseminated size. In this situation, the System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price. Any unexecuted interest from the imbalance not traded or routed will be cancelled back to the entering Participant, if they remain unexecuted and priced through the Opening Price, otherwise orders will remain in the Order Book. All other interest will be eligible for trading after opening, if consistent with the Participant's instruction. The boundaries of OQR and limit prices within the OQR are intended to ensure a quality Opening Price as well as protect unexecutable interest, which may not be able to be fully executed. This rule differs from Phlx's rule.⁵⁹ On Phlx, unless the member that submitted the original order has instructed the Exchange in writing to reenter the remaining size, the remaining size will be automatically submitted as a new order, whereas BX's proposed rule will cancel the order back to the entering party. The

⁵⁹ Phlx Options 3, Section 8(k)(C)(5), "Forced Opening. After all additional Imbalance Messages have occurred pursuant to paragraph (4) above, the System will open the series by executing as many contracts as possible by routing to away markets at prices better than the Exchange Opening Price for their disseminated size, trading available contracts on the Exchange at the Exchange Opening Price bounded by OQR (without trading through the limit price(s) of interest within OQR which is unable to be fully executed at the Opening Price), and routing contracts to away markets at prices equal to the Exchange Opening Price at their disseminated size. In this situation, the System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price. Any unexecuted interest from the imbalance not traded or routed will be cancelled back to the entering participant if they remain unexecuted and priced through the Opening Price, unless the member that submitted the original order has instructed the Exchange in writing to reenter the remaining size, in which case the remaining size will be automatically submitted as a new order. All other interest will be eligible for trading after opening, if consistent with the member's instructions."

Exchange believes that cancelling the order back to the Participant allows for the Participant to determine how its customer would like its order to be handled. The Exchange believes that there are many methods in which to handle an order that is not executed. BX proposes to cancel back to provide certainty to its Participants, in line with current handling on BX.

Proposed Options 3, Section 8(k)(3)(F), provides the System will execute non-routable orders, such as “Do-Not-Route” or “DNR” Orders,⁶⁰ to the extent possible. The System will only route non-contingency orders.⁶¹ Unlike Phlx,⁶² which describes contingency orders, BX does not have contingency orders that participate in the Opening Process.⁶³ The Exchange is adding this detail to memorialize the manner in which the System will execute non-routable orders at the opening. The Exchange desires to provide certainty to market participants as to which contingency orders will execute, and which orders will route during the Opening Process.

The Exchange proposes to state at Options 3, Section 8(k)(4) that, pursuant to Options 3, Section 8(k)(3)(F), the System will re-price Do Not Route Orders (that would otherwise have to be routed to the exchange(s) disseminating the ABBO for an opening to occur) to a price that is one minimum trading increment inferior to the ABBO, and

⁶⁰ A Do-Not-Route Order is described within BX Options 5, Section 4(a)(iii)(A).

⁶¹ Phlx’s Rule at Options 3, Section 8(k)(6) states that the System will only route Public Customer and Professional orders. BX will allow all orders to route not just Public Customer and Professional orders.

⁶² See Phlx Options 3, Section 8(k)(C)(6).

⁶³ BX Minimum Quantity Orders and All-or-None Orders, which are described within Options 3, Section 7(a)(4) and (8), respectively, are both Immediate or Cancel Orders, which are rejected pre-opening and therefore do not participate in the Opening Process.

disseminate the re-priced DNR Order as part of the new BBO. This paragraph explains the treatment of DNR Orders, similar to Phlx Options 3, Section 8(k)(3)(D). The System will re-price a DNR Order when any residual DNR Order interest, which was not satisfied in the Opening Process, crosses the ABBO.⁶⁴

Proposed BX Options 3, Section 8(k)(5) provides that the System will cancel any order or quote priced through the Opening Price. All other interest will be eligible for trading after the opening. This rule text is similar to Phlx Options 3, Section 8(k)(G). This rule text makes clear that interest priced through the Opening will be cancelled.

Proposed BX Options 3, Section 8(k)(6), which is identical to Phlx Options 3, Section 8(k)(E), provides that during the opening of the option series, where there is an execution possible, the System will give priority to Market Orders⁶⁵ first, then to resting Limit Orders⁶⁶ and quotes. The allocation provisions of Options 3, Section 10 will apply. Options 3, Section 10 describes BX's Order Book allocation. The Exchange is providing certainty to market participants as to the priority scheme during the Opening Process. Market Orders will be immediately executed first, because these orders have no specified price and Limit Orders will be executed, thereafter, in accordance with the prices specified.

⁶⁴ See proposed BX Options 3, Section 8(k)(4).

⁶⁵ BX Options 3, Section 7(a)(5) provides that "Market Orders" are orders to buy or sell at the best price available at the time of execution. Participants can designate that their Market Orders not executed after a pre-established period of time, as established by the Exchange, will be cancelled back to the Participant.

⁶⁶ BX Options 3, Section 7(a)(3) provides that "Limit Orders" are orders to buy or sell an option at a specified price or better. A limit order is marketable when, for a limit order to buy, at the time it is entered into the System, the order is priced at the current inside offer or higher, or for a limit order to sell, at the time it is entered into the System, the order is priced at the inside bid or lower.

Proposed BX Options 3, Section 8(k)(7), which is identical to Phlx Options 3, Section 8(k)(F), provides that upon opening of an option series, regardless of an execution, the System disseminates the price and size of the Exchange's best bid and offer (BBO). This provision simply makes known the manner in which the Exchange establishes the BBO for purposes of reference upon opening.

Finally, proposed BX Options 3, Section 8(k)(8) provides that any remaining contracts, which are not priced through the Exchange Opening Price after routing a number of contracts to satisfy better priced away contracts, will be posted to the Order Book at the better of the away market price or the order's limit price. This includes DNR Orders that are not crossed with the Opening Price. Only in the event that ABBO interest, which the DNR Order would otherwise be crossing, has been satisfied by routable interest during the Opening Process would DNR Orders be included within the remaining contracts described in proposed BX Options 3, Section 8(k)(8).⁶⁷ This rule text accounts for orders which have routed away and returned unsatisfied, and also accounts for interest that remains unfilled during the Opening Process, provided that interest was not priced through the Opening Price.

The Exchange cancels orders, which are priced through the Opening Price, since it lacks enough liquidity to satisfy these orders on the opening, yet their limit price gives the appearance that they should have been executed. The Exchange believes that market participants would prefer to have these orders returned to them for further assessment, rather than have these orders immediately entered onto the Order Book at a price which is more aggressive than the price at which the Exchange opened.

⁶⁷ DNR Orders that are not crossed with the Opening Price rest on the Order Book at the better of the ABBO price or the DNR Order's limit order price.

Opening Process Cancel Timer

The Exchange proposes to retain BX's Opening Order Cancel Timer, which is currently described within Options 3, Section 8(c). The Exchange proposes to relocate this rule text within Options 3, Section 8(l), similar to Phlx Options 3, Section 8(l), and rename it "Opening Process Cancel Timer." While the Exchange is retaining the timer, the Exchange proposes to amend the rule text to conform the language to Phlx's rule text. This process specifies that if an options series has not opened before the conclusion of the Opening Process Cancel Timer, a Participant may elect to have orders returned by providing written notification to the Exchange. The Opening Process Cancel Timer will continue to be posted by the Exchange on its website. Orders submitted through FIX with a TIF of Good-Till-Canceled⁶⁸ or "GTC" may not be cancelled, as is the case today. This provision would provide for the continued return of orders for un-opened options symbols. As is the case today, Participants would have the ability to elect to have orders returned, except for non-GTC orders, when options do not open. This functionality provides Participants with choice about where, and when, they can send orders for the opening that would afford them the best experience.

Opening Process Examples

The following examples are intended to demonstrate the Opening Process.

⁶⁸ BX Options 3, Section 7(b)(4) provides that a "Good Til Cancelled" or "GTC" shall mean for orders so designated, that if after entry into System, the order is not fully executed, the order (or unexecuted portion thereof) shall remain available for potential display and/or execution unless cancelled by the entering party, or until the option expires, whichever comes first. GTC Orders shall be available for entry from the time prior to market open specified by the Exchange on its website until market close and for potential execution from 9:30 a.m. until market close.

Example 1. Proposed Options 3, Section 8(f) Opening with a BBO (No Trade).

Suppose the Lead Market Maker (“LMM”) in an option enters a quote, 2.00 (100) bid and 2.10 (100) offer and a buy order to pay 2.05 for 10 contracts is present in the System. The System also observes an ABBO is present with CBOE quoting a spread of 2.05 (100) and 2.15 (100). Given the Exchange has no interest which locks or crosses each other and does not cross the ABBO, the option opens for trading with an Exchange BBO of 2.05 (10) x 2.10 (100) and no trade. Since there is a Valid Width NBBO, the System does not conduct the price discovery mechanism and the option opens without delay.

Example 2a. Proposed Options 3, Section 8(i) Opening with Trade. Suppose the LMM enters the same quote in an option, 2.00 (100) bid and 2.10 (100) offer. This quote defines the Pre-Market BBO. CBOE disseminates a quote of 2.01 (100) by 2.09 (100), making up the ABBO. Firm A enters a buy order at 2.04 for 50 contracts. Firm B enters a sell order at 2.04 for 50 contracts. The Exchange opens with the Firm A and Firm B orders fully trading at an Opening Price of 2.04 which satisfies the condition defined in proposed Options 3, Section 8(i), the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO, which is a Valid Width NBBO.

Example 2b. Proposed Options 3, Section 8(i) Opening with Trade. Similarly, suppose the LMM enters the same quote in an option, 2.00 (100) bid and 2.10 (100) offer. A Market Maker enters a quote of 2.00 (100) x 2.12 (100). The Pre-Market BBO is therefore 2.00 bid and 2.10 offer. CBOE disseminates a quote of 2.05 (100) by 2.15 (100), making up the ABBO. Firm A enters a buy order at 2.11 for 300 contracts. Firm B enters a sell order at 2.11 for 100 contracts. The option does not open for trading because the Potential Opening Price of 2.11 does not satisfy the condition defined in proposed Options 3, Section 8(i) as the Potential Opening Price is outside the Pre-Market BBO. The System thereafter calculates the OQR and initiates the price discovery mechanism, as discussed in proposed Options 3, Section 8(k) to facilitate the Opening Process for the option.

Assume an allowable OQR of 0.04. When the price discovery mechanism is initiated:

The System broadcasts the first Imbalance Message with a Potential Opening Price of 2.10 and a sell side imbalance of 200 and 100 matched.

The System opens with a trade @ 2.11 with Firm A buying 100 from the LMM and another 100 from Firm B; invoking OQR of 0.04 (the maximum value for OQR is the lowest quote offer (2.10) plus 0.04).

Example 3. Proposed Options 3, Section 8(k) Price Discovery Mechanism and second iteration with routing. Suppose the LMM enters a quote, 2.00 (100) bid and 2.10 (100) offer and the defined allowable OQR is 0.04. If CBOE disseminates a quote of 2.00 (100) by 2.09 (100), the away offer is better than the LMM quote. Public Customer A enters a routable buy order at 2.10 for 150 contracts. The price

discovery mechanism initiates because the Potential Opening Price (2.10) is equal to the Pre-Market BBO but outside of the ABBO. The Potential Opening Price is 2.10 because there is both buy and sell interest at that price point. The System is unable to open after the first iteration of Imbalance since the Potential Opening Price is within the OQR but outside of the ABBO. The System proceeds with the price discovery mechanism and initiates a Route Timer and broadcasts a second Imbalance Message (assume no additional interest is received during the imbalance period). The System opens the option for trading after the Route Timer has expired and the Imbalance Timer has completed since the Potential Opening Price is within OQR. The System routes 100 contracts of the Public Customer order to the better priced away offer at CBOE. The Exchange would route to CBOE at an Opening Price of 2.10 to execute against the interest at 2.09 on CBOE. The 50 options contracts open and execute on the Exchange with an Opening Price of 2.10. The Exchange routes to CBOE using the Exchange's Opening Price to ensure, if there is market movement, that the routed order is able to access any price point equal to or better than the Exchange's Opening Price.

Options 2, Section 4

The Exchange proposed to define a "Valid Width Quote" within proposed Options 3, Section 8(a)(9) as "a two-sided electronic quotation, submitted by a Market Maker, quoted with a difference not to exceed \$5 between the bid and offer regardless of the price of the bid." The Exchange proposed to state within proposed BX Options 3, Section 8(a)(9), similar to Phlx's Rule at Options 3, Section 8(a)(ix), that the "The Exchange may establish differences other than the above for one or more series or classes of options." The Exchange proposes to remove the rule text from Options 2, Section 4(g) and reserve that subparagraph. Options 2, Section 4(g) provides,

(g) *Unusual Conditions - Opening Auction.* If the interest of maintaining a fair and orderly market so requires, BX Regulation may declare that unusual market conditions exist in a particular issue and allow LMMs in that issue to make auction bids and offers with spread differentials of up to two times, or in exceptional circumstances, up to three times, the legal limits permitted under this Rule. In making such determinations to allow wider markets, BX Regulation should consider the following factors: (A) whether there is pending news, a news announcement or other special events; (B) whether the underlying security is trading outside of the bid or offer in such security then being disseminated; (C) whether Options Participants receive no response to orders placed to buy or sell the underlying security; and (D) whether a vendor quote feed is clearly stale

or unreliable.

(1) In the event that BX Regulation determines that unusual market conditions exist in any option, it will be the responsibility of BX Regulation to file a report with Exchange Operations setting forth the relief granted for the unusual market conditions, the time and duration of such relief and the reasons therefore.

Phlx's Rule at Options 3, Section 8(a)(ix) allows the Exchange to establish differences, other than those noted within Options 3, Section 8(a)(ix), for one or more series or classes of options. The Exchange is proposing to add similar discretion to proposed BX Options 3, Section 8(a)(9). The rule text of BX Options 2, Section 4(g) permits spread differentials of up to two times, or in exceptional circumstances, up to three times, the legal limits permitted under this Rule. This limitation does not exist today on Phlx, Nasdaq ISE, LLC ("ISE"), Nasdaq GEMX, LLC ("GEMX") or Nasdaq MRX, LLC ("MRX").⁶⁹ Today, BX Regulation takes into account: (A) whether there is pending news, a news announcement or other special events; (B) whether the underlying security is trading outside of the bid or offer in such security then being disseminated; (C) whether Options Participants receive no response to orders placed to buy or sell the underlying security; and (D) whether a vendor quote feed is clearly stale or unreliable, in making such determinations when granting quoting discretion. The ability to establish differences, other than the stated bid/ask differentials, for one or more series or classes of options already exists today for BX Lead Market Maker quoting requirements, however this discretion in the opening is limited by BX Options 2, Section 4(g).⁷⁰ The Exchange's proposal would align the procedure BX would follow with procedures of

⁶⁹ ISE, GEMX and MRX Rules at Options 3, Section 8(a)(8) provides the same discretionary language as exists on Phlx today.

⁷⁰ See BX Options 2, Section 4(f)(5).

other Nasdaq options exchanges, which notify members in writing, via an Options Regulatory Alert, of any discretion that is being granted by the Exchange. BX would no longer file a report with BX operations. Today, no other Nasdaq exchange files a report when it grants exemptions in the opening, including exemptions for BX Market Makers. The Exchange notes that decisions to grant exemptions in the opening are made based on current market conditions. BX is required to react swiftly when market conditions change dramatically and, thereby, may require BX to grant quoting relief in the opening. The additional steps that are currently required on BX are not conducive to granting relief in fast changing markets. The Exchange notes that other options markets do not limit the quote relief they would grant their lead market makers in the same manner as BX limits quote relief for its Lead Market Makers. The Exchange believes that permitting BX to have the same discretion as Phlx, ISE, GEMX and MRX will assist the Exchange in making similar determinations to affected options series.

Implementation

The Exchange intends to begin implementation of the proposed rule change prior to October 30, 2020. The Exchange will issue an Options Trader Alert to Members to provide notification of the symbols that will migrate and the relevant dates.

b. Statutory Basis

The Exchange believes that its proposal is consistent with Section 6(b) of the Act,⁷¹ in general, and furthers the objectives of Section 6(b)(5) of the Act,⁷² in particular,

⁷¹ 15 U.S.C. 78f(b).

⁷² 15 U.S.C. 78f(b)(5).

in that it is designed to promote just and equitable principles of trade and to protect investors and the public interest for the reasons stated below.

The Exchange's proposal to amend BX's Opening Process is consistent with the Act. The Exchange believes that adopting some methodologies similar to Phlx Options 3, Section 8 will enhance BX's current Opening Process, while retaining certain elements of its current process, such as the Valid Width NBBO⁷³ and not requiring its Lead Market Makers to quote during the Opening Process.⁷⁴ Also, the proposed amendments will continue to allow BX to open with an optimal price, as the proposed rule further limits the opening price boundaries. At a high level, the proposal would permit the price of the underlying security to settle down and not flicker back and forth among prices after its opening. It is common for a stock to fluctuate in price immediately upon opening; such volatility reflects a natural uncertainty about the ultimate Opening Price, while the buy and sell interest is matched. The proposed rule provides for a range of no less than 100 milliseconds and no more than 5 seconds, in order to ensure that it has the ability to adjust the period for which the underlying security must be open on the primary market. The Exchange may determine that in periods of high/low volatility that allowing the underlying to be open for a longer/shorter period of time may help to ensure more stability in the marketplace prior to initiating the Opening Process.

⁷³ The Exchange proposes to retain the Valid Width NBBO requirements with respect to Opening With a Trade pursuant to proposed Options 3, Section 8(i) and (j).

⁷⁴ Today, BX Lead Market Makers may quote during the opening, but they are not obligated to quote. BX Lead Market Makers are required to quote intra-day. See BX Options 2, Section 4(j).

Definitions

The Exchange's proposal amends and alphabetizes the current definitions within Options 3, Section 8(a). The Exchange proposes to set forth the following terms: "Away Best Bid or Offer" or "ABBO;" "imbalance;" "market for the underlying security;" "Opening Price;" "Opening Process;" "Potential Opening Price;" "Pre-Market BBO;" "Valid Width National Best Bid or Offer" or "Valid Width NBBO;" "Valid Width Quote," and "Zero Bid Market." The amendment of the "Definitions" section is consistent with the Act because the terms will assist market participants in understanding the meaning of terms used throughout the proposed Rule.

With respect to the amendment to the definition of the term, "market for the underlying security," the Exchange's proposal would remove the concept of a primary volume market and replace that concept with an alternative market designated by the primary market. It is most likely the case that the primary market is the primary volume market, so this term offers no contingency in most cases. The primary market has the ability to designate an alternate primary market when the primary market is experiencing difficulties. In those situations, the Exchange proposes to utilize the alternate primary market to open its market. For example, in the event that the New York Stock Exchange LLC was unable to open because of an issue with its market and it designated NYSE Arca as its alternative market, then BX would utilize NYSE Arca as the market for the underlying security.

Second, the Exchange proposes another alternative in the event that the primary market does not open, and an alternate primary market is not designated and/or is also unable to open. In this situation, the Exchange proposes to utilize a non-primary market to open its market. The Exchange will select the non-primary market with the most

liquidity in the aggregate for all underlying securities from the primary market for the previous two calendar months, excluding the primary and alternate markets. For example, in the event that the New York Stock Exchange LLC was unable to open because of an issue with its market and it designated NYSE Arca as its alternative market, and the alternate primary was unable to open or NYSE was unable to designate an alternate market because of system difficulties, then BX would determine which non-primary market had the most liquidity in the aggregate for all underlying securities for the previous two calendar months, excluding the primary and alternate markets. The Exchange would utilize that market to open all underlying securities from the primary market. In order to open an option series it would require an equity market's underlying quote. Utilizing a non-primary market with the most liquidity in the aggregate for all underlying securities for the previous two calendar months will ensure that the Exchange opens based on the next best alternative to the primary market given the circumstances. This contingency will provide the Exchange with the ability to open in situations where the primary market is experiencing an issue, and also where an alternative primary market may also be impacted. The Exchange believes that this proposal would protect investors and the general public by providing additional venues for BX to utilize as part of its Opening Process and thereby allow investors to transact on its market. The Exchange desires to open its market despite any issues that may arise with the underlying market. The Exchange is proposing alternate methods to open its market to account for situations which may arise if the primary market is unable to open, and if the proposed alternate designated market is unable to open. Once the market opens with an underlying price, the options market may continue to trade for the remainder of the trading day. The

Exchange believes it benefits investors and the general public to have the options market available to enter new positions, or close open positions. This term is identical to Phlx's Options 3, Section 8(a)(ii).

Eligible Interest

The first part of the proposed BX Opening Process determines what constitutes eligible interest. The Exchange's proposal seeks to make clear what type of eligible opening interest is included. Valid Width Quotes, Opening Sweeps, and orders are included. The Exchange further notes that Market Makers may submit quotes, Opening Sweeps and orders, but quotes other than Valid Width Quotes will not be included in the Opening Process. The Exchange believes that defining what qualifies as eligible interest is consistent with the Act because market participants will be provided with certainty, when submitting interest, as to which type of interest will be considered in the Opening Process.

Unlike the regular session where orders route if they cannot execute on BX, the Opening Process is a price discovery process which considers interest, both on BX and away markets, to determine the optimal bid and offer with which to open the market. The Opening Process seeks the price point at which the most number of contracts may be executed while protecting away market interest.

The Exchange's proposal to define an "Opening Sweep" within BX Options 3, Section 7(b)(9), similar to Phlx Options 3, Section 7(b)(i), will also align the BX and Phlx rules. Specifically, the Exchange proposes to remove the current order type described as "On the Open Order" and instead adopt an "Opening Sweep" order type, similar to Phlx at Options 3, Section 7(b)(6). The adoption of an Opening Sweep is consistent with the Act because the order type will permit Market Makers to continue to

submit orders during the Opening Process for execution against eligible interest in the System. Other market participants may continue to also submit orders with a TIF of “OPG” for the Opening Process. As is the case today, only a Market Maker may enter an Opening Sweep into SQF for execution against eligible interest in the System during the Opening Process. Therefore, all Participants will continue to be able to enter orders into the Opening Process. The order types are very similar; both order types are cancelled upon the open if not executed. A difference is that the Opening Sweep is not subject to any risk protections listed within Options 3, Section 15, except for Automated Quotation Adjustments.⁷⁵

BX also proposes to replace its current “TIF” of “On the Open Order” or “OPG” to an “Opening Only” or “OPG” TIF, which can only be executed in the Opening Process pursuant to Options 3, Section 8.⁷⁶ This TIF is similar to Phlx, in that, any portion of the order that is not executed during the Opening Process is cancelled. This order type is not subject to any protections listed in Options 3, Section 15.⁷⁷ The Exchange believes that the adoption of the Opening Sweep and OPG Order is consistent with the Act in that Participants will be able to continue to submit orders to be entered into the Opening

⁷⁵ Automated Quotation Adjustments are described within BX Options 3, Section 15(c)(2).

⁷⁶ See current BX Options 3, Section 7(a)(9).

⁷⁷ Phlx Options 3, Section 7(c)(3) provides that an OPG Order is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments. Today, OPG Orders on Phlx are not subject to any protections, including Automated Quotation Adjustments protections. Phlx intends to file a rule change to remove the rule text which provides, “except for Automated Quotation Adjustments,” as OPG Orders are subject to that risk protection. BX will not include the exception in the proposed rule text. OPG Orders are handled in the same manner by the Phlx System today and the BX System, as proposed.

Process. The two orders types will conform Phlx's order types, which are relevant to the Opening Process, with those of BX. These order types would continue to not be not valid outside of the Opening Process; they may not be submitted in the regular trading session.

With respect to an Opening Sweep, the Exchange further provides the manner in which Opening Sweeps may be entered into the System. The Exchange proposes rule text within Options 3, Section 8(b)(1)(B), which is similar to Phlx Options 3, Section 8(b)(i)(B). An Opening Sweep may be entered at any price with a minimum price variation applicable to the affected series, on either side of the market, at single or multiple price level(s), and may be cancelled and re-entered. A single Market Maker may enter multiple Opening Sweeps, with each Opening Sweep at a different price level. If a Market Maker submits multiple Opening Sweeps, the System will consider only the most recent Opening Sweep at each price level submitted by such Market Maker. Unexecuted Opening Sweeps will be cancelled once the affected series is open.⁷⁸ The Exchange believes that the addition of Opening Sweeps will also provide certainty to market participants as to the manner in which the System will handle such interest.

With respect to trade allocation, the proposal notes at proposed BX Options 3, Section 8(b)(2) that the System will allocate pursuant to BX Options 3, Section 10, as is the case today. This rule text is similar to Phlx Options 3, Section 8(b)(ii).⁷⁹ The

⁷⁸ See proposed BX Options 3, Section 8(b)(1)(B). See also proposed BX Options 3, Section 7(a)(9).

⁷⁹ Current BX Options 3, Section 8(b)(5) states, "If the BX Opening Cross price is selected and fewer than all contracts of Eligible Interest that are available in BX Options would be executed, all Eligible Interest shall be executed at the BX Opening Cross price in accordance with the execution algorithm assigned to the associated underlying option." The Exchange would continue to allocate pursuant to the Exchange's allocation methodology within Options 3, Section 10. Further,

allocation methodology is not being amended with this proposal.

The Exchange believes that this allocation is consistent with the Act because it mirrors the current allocation process on BX in other trading sessions.

The Exchange proposes at BX Options 3, Section 8(d) the specific times that eligible interest may be submitted into BX's System. The Exchange's proposed time for entering Market Maker Valid Width Quotes and Opening Sweeps (9:25 AM) eligible to participate in the Opening Process, are consistent with the Act because the times are intended to tie the option Opening Process to quoting in certain underlying securities⁸⁰; it presumes that option quotes submitted before any indicative quotes have been disseminated for the underlying security may not be reliable or intentional. The Exchange believes the time represents a reasonable timeframe at which to begin utilizing option quotes, based on the Exchange's experience when underlying quotes start becoming available. The proposed language adds specificity to the rule regarding the submission of orders.

The Exchange's proposal at BX Options 3, Section 8(d)(1) describes when the Opening Process can begin with specific time-related triggers. The proposed rule, which provides that the Opening Process for an option series will be conducted on or after 9:30 AM, when the System has received an opening trade or quote on the market for the underlying security in the case of equity options or in the case of index options is consistent with the Act. This requirement is intended to tie the option Opening Process to receipt of liquidity. If the System has not received an opening trade or quote on the

in accordance with current BX Options 3, Section 8(b)(6), all eligible interest will be executed at the Opening Price and displayed on OPRA.

⁸⁰ For purposes of this rule, the underlying security can also be an index.

market for the underlying security, the Exchange will not initiate the Opening Process or continue an ongoing Opening Process. The Exchange's proposal to amend its Opening Process is consistent with the Act because the new rule continues to seek the best price. Phlx Rules at Options 3, Section 8(d)(iii) and (iv) describe quoting requirements for Lead Market Makers once an underlying security in the assigned option series has opened for trading. Today, BX, unlike Phlx, does not require its Lead Market Makers to submit Valid Width Quotes. BX is not proposing to adopt the same quoting requirements during the Opening Process that exist on Phlx. Therefore, the Phlx requirement for Lead Market Makers would not be applicable to BX. Further, proposed BX Options 3, Section 8(d)(3) makes clear that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. Therefore, the Exchange does not note within proposed Options 3, Section 8(d)(1) that the ABBO may not be crossed. While, BX is not adopting Phlx's requirement to quote in the Opening Process, protections exist within proposed Options 3, Section 8(d)(4). A Valid Width NBBO must be present for BX to Open with a Trade pursuant to this proposal.

The Exchange's proposed rule considers the underlying security, including indexes, which must be open on the primary market for a certain time period for all options to be determined by the Exchange for the Opening Process to commence. The Exchange proposes a time period be no less than 100 milliseconds and no more than 5 seconds to permit the price of the underlying security to settle down and not flicker back and forth among prices after its opening. Since it is common for a stock to fluctuate in price immediately upon opening, the Exchange accounts for such volatility in its process. The volatility reflects a natural uncertainty about the ultimate Opening Price, while the

buy and sell interest is matched. The Exchange's proposed range is consistent with the Act, because it ensures that it has the ability to adjust the period for which the underlying security must be open on the primary market. The Exchange may determine that in periods of high/low volatility that allowing the underlying to be open for a longer/shorter period of time may help to ensure more stability in the marketplace prior to initiating the Opening Process.

Similar to Phlx Options 3, Section 8(d)(v), BX Options 3, Section 8(d)(3) provides that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. Once this condition no longer exists, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) of Options 3, Section 8. All eligible opening interest will continue to be considered during the Opening Process when the process is re-started. Not opening if the ABBO becomes crossed is consistent with the Act and the protection of investors and the public interest because a crossed ABBO is indicative of uncertainty in the marketplace with respect to where the option series should be valued. Waiting for the ABBO to become uncrossed before initiating the Opening Process ensures that there is stability in the marketplace and will assist the Exchange in determining the Opening Price. Unlike Phlx Options 3, Section 8(d)(v),⁸¹ BX will not consider if a Valid Width Quote(s) is no longer present. Unlike Phlx, BX does not require its Lead Market Makers to quote in the Opening

⁸¹ Phlx Options 3, Section 8(d)(v) provides, "The Opening Process will stop and an option series will not open if the ABBO becomes crossed or when a Valid Width Quote(s) pursuant to paragraph (d)(i) is no longer present. Once each of these conditions no longer exist, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below."

Process. This requirement is not necessary for BX as BX's market would open with a BBO, pursuant to Options 3, Section 8(f), unless the ABBO becomes crossed.

The Exchange's proposal to add rule text, within proposed Options 3, Section 8(d)(4), to make clear that the Exchange would not open with a trade, pursuant to paragraph (i)(2), if a Valid Width NBBO is not present is consistent with the Act. Once this condition no longer exists, the Opening Process in the affected options series will start again pursuant to paragraphs (j) and (k) below. Today, BX would not open with a trade unless there is a Valid Width NBBO present. This would remain the case with this proposal. The Exchange believes that the addition of this text provides market participants with an expectation of the circumstances under which the Exchange would open an option series, as well as price protection afforded to interest attempting to participate in the Opening Process on BX.

Reopening After a Trading Halt

In order to provide certainty to market participants in the event of a trading halt, the Exchange provides in its proposal information regarding the manner in which a trading halt would impact the Opening Process. Proposed BX Options 3, Section 8(e) provides if there is a trading halt or pause in the underlying security, the Opening Process will start again, irrespective of the specific times listed in paragraph (d). The Exchange's proposal to restart, in the event of a trading halt, is consistent with the Act and promotes just and equitable principles of trade because the proposed rule ensures that there is stability in the marketplace in order to assist the Exchange in determining the Opening Price. Current BX Options 3, Section 8(b) similarly provides that an Opening Cross shall occur when trading resumes after a trading halt. The Exchange is not amending this provision, rather the text is being presented similar to Phlx's Options 3, Section 8.

Opening with a BBO

The Exchange's proposed rule accounts for a situation where there are no opening quotes or orders that lock or cross each other and no routable orders locking or crossing the ABBO. In this situation, the System will open with an opening quote by disseminating the Exchange's best bid and offer among quotes and orders ("BBO") that exist in the System at that time, if any of the conditions are met (1) a Valid Width NBBO is present; (2) a certain number of other options exchanges (as determined by the Exchange) have disseminated a firm quote on OPRA; or (3) a certain period of time (as determined by the Exchange) has elapsed. These three conditions are similar to BX's current rule text within Options 3, Section 8(b). The Exchange desires to maintain these three potential conditions which it believes are valid sources of liquidity to determine an Opening Price.

Further Opening Processes and Price Discovery Mechanism

The proposed rule promotes just and equitable principles of trade because, in arriving at the Potential Opening Price, the rule considers the maximum number of contracts that can be executed, which results in a price that is logical and reasonable in light of away markets and other interest present in the System. As noted herein, the Exchange's Opening Price is bounded by the OQR without trading through the limit price(s) of interest within OQR, which is unable to fully execute at the Opening Price, in order to provide Participants with assurance that their orders will not be traded through. Although the Exchange applies other boundaries such as the BBO, the OQR provides a range of prices that may be able to satisfy additional contracts while still ensuring a reasonable Opening Price. The Exchange seeks to execute as much volume as is possible at the Opening Price. When choosing between multiple Opening Prices when some

contracts would remain unexecuted, using the lowest bid or highest offer of the largest sized side of the market promotes just and equitable principles of trade because it uses size as a tie breaker.

The System will calculate an OQR for a particular option series that will be utilized in the price discovery mechanism if the Exchange has not opened, pursuant to the provisions in Options 3, Section 8(d)-(i). OQR would broaden the range of prices at which the Exchange may open to allow additional interest to be eligible for consideration in the Opening Process. OQR is intended to limit the Opening Price to a reasonable, middle ground price, and thus reduce the potential for erroneous trades during the Opening Process. Although the Exchange applies other boundaries such as the BBO, the OQR provides a range of prices that may be able to satisfy additional contracts while still ensuring a reasonable Opening Price. More specifically, the Exchange's Opening Price is bounded by the OQR without trading through the limit price(s) of interest within OQR, which is unable to fully execute at the Opening Price in order to provide participants with assurance that their orders will not be traded through. The Exchange seeks to execute as much volume as is possible at the Opening Price.

The Exchange's method for determining the Potential Opening Price and Opening Price is consistent with the Act because the proposed process seeks to discover a reasonable price and considers both interest present in BX's System as well as away market interest. The Exchange's method seeks to validate the Opening Price and avoid opening at aberrant prices. The rule provides for opening with a trade, which is consistent with the Act, because it enables an immediate opening to occur within a

certain boundary without need for the price discovery process. The boundary provides protections while still ensuring a reasonable Opening Price.

The proposed rule considers more than one Potential Opening Price, which is consistent with the Act, because it forces the Potential Opening Price to fall within the OQR boundary, thereby providing price protection. Specifically, the mid-point calculation balances the price among interest participating in the Opening, when there is more than one price at which the maximum number of contracts could execute. Limiting the mid-point calculation to the OQR, when a price would otherwise fall outside of the OQR, ensures the final mid-point price will be within the protective OQR boundary. If there is more than one Potential Opening Price possible, where no contracts would be left unexecuted and any price used for the mid-point calculation is an away market price, when contracts will be routed, the System will use the away market price as the Potential Opening Price.

The Exchange's proposal to route all interest, pursuant to Options 3, Section 10(a)(1), is consistent with the Act. The Exchange believes that routing all routable interest will provide all market participants the opportunity to have their interest executed on away markets.

The price discovery mechanism reflects what is generally known as an imbalance process and is intended to attract liquidity to improve the price at which an option series will open as well as to maximize the number of contracts that can be executed on the opening. This process will only occur if the Exchange has not been able to otherwise open an option series utilizing the other processes available in proposed BX Options 3, Section 8. The Exchange believes the process presented in the price discovery

mechanism is consistent with just and equitable principles of trade because the process applies a proposed, wider boundary to identify the Opening Price and seeks additional liquidity. The price discovery mechanism also promotes just and equitable principles of trade by taking into account whether all interest can be fully executed, which helps investors by including as much interest as possible in the Opening Process. The Exchange believes that conducting the price discovery process in these situations protects opening orders from receiving a random price that does not reflect the totality of what is happening in the markets on the opening and also further protects opening interest from receiving a potentially erroneous execution price on the opening. Opening immediately has the benefit of speed and certainty, but that benefit must be weighed against the quality of the execution price and whether orders were left unexecuted. The Exchange believes that the proposed rule strikes an appropriate balance. Today, BX would start imbalance messages even without a Valid Width NBBO. With the proposed amendments, BX would not start the imbalance process unless a Valid Width NBBO was present.

It is consistent with the Act to not consider away market liquidity, i.e. away market volume, until the price discovery mechanism occurs because this proposed process provides for a swift, yet conservative opening. The Exchange is bounded by the Pre-Market BBO when determining an Opening Price. The away market prices would be considered, albeit not immediately. It is consistent with the Act to consider interest on the Exchange prior to routing to an away market, because the Exchange is utilizing the

interest currently present on its market to determine a quality Opening Price.⁸² The Exchange will attempt to match interest in the System, which is within the OQR, and not leave interest unsatisfied that was otherwise at that price. The Exchange will not trade-through the away market interest in satisfying this interest at the Exchange. The proposal attempts to maximize the number of contracts that can trade, and is intended to find the most reasonable and suitable price, relying on the maximization to reflect the best price.

With respect to the manner in which the Exchange disseminates an Imbalance Message, as proposed within BX Options 3, Section 8(k)(A), the Imbalance Message is intended to attract additional liquidity, much like an auction, using an auction message and timer. The Imbalance Timer is consistent with the Act because it would provide a reasonable time for participants to respond to the Imbalance Message before any opening interest is routed to away markets and, thereby, maximize trading on the Exchange. The Imbalance Timer would be for the same number of seconds for all options traded on the Exchange. This process will repeat, up to four iterations, until the options series opens. The Exchange believes that this process is consistent with the Act because the Exchange is seeking to identify a price on the Exchange without routing away, yet which price may not trade through another market and the quality of which is addressed by applying the OQR boundary.

⁸² Opening with a quote, pursuant to proposed Options 3, Section 8(f), would not require consideration of away market quotes because BX would have opened with a local quote that was not locked or crossed with the away market, provided there are no opening quotes or orders that lock or cross each other, and no routable orders locking or crossing the ABBO. With respect to Opening with a Trade, pursuant to Options 3, Section 8(i), the Exchange would not consider away market interest if it could open immediately with a trade, provided that the Exchange would never trade-through an away market. If BX is locked and crossed with an away market, then the Exchange would require additional price discovery, pursuant to paragraphs (j) and (k).

Proposed Options 3, Section 8(k)(3)(C)(i) provides if the total number of better priced away contracts, plus the number of contracts available at the Exchange Opening Price, plus the contracts available at away markets at the Exchange Opening Price, would satisfy the number of marketable contracts the Exchange has on either the buy or sell side, the System will contemporaneously route a number of contracts that will satisfy interest at away markets at prices better than the Exchange Opening Price (pricing any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price), trade available contracts on the Exchange at the Exchange Opening Price, and route a number of contracts that will satisfy interest at other markets at prices equal to the Exchange Opening Price. This provision is consistent with the Act because it considers routing to away markets potentially both at a better price than the Exchange Opening Price, as well as at the Exchange Opening Price, to access as much liquidity as possible to maximize the number of contracts able to be traded as part of the Opening Process. The Exchange routes at the better of the Exchange's Opening Price or the order's limit price to first ensure the order's limit price is not violated. Routing away at the Exchange's Opening Price is intended to achieve the best possible price available at the time the order is received by the away market.

Proposed BX Options 3, Section 8(k)(3)(E), entitled "Forced Opening," provides for the situation where, as a last resort, the Exchange may open an options series when the processes described above have not resulted in an opening of the options series. Under a Forced Opening, the System will open the series executing as many contracts as possible by routing to away markets at prices better than the Exchange Opening Price for their disseminated size, trading available contracts on the Exchange at the Exchange

Opening Price, bounded by OQR (without trading through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price). The System will also route interest to away markets at prices equal to the Exchange Opening Price at their disseminated size. In this situation, the System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price. Any unexecuted interest from the imbalance not traded or routed will be cancelled back to the entering participant, if they remain unexecuted and priced through the Opening Price, otherwise orders will remain in the Order Book. The Exchange believes that this process is consistent with the Act because after attempting to open by soliciting interest on BX and considering other away market interest and considering interest responding to Imbalance Messages, the Exchange could not otherwise locate a fair and reasonable price with which to open options series.

The Exchange's proposal to memorialize the manner in which proposed rule will cancel and prioritize interest provides certainty to market participants as to the priority scheme during the Opening Process.⁸³ The Exchange's proposal to execute Market Orders first and then Limit Orders is consistent with the Act because these orders have no specified price and Limit Orders will be executed, thereafter, in accordance with the prices specified due to the nature of these order types. This is consistent with the manner in which these orders execute after the opening today.

Proposed BX Options 3, Section 8(k)(7), which provides upon opening of the option series, regardless of an execution, the System dissemination of the price and size

⁸³ See proposed BX Options 3, Section 8(j) and (k)(6)(B).

of the Exchange's BBO, is consistent with the Act because it clarifies the manner in which the Exchange establishes the BBO for purposes of reference upon opening.

Proposed BX Options 3, Section 8(k)(8) accounts for remaining contracts, which did not price through the Opening Price. These contracts would post on the Order Book at the better of the away market price or the order's limit price. Specifically, any remaining contracts, which are not priced through the Exchange Opening Price after routing a number of contracts to satisfy better priced away contracts, will be posted to the Order Book at the better of the away market price or the order's limit price. This includes DNR Orders that are not crossed with the Opening Price. Only in the event that ABBO interest, which the DNR Order would otherwise be crossing, has been satisfied by routable interest during the Opening Process would DNR Orders be included within the remaining contracts described in proposed BX Options 3, Section 8(k)(8).⁸⁴ This rule text accounts for orders which have routed away and returned unsatisfied, and also accounts for interest that remains unfilled during the Opening Process, provided that interest was not priced through the Opening Price. The Exchange believes that the proposed text in Options 3, Section 8(k)(8) is consistent with the Act in that the Exchange is accounting for the handling of all interest in the Opening Process with this rule text.

Opening Process Cancel Timer

The Exchange's proposal to retain its renamed "Opening Process Cancel Timer" within proposed BX Options 3, Section 8(l), with rule text modifications to conform the rule text similar to Phlx Options 3, Section 8(l), is consistent with the Act. The cancel timer will continue to provide Participants with the ability to elect to have orders

⁸⁴ DNR Orders that are not crossed with the Opening Price rest on the Order Book at the better of the ABBO price or the DNR Order's limit order price.

returned, except for non-GTC orders. This functionality provides Participants with choice, when symbols do not open, about where, and when, they can send orders for the opening that would afford them the best experience.

Options 2, Section 4

The Exchange's proposal to remove the rule text from Options 2, Section 4(g) and permit BX to establish differences, other than noted within proposed BX Options 3, Section 8(a)(9), for one or more series or classes of options, similar to other Nasdaq affiliated exchanges,⁸⁵ is consistent with the Act. Today, BX Regulation takes into account: (A) whether there is pending news, a news announcement or other special events; (B) whether the underlying security is trading outside of the bid or offer in such security then being disseminated; (C) whether Options Participants receive no response to orders placed to buy or sell the underlying security; and (D) whether a vendor quote feed is clearly stale or unreliable, in making such determinations regarding quoting discretion. The Exchange believes that permitting BX to have the same discretion as Phlx, ISE, GEMX and MRX will assist the Exchange in making similar determinations to affected options series. The Exchange's proposal to amend Options 2, Section 4(g) and instead permit the Exchange to grant discretion based on proposed BX Options 3, Section 8(a)(9) is consistent with the Act because such discretion would permit the Exchange the ability to attract liquidity from Market Makers, while also maintaining a fair and orderly market. Market Makers accept a certain amount of risk when quoting on the Exchange. The Exchange imposes quoting and other obligations on Market Makers.⁸⁶ These risks,

⁸⁵ ISE, GEMX and MRX Rules at Options 3, Section 8(a)(8), and Phlx Rules at Options 3, Section 8(a)(ix), provide the same discretionary language.

⁸⁶ See BX Options 2, Sections 4 and 5.

which Market Makers accept each trading day are calculated risks. The Exchange considers certain factors, which are likely unforeseen, in determining whether to grant relief, either in individual options classes or for all option classes based upon specific criteria. The Exchange believes that it is necessary to grant quote relief in certain circumstances where a Market Maker may not have enough information to maintain fair and orderly markets.

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

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

Definitions

The Exchange's proposal to amend and alphabetize the current definitions within Options 3, Section 8(a) does not impose a burden on competition. The definitions will assist market participants in understanding the meaning of terms used throughout the proposed Rule.

Amending the definition of "market for the underlying security" within Options 3, Section 8(a)(ii) does not impose a burden on competition. The Exchange's proposal offers alternative paths to open BX in the event that the primary market or even a designated alternate primary market experiences an issue. The Exchange's proposal is intended to create additional certainty in the event that an issue with the primary market arises. With this proposal, the Exchange would have other equity markets to look to with respect to underlying prices on which to open BX. This proposal also does not impact the ability of other options markets to open.

Eligible Interest

Defining what qualifies as eligible interest does not impose a burden on competition because Participants will be provided with certainty, when submitting interest, as to which type of interest will be considered in the Opening Process. Unlike the regular session, where orders route if they cannot execute on BX, the Opening Process is a price discovery process which considers interest, both on BX and away markets, to determine the optimal bid and offer with which to open the market. The Opening Process seeks the price point at which the most number of contracts may be executed while protecting away market interest.

The Exchange's proposal to define an "Opening Sweep" within BX Options 3, Section 7(a)(9), similar to Phlx Options 3, Section 7(b)(i), does not impose a burden on competition. Removing the current order type described as "On the Open Order" and instead adopting an "Opening Sweep" order type, similar to Phlx at Options 3, Section 7(b)(6), will permit Market Makers to continue to submit orders during the Opening Process for execution against eligible interest in the System. Other market participants will continue to also submit orders that enter with a TIF of "OPG" for the Opening Process.

Likewise, replacing the current "TIF" of "On the Open Order" or "OPG" to an "Opening Only" or "OPG" TIF, which can only be executed in the Opening Process, pursuant to Options 3, Section 8, and is similar to Phlx Options 3, Section 7(b)(6), does not burden competition. This TIF is similar to Phlx, in that, any portion of the order that is not executed during the Opening Process is cancelled. This order type is not subject to

any protections listed in Options 3, Section 15.⁸⁷ Participants will be able to continue to submit orders to be entered into the Opening Process. The two orders types will conform to Phlx's order types, which are relevant to the Opening Process, with those of BX.

These order types would continue to not be valid outside of an Opening Process; they may not be submitted in the regular trading session.

With respect to trade allocation, the proposal notes at proposed BX Options 3, Section 8(b)(2) that the System will allocate pursuant to BX Options 3, Section 10. The Exchange believes that this allocation does not impose a burden on competition because it mirrors the current allocation process on BX in other trading sessions.

Permitting the Opening Process for an option series to be conducted on or after 9:30 AM, when the System has received an opening trade or quote on the market for the underlying security in the case of equity options or in the case of index options⁸⁸ does not impose a burden on competition because this requirement will tie the option Opening Process to receipt of liquidity. The Exchange's proposed rule considers the liquidity present on its market before initiating other processes to obtain additional pricing information. Today, BX, unlike Phlx, does not require its Lead Market Makers to submit Valid Width Quotes. BX is not proposing to adopt the same quoting requirements during the Opening Process that exist on Phlx.

⁸⁷ Phlx Options 3, Section 7(c)(3) provides that an OPG Order is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments. Today, OPG Orders on Phlx are not subject to any protections, including Automated Quotation Adjustments protections. Phlx intends to file a rule change to remove the rule text which provides, "except for Automated Quotation Adjustments," as OPG Orders are subject to that risk protection. BX will not include the exception in the proposed rule text. OPG Orders are handled in the same manner by the Phlx System today and the BX System, as proposed.

⁸⁸ See proposed BX Options 3, Section 8(d)(1).

Similar to Phlx Options 3, Section 8(d)(v), proposed BX Options 3, Section 8(d)(3) provides that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. This proposal does not impose a burden on competition. Once this condition no longer exists, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below. Unlike Phlx Options 3, Section 8(d)(v),⁸⁹ BX will not consider if a Valid Width Quote(s) is no longer present. Unlike Phlx, BX does not require its Lead Market Makers to quote in the Opening Process. This requirement is not necessary for BX as BX's market would open with a BBO, pursuant to Options 3, Section 8(f), unless the ABBO becomes crossed.

The Exchange's proposal to add rule text within proposed Options 3, Section 8(d)(4) to make clear that the Exchange would not open with a trade, pursuant to paragraph (i)(2), if a Valid Width NBBO does not impose an undue burden on competition. Today, BX would not open with a trade unless there is a Valid Width NBBO present. This would remain the case with this proposal. The addition of this rule text provides market participants with an expectation of the circumstances under which the Exchange would open an option series.

Reopening After a Trading Halt

Proposed BX Options 3, Section 8(e) provides if there is a trading halt or pause in the underlying security, the Opening Process will start again irrespective of the specific times listed in paragraph (d). The Exchange's proposal to restart in the event of a trading

⁸⁹ Phlx Options 3, Section 8(d)(v) provides, "The Opening Process will stop and an option series will not open if the ABBO becomes crossed or when a Valid Width Quote(s) pursuant to paragraph (d)(i) is no longer present. Once each of these conditions no longer exist, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below."

halt does not impose a burden on competition because the proposed rule ensures that there is stability in the marketplace in order to assist the Exchange in determining the Opening Price.

Opening with a BBO

The Exchange's proposal to validate the Opening Price against away markets or by attracting additional interest to address the specific condition does not impose a burden on competition. It should avoid opening executions in very wide or unusual markets where an opening execution price cannot be validated.

Further Opening Processes and Price Discovery Mechanism

The proposed rule continues to consider the maximum number of contracts that can be executed, which results in a price that is logical and reasonable in light of away markets and other interest present in the System. The Exchange's method seeks to validate the Opening Price and avoid opening at aberrant prices does not impose a burden on competition. The Opening Price would be applied to all eligible interest.

Options 2, Section 4

The Exchange's proposal to remove the rule text from Options 2, Section 4(g) and permit BX to establish differences as noted within proposed Options 3, Section 8(a)(9), for one or more series or classes of options, similar to other Nasdaq Affiliated Exchanges,⁹⁰ does not create a burden on competition.

Finally, the proposed amendments do not create a burden on inter-market competition because other options markets have the same intra-day requirements.

⁹⁰ ISE, GEMX and MRX Rules at Options 3, Section 8(a)(8) provides the same discretionary language as exists on Phlx today.

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

No written comments were either solicited or received.

6. Extension of Time Period for Commission Action

The Exchange does not consent to an extension of the time period for Commission action.

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

The Exchange requests accelerated effectiveness pursuant to Section 19(b)(2) of the Act.⁹¹ The Exchange is proposing to adopt this functionality in connection with a technology migration to an enhanced Nasdaq, Inc. (“Nasdaq”) architecture, which results in higher performance, scalability, and more robust functionality. This functionality as well as other functionality amendments, proposed in other rule changes, are intended to be implemented on BX in Q3 of 2020. The Exchange is separately filing its other rule changes to implement other functionality on BX. The Exchange desires to implement this rule change along with other proposed changes during the same time period.

Accordingly, the Exchange believes that no regulatory purpose would be served by delaying implementation of the proposal beyond the close of the period for public comment on the proposed rule change.

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

The BX proposal is similar to the Phlx Opening Process. Unlike Phlx, BX does not define a Non-SQT Market Maker nor does BX have Floor Brokers, because there is no trading floor on BX. Also, Phlx has All-or-None Orders which are permitted to rest

⁹¹ 15 U.S.C. 78s(b)(2).

on the Order Book.⁹² BX's All-or-None Orders must be executed in its entirety or not at all and do not rest on the Order Book.⁹³ The behavior of All-or-None Orders is not relevant for BX's Opening since they do not rest and are rejected pre-opening.

The bid/ask differentials on BX differ from Phlx. Phlx Options 3, Section 8(a)(ix), similar to proposed BX Options 3, Section 8(a)(9), permits the bid/ask differential to be as wide as the quotation for the underlying security on the primary market, or its decimal equivalent rounded down to the nearest minimum increment. Also, both markets would permit the Exchange to establish differences, other than as stated for one or more series or classes of options.

Phlx requires its Lead Market Makers to quote during the Opening Process and there is no similar requirement for BX Lead Market Makers. Today, BX Lead Market Makers do not quote during the opening. The triggers for opening are different, a Valid Width Quote as compared to a Valid Width NBBO. BX does not require a Valid Width Quote and, therefore, requires the conditions within BX Options 3, Section 8(f) to open with a BBO. Also, Phlx's Opening Process requires tighter Valid Width Quotes to open Phlx as compared to the proposed opening for BX.

Today, BX has the concept of a Valid Width NBBO in its current rule. Rather, than adopt Phlx's notion of a Quality Opening Market, which is very similar to the concept of a Valid Width NBBO, BX retained the concept of a Valid Width NBBO.⁹⁴

⁹² See Phlx Options 3, Section 7(b)(5).

⁹³ See BX Options 3, Section 7(a)(8).

⁹⁴ Phlx's Quality Opening Market is a bid/ask differential applicable to the best bid and offer from all Valid Width Quotes defined in a table to be determined by the Exchange and published on the Exchange's web site. The calculation of Quality Opening Market is based on the best bid and offer of Valid Width Quotes. The

Similar to Phlx Options 3, Section 8(d)(v), BX proposed within Options 3, Section 8(d)(3) to provide that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. Unlike Phlx Options 3, Section 8(d)(v),⁹⁵ BX will not consider if a Valid Width Quote(s) is no longer present. Also, as noted herein, BX does not require its Lead Market Makers to quote in the Opening Process. This requirement is not necessary for BX as BX's market would open with a BBO, pursuant to Options 3, Section 8(f), unless the ABBO becomes crossed. While, BX is not adopting Phlx's requirement to quote in the Opening Process, certain protections exist within proposed Options 3, Section 8(d)(4). A Valid Width NBBO must be present for BX to open with a trade pursuant to this proposal.

Proposed Options 3, Section 8(k)(3)(E), entitled "Forced Opening," will describe what happens as a last resort in order to open an options series when the processes

differential between the best bid and offer are compared to reach this determination. The allowable differential, as determined by the Exchange, takes into account the type of security (for example, Penny Pilot versus non-Penny Pilot issue), volatility, option premium, and liquidity. The Quality Opening Market differential is intended to ensure the price at which the Exchange opens reflects current market conditions. See Phlx Options 3, Section 8(a)(viii).

Similarly, BX's Valid Width NBBO is the combination of all away market quotes and Valid Width Quotes received over the SQF. The Valid Width NBBO will be configurable by the underlying security, and tables with valid width differentials, which will be posted by the Exchange on its website. Away markets that are crossed will void all Valid Width NBBO calculations. If any Market Maker quotes on the Exchange are crossed internally, then all Exchange quotes will be excluded from the Valid Width NBBO calculation. These two concepts both provide the applicable bid/ask differential and ensure the price at which the Exchange opens reflects current market conditions.

⁹⁵ Phlx Options 3, Section 8(d)(v) provides, "The Opening Process will stop and an option series will not open if the ABBO becomes crossed or when a Valid Width Quote(s) pursuant to paragraph (d)(i) is no longer present. Once each of these conditions no longer exist, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below."

described above have not resulted in an opening of the options series. This rule differs from Phlx's rule.⁹⁶ On Phlx, unless the member that submitted the original order has instructed the Exchange in writing to reenter the remaining size, the remaining size will be automatically submitted as a new order, whereas BX's proposed rule will cancel the order back to the entering party.

Finally, unlike Phlx, which only permits Public Customers and Professionals to route orders, BX will permit all market participants to route orders.

Phlx's Opening Process will operate identically to Phlx's Opening Process except as otherwise indicated in this rule change.

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

Not applicable.

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

Not applicable.

⁹⁶ Phlx Options 3, Section 8(k)(C)(5), "Forced Opening. After all additional Imbalance Messages have occurred pursuant to paragraph (4) above, the System will open the series by executing as many contracts as possible by routing to away markets at prices better than the Exchange Opening Price for their disseminated size, trading available contracts on the Exchange at the Exchange Opening Price bounded by OQR (without trading through the limit price(s) of interest within OQR which is unable to be fully executed at the Opening Price), and routing contracts to away markets at prices equal to the Exchange Opening Price at their disseminated size. In this situation, the System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price. Any unexecuted interest from the imbalance not traded or routed will be cancelled back to the entering participant if they remain unexecuted and priced through the Opening Price, unless the member that submitted the original order has instructed the Exchange in writing to reenter the remaining size, in which case the remaining size will be automatically submitted as a new order. All other interest will be eligible for trading after opening, if consistent with the member's instructions."

11. Exhibits

1. Notice of Proposed Rule Change for publication in the Federal Register.
5. Text of the proposed rule change.

EXHIBIT 1

SECURITIES AND EXCHANGE COMMISSION
(Release No. _____ ; File No. SR-BX-2020-016)

July __, 2020

Self-Regulatory Organizations; Nasdaq BX, Inc.; Notice of Filing of Proposed Rule Change to Amend BX's Opening Process in Connection with a Technology Migration

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 ("Act")¹, and Rule 19b-4 thereunder,² notice is hereby given that on July 20, 2020, Nasdaq BX, Inc. ("BX" or "Exchange") filed with the Securities and Exchange Commission ("SEC" or "Commission") the proposed rule change as described in Items I, II, and III, below, which Items have been prepared by the Exchange. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

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

The Exchange proposes to amend Options 2, Section 4, "Obligations of Market Makers and Lead Market Makers"; Options 3, Section 7, "Types of Orders and Order and Quote Protocols"; Options 3, Section 8, titled "Opening and Halt Cross"; Options 4A, Section 11, "Trading Sessions"; and Options 6B, Section 1, "Exercise of Options Contracts".

The text of the proposed rule change is available on the Exchange's Website at <https://listingcenter.nasdaq.com/rulebook/bx/rules>, at the principal office of the Exchange, and at the Commission's Public Reference Room.

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b-4.

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

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

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

1. Purpose

The Exchange proposes to amend Options 2, Section 4, “Obligations of Market Makers and Lead Market Makers”; Options 3, Section 7, “Types of Orders and Order and Quote Protocols”; Options 3, Section 8, titled “Opening and Halt Cross”; Options 4A, Section 11, “Trading Sessions”; and Options 6B, Section 1, “Exercise of Options Contracts” in connection with a technology migration to an enhanced Nasdaq, Inc. (“Nasdaq”) architecture which results in higher performance, scalability, and more robust functionality. With this System migration, BX intends to adopt certain opening functionality, which currently exists on Nasdaq Phlx LLC (“Phlx”) at Options 3, Section 8, “Options Opening Process.”

These proposed enhancements will allow BX to continue to have a robust Opening Process. Broadly, the Exchange’s proposal is intended to create an opening process similar to Phlx, however, unlike Phlx, BX will not require its Lead Market Makers to enter Valid Width Quotes during the opening.³ Today, BX Lead Market

³ See Phlx Options 3, Section 8(d)(i).

Makers are not required to quote during the opening, that will remain unchanged. Today, BX Lead Market Makers may quote during the opening, but they are not obligated to quote.⁴ BX Lead Market Makers are required to quote intra-day.⁵ The Exchange proposes to retain the Valid Width NBBO requirements with respect to Opening With a Trade pursuant to proposed Options 3, Section 8(i) and (j). The Exchange's proposal would maintain BX's ability to open with a BBO (no trade) pursuant to proposed Options 3, Section 8(f) either with: (1) a Valid Width NBBO; (2) upon the opening of a certain number of away markets; or (3) if a certain amount of time has passed since the commencement of the Opening Process. When opening with a trade, BX's proposal will adopt Phlx's Opening Processes to further limit the current opening price boundaries on BX.⁶ The proposal would align BX's current Valid Width NBBO requirements to Phlx's Quality Opening Markets requirements.⁷ Phlx's Opening Process requires tighter Valid

⁴ Other options markets do not require their lead market makers to quote during the opening. See Cboe Exchange, Inc. Rule 5.31. See also The Nasdaq Options Market LLC Options 3, Section 8.

⁵ See BX Options 2, Section 4(j).

⁶ See proposed BX Options 3, Section 8(i).

⁷ Phlx's Quality Opening Market is a bid/ask differential applicable to the best bid and offer from all Valid Width Quotes defined in a table to be determined by the Exchange and published on the Exchange's web site. The calculation of Quality Opening Market is based on the best bid and offer of Valid Width Quotes. The differential between the best bid and offer are compared to reach this determination. The allowable differential, as determined by the Exchange, takes into account the type of security (for example, Penny Pilot versus non-Penny Pilot issue), volatility, option premium, and liquidity. The Quality Opening Market differential is intended to ensure the price at which the Exchange opens reflects current market conditions. See Phlx Options 3, Section 8(a)(viii).

Similarly, BX's Valid Width NBBO is the combination of all away market quotes and Valid Width Quotes received over the SQF. The Valid Width NBBO will be configurable by the underlying security, and tables with valid width differentials,

Width Quotes to open Phlx as compared to the proposed opening for BX.⁸ Today, Phlx's Opening Process is more stringent than BX's current opening. This proposal seeks to provide a process for BX, when opening with a trade, that requires tighter boundaries similar to Phlx. The Exchange's proposal is described in greater detail below.

The Exchange proposes to amend the title of Options 3, Section 8 from "Opening and Halt Cross" to "Options Opening Process" to conform the title to Phlx's Rule at Options 3, Section 8, "Options Opening Process." The Exchange also proposes to amend the title of Options 3, Section 8, within Options 4A, Section 11, Trading Session, and Options 6B, Section 1, Exercise of Options Contracts, to conform the title to "Options Opening Process" as proposed herein.

which will be posted by the Exchange on its website. Away markets that are crossed will void all Valid Width NBBO calculations. If any Market Maker quotes on the Exchange are crossed internally, then all Exchange quotes will be excluded from the Valid Width NBBO calculation. These two concepts both provide the applicable bid/ask differential and ensure the price at which the Exchange opens reflects current market conditions.

⁸ BX's Valid Width Quote is a two-sided electronic quotation, submitted by a Market Maker, quoted with a difference not to exceed \$5 between the bid and offer regardless of the price of the bid. See proposed BX Options 3, Section 8(a)(9). This is compared to Phlx's Valid Width Quote which is a two-sided electronic quotation submitted by a Phlx Electronic Market Maker that meets the following requirements: options on equities and index options bidding and/or offering so as to create differences of no more than \$.25 between the bid and the offer for each option contract for which the prevailing bid is less than \$2; no more than \$.40 where the prevailing bid is \$2 or more but less than \$5; no more than \$.50 where the prevailing bid is \$5 or more but less than \$10; no more than \$.80 where the prevailing bid is \$10 or more but less than \$20; and no more than \$1 where the prevailing bid is \$20 or more, provided that, in the case of equity options, the bid/ask differentials stated above shall not apply to in-the-money series where the market for the underlying security is wider than the differentials set forth above. For such series, the bid/ask differentials may be as wide as the quotation for the underlying security on the primary market, or its decimal equivalent rounded down to the nearest minimum increment. The Exchange may establish differences other than the above for one or more series or classes of options. See Phlx Options 3, Section 8(a)(ix).

Definitions

The Exchange proposes to amend the current “Definitions” section at proposed BX Options 3, Section 8(a). The Exchange proposes to remove the text “For purposes of this Rule the term:” and instead state, “The Exchange conducts an opening for all option series traded on the Exchange using its System.” This rule text change is intended to conform to Phlx Options 3, Section 8(a).

The Exchange proposes to amend and alphabetize the current definitions within Options 3, Section 8(a). The Exchange proposes to set forth the following terms, which are described below: “Away Best Bid or Offer” or “ABBO;” “imbalance;” “market for the underlying security;” “Opening Price;” “Opening Process;” “Potential Opening Price;” “Pre-Market BBO;” “Valid Width National Best Bid or Offer” or “Valid Width NBBO;” “Valid Width Quote,” and “Zero Bid Market.” The Exchange is conforming the definitions within Options 3, Section 8(a) to start with “A” or “An,” as appropriate.

The Exchange proposes to relocate and amend the term “Away Best Bid or Offer” or “ABBO” from current BX Options 3, Section 8(a)(7) to proposed Options 3, Section 8(a)(1). The words “shall mean” are replaced by “is,” but otherwise the description remains the same.

The Exchange proposes to relocate “imbalance” from current BX Options 3, Section 8(a)(1) to proposed Options 3, Section 8(a)(2) and amend the language to provide that an imbalance is the number of unmatched contracts priced through the Potential Opening Price. Currently, the term “imbalance” is defined as “the number of contracts of eligible interest that may not be matched with other order contracts at a particular price at

any given time.” The Exchange proposes to adopt the Phlx definition.⁹ The Exchange will be defining Potential Opening Price within this rule change and therefore the new proposed imbalance definition would be more applicable with that definition.

The Exchange proposes to relocate “market for the underlying security” from current BX Options 3, Section 8(a)(5) to proposed Options 3, Section 8(a)(3).¹⁰ Today Options 3, Section 8(a)(5) describes “market for the underlying security” as “...either the primary listing market, the primary volume market (defined as the market with the most liquidity in that underlying security for the previous two calendar months), or the first market to open the underlying security, as determined by the Exchange on an issue-by-issue basis and announced to the membership on the Exchange’s website.” The Exchange proposes to amend this definition by replacing the term “primary volume market” with “an alternative market designated by the primary market.” The Exchange anticipates that an alternative market would be necessary if the primary listing market were impaired.¹¹ In the event that a primary market is impaired and utilizes its designated alternative market, the Exchange would utilize that market as the underlying.¹² The Exchange further proposes an additional contingency, in the event that the primary market is unable to open, and an alternative market is not designated (and/or

⁹ See Phlx Options 3, Section 8(a)(xi).

¹⁰ This term is identical to Phlx’s Options 3, Section 8(a)(ii).

¹¹ The primary listing market and the primary volume market, as defined in BX’s Rules, could be the same market and therefore an alternative market is not available under the current Rule.

¹² For example, in the event that the New York Stock Exchange LLC was unable to open because of an issue with its market and it designated NYSE Arca, Inc. (“NYSE Arca”) as its alternative market, then BX would utilize NYSE Arca as the market for the underlying.

the designated alternative market does not open), the Exchange may utilize a non-primary market to open all underlying securities from the primary market. The Exchange will select the non-primary market with the most liquidity in the aggregate for all underlying securities that trade on the primary market for the previous two calendar months, excluding the primary and alternate markets. In order to open an option series it would require an equity market's underlying quote. If another equity market displays opening prices for the underlying security, the Exchange proposes to utilize those quotes. This proposed change to the current System would allow the Exchange to open in situations, where the primary market is experiencing an issue, and also where an alternative market designated by the primary market may not be designated by the primary market, or is unable to open. Utilizing a non-primary market with the most liquidity in the aggregate for all underlying securities for the previous two calendar months will ensure that the Exchange opens with quotes which are representative of the volume on that primary market. The Exchange believes that this proposal will enable it to open in the event that there are issues with the primary market or the alternate market assigned by the primary.

The Exchange proposes a new definition, "Opening Price," at proposed Options 3, Section 8(a)(4). This proposed definition would state that the Opening Price is described in sections (i) and (k). This proposed definition is the same as Phlx Options 3, Section 8(a)(iii).

The Exchange proposes a new definition, "Opening Process," at proposed Options 3, Section 8(a)(5). This proposed definition would state that "Opening Process" is described in section (d). This proposed definition is the same as Phlx Options 3, Section 8(a)(iv).

The Exchange proposes a new definition, “Potential Opening Price,” at proposed Options 3, Section 8(a)(6). This proposed definition would state that Potential Opening Price is described in section (h). This proposed definition is the same as Phlx Options 3, Section 8(a)(vi).

The Exchange proposes a new definition, “Pre-Market BBO,” at Options 3, Section 8(a)(7). This proposed definition would state that Pre-Market BBO is the highest bid and lowest offer among Valid Width Quotes. The term “Valid Width Quote” is defined below. This proposed definition is the same as Phlx Options 3, Section 8(a)(vii).

The Exchange proposes to relocate and amend the definition of “Valid Width National Best Bid or Offer” or “Valid Width NBBO” from current BX Options 3, Section 8(a)(6) to proposed Options 3, Section 8(a)(8). The Exchange proposes to replace the words “shall mean” with “is” and also replace the rule text which states, “any combination of BX Options-registered Market Maker order and quotes received over the SQF¹³ Protocols within a specified bid/ask differential as established and published by the Exchange,” with the proposed term “Valid Width Quote.” The Exchange also proposes a grammatical correction to add “the underlying security” instead of “underlying” and also add “which” in the second sentence. Finally, the Exchange

¹³ “Specialized Quote Feed” or “SQF” is an interface that allows Market Makers to connect, send, and receive messages related to quotes, Immediate-or-Cancel Orders, and auction responses into and from the Exchange. Features include the following: (1) options symbol directory messages (e.g. underlying instruments); (2) System event messages (e.g., start of trading hours messages and start of opening); (3) trading action messages (e.g., halts and resumes); (4) execution messages; (5) quote messages; (6) Immediate-or-Cancel Order messages; (7) risk protection triggers and purge notifications; (8) opening imbalance messages; (9) auction notifications; and (10) auction responses. The SQF Purge Interface only receives and notifies of purge request from the Market Maker. Market Makers may only enter interest into SQF in their assigned options series. See Options 3, Section 7(d)(1)(B).

proposes to amend the last sentence to: (1) replace “BX Options” with “Exchange;” (2) remove references to Market Maker “orders” and only refer to quotes; and (3) change the term “such” to “Exchange” to make clear that all local quotes would be excluded from the Valid Width NBBO, when any local quotes are crossed. This proposed change to the definition will align BX’s consideration of only Market Maker quotes, and not orders, with Phlx Options 3, Section 8. BX’s current rule includes Market Maker orders, Market Maker quotes and away market quotes as part of the Valid Width NBBO calculation. The Exchange proposes to amend the Valid Width NBBO to exclude Market Maker orders and only include Market Maker Valid Width Quotes and away market quotes. This would exclude Opening Sweeps, which are orders that are entered by Market Makers through SQF.¹⁴ The Exchange proposes to exclude such orders from the Valid Width NBBO because Opening Sweeps are considered eligible interest during the Opening Process.

The Exchange proposes a new definition, “Valid Width Quote,” at proposed Options 3, Section 8(a)(9). This proposed definition would state that a Valid Width Quote is a two-sided electronic quotation, submitted by a Market Maker, quoted with a difference not to exceed \$5 between the bid and offer regardless of the price of the bid. However, respecting in-the-money series where the market for the underlying security is wider than \$5, the bid/ask differential may be as wide as the quotation for the underlying

¹⁴ Proposed BX Options 3, Section 7(a)(9) provides, “Opening Sweep” is a one-sided order entered by a Market Maker through SQF for execution against eligible interest in the System during the Opening Process. This order type is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments. The Opening Sweep will only participate in the Opening Process pursuant to Options 3, Section 8 and will be cancelled upon the open if not executed.”

security on the primary market, or its decimal equivalent rounded down to the nearest minimum increment. The Exchange may establish differences other than the above for one or more series or classes of options. The bid/ask differentials on BX differ from Phlx. Phlx Options 3, Section 8(a)(ix), similar to proposed BX Options 3, Section 8(a)(9), permits the bid/ask differential to be as wide as the quotation for the underlying security on the primary market, or its decimal equivalent rounded down to the nearest minimum increment. Also, both markets would permit the Exchange to establish differences, other than as stated for one or more series or classes of options. Both markets refer back to their respective intra-day differentials. BX refers to a difference not to exceed \$5 between the bid and offer, similar to BX Options 2, Section 4(f) and 5(d)(2). Phlx refers to differentials so as to create differences of no more than \$.25 between the bid and the offer for each option contract for which the prevailing bid is less than \$2; no more than \$.40 where the prevailing bid is \$2 or more but less than \$5; no more than \$.50 where the prevailing bid is \$5 or more but less than \$10; no more than \$.80 where the prevailing bid is \$10 or more but less than \$20; and no more than \$1 where the prevailing bid is \$20 or more, similar to Phlx Options 8, Section 27(c)(1)(A).¹⁵

Finally, the Exchange proposes a new definition, “Zero Bid Market,” at proposed Options 5, Section 8(a)(10). This proposed new definition would state that a Zero Bid Market is where the best bid for an options series is zero. This proposed definition is the same as Phlx Options 3, Section 8(a)(x).

¹⁵ Phlx’s bid/ask differentials in the opening are similar to those for the trading floor.

The Exchange believes that these definitions will bring additional clarity to the proposed rule.

The Exchange proposes to eliminate the term “Order Imbalance Indicator” at current BX Options 3, Section 8(a)(2).¹⁶ This term is no longer necessary as the Exchange is amending the manner in which imbalances are handled on BX. Today, the Order Imbalance Indicator describes a message that is disseminated by electronic means, and contains information about Eligible Interest and the price in penny increments at which such interest would execute at the time of dissemination. BX would disseminate the number of unmatched contracts priced through the Potential Opening Price, similar to Phlx.¹⁷

The Exchange proposes to eliminate the term “BX Opening Cross” at current BX Options 3, Section 8(a)(3).¹⁸ This term is being replaced by the new term “Opening Process” at proposed BX Options 3, Section 8(a)(5) and provides, “An Opening Process is described herein in section (d).”

¹⁶ The Order Imbalance Indicator shall disseminate the following information: (A) “Current Reference Price” shall mean an indication of what the opening cross price would be at a particular point in time; (B) the number of contracts of Eligible Interest that are paired at the Current Reference Price; (C) the size of any Imbalance; and (D) the buy/sell direction of any Imbalance. See BX Options 3, Section 8(a)(2).

¹⁷ BX’s proposed imbalance message would include the symbol, side of the imbalance, size of matched contracts, size of the imbalance, and Potential Opening Price bounded by the Pre-Market BBO. See proposed BX Options 3, Section 8(k)(1).

¹⁸ “BX Opening Cross” shall mean the process for opening or resuming trading pursuant to this Rule and shall include the process for determining the price at which Eligible Interest shall be executed at the open of trading for the day, or the open of trading for a halted option, and the process for executing that Eligible Interest.

The Exchange proposes to eliminate the term “Eligible Interest” at current BX Options 3, Section 8(a)(4).¹⁹ The Exchange describes eligible interest within proposed BX Options 3, Section 8(b), similar to Phlx. The defined term is no longer necessary.

Eligible Interest

The first part of the Opening Process determines what constitutes eligible interest. The Opening Process is a price discovery process which considers interest, both on BX and away markets, to determine the optimal bid and offer with which to open the market. The Opening Process seeks the price point at which the most number of contracts may be executed, while protecting away market interest.

Proposed BX Options 3, Section 8(b) explains the eligible interest that will be accepted during the Opening Process which includes, Valid Width Quotes, Opening Sweeps²⁰ and orders. Quotes,²¹ other than Valid Width Quotes, will not be included in the Opening Process. This rule text is identical to Phlx Options 3, Section 8(b), except that certain text not relevant to BX is not included.²² Opening Sweeps may be submitted

¹⁹ “Eligible Interest” shall mean any quotation or any order that may be entered into the system and designated with a time-in-force of IOC (immediate-or-cancel), DAY (day order), GTC (good-till-cancelled), and OPG (On the Open Order). However, orders received via FIX protocol prior to the BX Opening Cross designated with a time-in-force of IOC will be rejected and shall not be considered eligible interest. Orders received via SQF prior to the BX Opening Cross designated with a time-in-force of IOC will remain in-force through the opening and shall be cancelled immediately after the opening.

²⁰ See proposed BX Options 3, Section 7(a)(9).

²¹ The term quotes shall refer to a two-sided quote.

²² Phlx describes what a Non-SQT Market Maker may submit. An “SQT” is a Streaming Quote Trader. That term is defined within Phlx Options 1, Section 1(b)(54) and is specific to Phlx. No such term exists on BX. Further, Phlx has All-or-None Orders which are permitted to rest on the Order Book. See Phlx Options 3, Section 7(b)(5). BX’s All-or-None Orders must be executed in its entirety or not at all, and do not rest on the Order Book. See BX Options 3,

through the Specialized Quote Feed or “SQF” protocol, which permits one-sided orders to be entered by a Market Maker.²³

The Exchange proposes to define an “Opening Sweep” within BX Options 3, Section 8(b)(9) as defined at proposed BX Options 3, Section 7(a)(9). This description for an Opening Sweep is the same as Phlx Options 3, Section 8(b)(i), which cites to a similar provision in Phlx’s rules at Options 3, Section 7(b)(6). As proposed, an Opening Sweep is a Market Maker order submitted for execution against eligible interest in the System during the Opening Process. Market participants may specify orders for the Opening Process by placing a TIF of “OPG” on the order as explained below. All Participants may submit interest into the Opening Process.

Additionally, the Exchange proposes to amend current BX Options 3, Section 7(a)(9) to remove the current order type described as “On the Open Order” and instead adopt an “Opening Sweep” order type similar to Phx at Options 3, Section 7(b)(6). While the “On the Open Order” and “Opening Sweep” are similar, in that both order types may only be entered during the Opening Process, and both cancel back the unexecuted portion of the order, the Exchange believes that utilizing the same terminology and level of detail in describing this order type, as Phlx’s current description of an Opening Sweep, will conform the Opening Process of these two Nasdaq affiliated markets. As is the case today, only a Market Maker may enter an Opening Sweep into SQF for execution against eligible interest in the System during the Opening Process. The Exchange provides additional information about the order type, similar to Phlx. This

Section 7(a)(8). The behavior of All-or-None Orders is not relevant for BX’s Opening because they do not rest on the Order Book and are rejected pre-opening.

²³ See note 13 above.

order type is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments.²⁴ The Opening Sweep will only participate in the Opening Process, pursuant to Options 3, Section 8, and will be cancelled upon the open if not executed. This sentence provides additional context to the Opening Sweep, and is the same as Phlx's rule.

Further, BX currently permits orders marked with a "Time In Force" or "TIF" of "On the Open Order" or "OPG" to be utilized to specify orders for submission into the Opening Cross.²⁵ This TIF of "OPG" means for orders so designated, that if after entry into the System, the order is not fully executed in its entirety during the Opening Cross, the order, or any unexecuted portion of such order, will be cancelled back to the entering participant. Similar to Phlx Options 3, Section 7(c)(3), BX proposes to replace the "On the Open Order"²⁶ TIF with an "Opening Only" or "OPG" TIF, which can only be executed in the Opening Process pursuant to Options 3, Section 8. Any portion of the order that is not executed during the Opening Process is cancelled. This order type is not subject to any protections listed in Options 3, Section 15.²⁷ Finally, the Exchange proposes to note that OPG orders may not route.

²⁴ Automated Quotation Adjustments are described within BX Options 3, Section 15(c)(2).

²⁵ See current BX Options 3, Section 7(a)(9).

²⁶ See current BX Options 3, Section 7(b)(1).

²⁷ Phlx Options 3, Section 7(c)(3) provides that an OPG Order is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments. Today, OPG Orders on Phlx are not subject to any protections, including Automated Quotation Adjustments protections. Phlx intends to file a rule change to remove the rule text which provides, "except for Automated Quotation Adjustments," as OPG Orders are not subject to that risk protection. BX will not include the exception in the proposed rule text. OPG Orders are

The Exchange also proposes rule text within Options 3, Section 8(b)(1)(A) which is similar to Phlx Options 3, Section 8(b)(i)(A). BX proposes to state within Options 3, Section 8(b)(1)(A):

A Market Maker assigned in a particular option may only submit an Opening Sweep if, at the time of entry of the Opening Sweep, the Market Maker has already submitted and maintained a Valid Width Quote. All Opening Sweeps in the affected series entered by a Market Maker will be cancelled immediately if that Market Maker fails to maintain a continuous quote with a Valid Width Quote in the affected series.

The proposed rule text is similar to Phlx Options 3, Section 8(b)(i)(A). Since the protocol over which an Opening Sweep is submitted is used for Market Maker quoting, the acceptance of an Opening Sweep was structured to rely on the Valid Width Quote. An Opening Sweep may only be submitted by a Market Maker when he/she has a Valid Width Quote in the affected series.

The Exchange proposes rule text within Options 3, Section 8(b)(1)(B), which is similar to Phlx Options 3, Section 8(b)(i)(B). BX proposes to state within Options 3, Section 8(b)(1)(B):

Opening Sweeps may be entered at any price with a minimum price variation applicable to the affected series, on either side of the market, at single or multiple price level(s), and may be cancelled and re-entered. A single Market Maker may enter multiple Opening Sweeps, with each Opening Sweep at a different price level. If a Market Maker submits multiple Opening Sweeps, the System will consider only the most recent Opening Sweep at each price level submitted by such Market Maker in determining the Opening Price. Unexecuted Opening Sweeps will be cancelled once the affected series is open.

The Exchange proposes to state at proposed BX Options 3, Section 8(b)(2) that, “The System will allocate interest pursuant to Options 3, Section 10.” Options 3, Section

handled in the same manner by the Phlx System today and the BX System, as proposed.

10 is the Exchange's allocation methodology which would apply to allocation in the Opening Process. This rule text is similar to Phlx Options 3, Section 8(b)(ii).²⁸ Today, BX allocates pursuant to Options 3, Section 10 within its opening. The allocation methodology is not being amended with this proposal.

The Exchange proposes to reserve Options 3, Section 8(c). Phlx discusses Floor Broker orders within Options 3, Section 8(c). BX does not have a Trading Floor and is reserving this section to retain similar lettering/numbering as compared to Phlx.

Pursuant to proposed BX Options 3, Section 8(d), eligible interest may be submitted into BX's System and will be received starting at the times noted herein. Specifically, Market Maker Valid Width Quotes and Opening Sweeps received starting at 9:25 AM will be included in the Opening Process. Orders entered at any time before an option series opens are included in the Opening Process. This proposed language adds specificity to the rule regarding the submission of Valid Width Quotes and Opening Sweeps. The 9:25 AM trigger is intended to tie the option Opening Process to quoting in the majority of the underlying securities; it presumes that option quotes submitted before any indicative quotes have been disseminated for the underlying security may not be reliable or intentional. Therefore, the Exchange has chosen a reasonable timeframe at which to begin utilizing option quotes, based on the Exchange's experience when underlying quotes start becoming available. BX's current rule at Options 3, Section 8(b)

²⁸ Current BX Options 3, Section 8(b)(5) states, "If the BX Opening Cross price is selected and fewer than all contracts of Eligible Interest that are available in BX Options would be executed, all Eligible Interest shall be executed at the BX Opening Cross price in accordance with the execution algorithm assigned to the associated underlying option." The Exchange would continue to allocate pursuant to the Exchange's allocation methodology within Options 3, Section 10. Further, in accordance with current BX Options 3, Section 8(b)(6), all eligible interest will be executed at the Opening Price and disseminated on OPRA.

provides the Opening Cross shall occur at or after 9:30 if the dissemination of a regular market hours quote or trade by the market for the underlying security has occurred or in the case of index options the Exchange has received the opening price of the underlying index. The Exchange continues to rely on the underlying price with this proposal.

Proposed BX Options 3, Section 8(d)(1) describes when the Opening Process may begin with specific time-related triggers. The proposed rule provides that the Opening Process for an option series will be conducted pursuant to proposed Options 3, Section 8 (f) through (k) on or after 9:30 AM, when the System has received the opening trade or quote on the market for the underlying security in the case of equity options or in the case of index options. This requirement is intended to tie the option Opening Process to receipt of liquidity. This rule text differs from Phlx's rule at Options 3, Section 8(d)(i).²⁹ Phlx's rule describes quoting requirements for Lead Market Makers. Today, BX, unlike Phlx, does not require its Lead Market Makers to submit Valid Width Quotes. BX is not proposing to adopt the same quoting requirements during the Opening Process that exist

²⁹ Phlx Options 3 Section 8(d)(i) provides, "The Opening Process for an option series will be conducted pursuant to paragraphs (f) - (k) below on or after 9:30 AM if: the ABBO, if any, is not crossed; and the System has received, within two minutes (or such shorter time as determined by the Exchange and disseminated to membership on the Exchange's web site) of the opening trade or quote on the market for the underlying security in the case of equity options or, in the case of index options, within two minutes of the receipt of the opening price in the underlying index (or such shorter time as determined by the Exchange and disseminated to membership on the Exchange's web site), or within two minutes of market opening for the underlying currency in the case of U.S. dollar-settled FCO (or such shorter time as determined by the Exchange and disseminated to membership on the Exchange's web site) any of the following: (A) the Lead Market Maker's Valid Width Quote; (B) the Valid Width Quotes of at least two Phlx Electronic Market Makers other than the Lead Market Maker; or (C) if neither the Lead Market Maker's Valid Width Quote nor the Valid Width Quotes of two Phlx Electronic Market Makers have been submitted within such timeframe, one Phlx Electronic Market Maker has submitted a Valid Width Quote."

on Phlx. Therefore, the Phlx requirement for Lead Market Makers would not be applicable to BX. Further, proposed BX Options 3, Section 8(d)(3) makes clear that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. Therefore, the Exchange does not note within proposed Options 3, Section 8(d)(1) that the ABBO may not be crossed.

The Exchange is proposing to state in proposed BX Options 3, Section 8(d)(2), similar to Phlx Options 3, Section 8(d)(ii), that for all options, the underlying security, including indexes, must be open on the market for the underlying security for a certain time period to be determined by the Exchange for the Opening Process to commence. The Exchange is proposing that the time period be no less than 100 milliseconds and no more than 5 seconds.³⁰ This proposal is intended to permit the price of the underlying security to settle down and not flicker back and forth among prices after its opening. It is common for a stock to fluctuate in price immediately upon opening; such volatility reflects a natural uncertainty about the ultimate Opening Price, while the buy and sell interest is matched. The Exchange is proposing a range of no less than 100 milliseconds and no more than 5 seconds, in order to ensure that it has the ability to adjust the period for which the underlying security must be open on the primary market. The Exchange may determine that in periods of high/low volatility that allowing the underlying to be

³⁰ The Phlx Opening Process is set at 100 milliseconds. The Exchange believes that 100 milliseconds is the appropriate amount of time given the experience with the Phlx market. The Exchange would set the timer for BX initially at 100 milliseconds. The Exchange will issue a notice to provide the initial setting and, would, thereafter, issue a notice if it were to change the timing, which may be between 100 milliseconds and 5 seconds. If the Exchange were to select a time not between 100 milliseconds and 5 seconds, it would be required to file a rule proposal with the Commission.

open for a longer/shorter period of time may help to ensure more stability in the marketplace prior to initiating the Opening Process.

BX is not adopting Phlx Rules at Options 3, Section 8(d)(iii) and (iv), which describe quoting obligations for Phlx Lead Market Makers once an underlying security in the assigned option series has opened for trading. As noted above, the quoting obligations described in Phlx's rule do not apply in BX's current rule, as BX does not require Lead Market Makers to quote in the Opening Process today. The Exchange's proposal does not require Lead Market Makers to quote during the Opening Process.

Similar to Phlx Options 3, Section 8(d)(v), BX proposed within Options 3, Section 8(d)(3) to provide that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. Once this condition no longer exists, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k). All eligible opening interest will continue to be considered during the Opening Process when the process is re-started. The proposed rule reflects that the ABBO cannot be crossed for the Opening Process to proceed. These events are indicative of uncertainty in the marketplace of where the option series should be valued. In these cases, the Exchange will wait for the ABBO to become uncrossed before initiating the Opening Process to ensure that there is stability in the marketplace in order to assist the Exchange in determining the Opening Price, or for a Valid Width Quote to be submitted. Unlike Phlx Options 3, Section 8(d)(v),³¹ BX will not consider if a Valid Width Quote(s) is no longer

³¹ Phlx Options 3, Section 8(d)(v) provides, "The Opening Process will stop and an option series will not open if the ABBO becomes crossed or when a Valid Width Quote(s) pursuant to paragraph (d)(i) is no longer present. Once each of these conditions no longer exist, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below."

present. Unlike Phlx, BX does not require its Lead Market Makers to quote in the Opening Process. This requirement is not necessary for BX as BX's market would open with a BBO, pursuant to Options 3, Section 8(f), unless the ABBO becomes crossed. While, BX is not adopting Phlx's requirement to quote in the Opening Process, certain protections exist within proposed Options 3, Section 8(d)(4). A Valid Width NBBO must be present for BX to open with a trade pursuant to this proposal.

The Exchange proposes to add rule text within proposed Options 3, Section 8(d)(4) to provide a scenario, which is specific to BX, and would not be applicable to Phlx. The Exchange proposes that an Opening Process will stop and an options series will not open, if a Valid Width NBBO is no longer present, pursuant to paragraph (i)(2). Once this condition no longer exists, the Opening Process in the affected options series will start again, pursuant to paragraphs (j) and (k) below. Today, BX would not open with a trade unless there is a Valid Width NBBO present. This would remain the case with this proposal. The Exchange believes that the addition of this text provides market participants with an expectation of the circumstances under which the Exchange would open an option series, as well as price protection afforded to interest attempting to participate in the Opening Process on BX.

Reopening After a Trading Halt

Proposed BX Options 3, Section 8(e) is intended to provide information regarding the manner in which a trading halt would impact the Opening Process similar to Phlx Options 3, Section 8(e). Proposed BX Options 3, Section 8(e) states that “[t]he procedure described in this Rule will be used to reopen an option series after a trading halt. If there is a trading halt or pause in the underlying security, the Opening Process will start again irrespective of the specific times listed in paragraph (d).” This last sentence makes clear

that this rule applies to openings related to the normal market opening, as well as intra-day re-openings following a trading halt. Current BX Options 3, Section 8(b) similarly provides that an Opening Cross shall occur when trading resumes after a trading halt.

The Exchange is not amending this provision, rather the text is being presented similar to Phlx's Options 3, Section 8.

Opening with a BBO

Proposed BX Options 3, Section 8(f) describes when the Exchange may open with a quote on its market (no trade). The proposed rule states,

Opening with a BBO (No Trade). If there are no opening quotes or orders that lock or cross each other, and no routable orders locking or crossing the ABBO, the System will open with an opening quote by disseminating the Exchange's best bid and offer among quotes and orders ("BBO") that exist in the System at that time, if any of the below conditions are satisfied:

- (1) A Valid Width NBBO is present;
- (2) A certain number of other options exchanges (as determined by the Exchange) have disseminated a firm quote on OPRA; or
- (3) A certain period of time (as determined by the Exchange) has elapsed.

Unlike Phlx, which provides that certain conditions may not exist,³² BX's proposal affirmatively states that the System will open with no trade provided one of the three conditions within Options 3, Section 8(f) are met. These three conditions are similar to

³² Phlx Options 3, Section 8(f) states, "Opening with a PBBO (No Trade). If there are no opening quotes or orders that lock or cross each other and no routable orders locking or crossing the ABBO, the System will open with an opening quote by disseminating the Exchange's best bid and offer among quotes and orders ("PBBO") that exist in the System at that time, unless all three of the following conditions exist: (i) a Zero Bid Market; (ii) no ABBO; and (iii) no Quality Opening Market. If all of these conditions exist, the Exchange will calculate an Opening Quote Range pursuant to paragraph (j) and conduct the Price Discovery Mechanism pursuant to paragraph (k) below."

BX's current rule text within Options 3, Section 8(b). BX's proposal at proposed Options 3, Section (f)(1) provides that that the System will open, provided any one of the three conditions are met, and one of those conditions is a Valid Width NBBO, as noted in (f)(1). Subject to Options 3, Section 8(f)(2), an options series may open if a certain number of other options exchanges (as determined by the Exchange) have disseminated a firm quote on OPRA.³³ Also, an options series will open if a certain period of time, as determined by the Exchange, has elapsed pursuant to Options 3, Section 8(f)(3).³⁴ Unlike Phlx which requires a Lead Market Maker to quote during the Opening Process, BX requires a Valid Width NBBO to open. Phlx's rule will open with a Valid Width Quote, unless all of the conditions in Phlx Options 3, Section 8(f) exist. The three conditions noted in Phlx, (i) a Zero Bid Market; (ii) no ABBO; and (iii) no Quality Opening Market, would cause Phlx to calculate an OQR because it could not open with a trade. The Exchange notes that the concept is similar for Phlx and BX, except that the triggers for opening are different, a Valid Width Quote as compared to a Valid Width NBBO (e.g. BX does not require a Lead Market Maker to quote to open an option series and, thus does not require a Valid Width Quote to open). BX does not require a Valid Width Quote and, therefore, requires the conditions within proposed BX Options 3, Section 8(f) to open with a BBO Conversely, Phlx requires a Valid Width Quote and, therefore, once that Valid Width Quote is available, Phlx would consider if all of the three conditions noted within Phlx Options 3, Section 8(f) exist to ensure there are no impediments to

³³ BX currently requires at least two other options exchanges to open. The setting will be initially set at two away options exchanges with this new proposal.

³⁴ BX currently requires 15 minutes to pass with respect to this setting, The setting will remain at 15 minutes with this proposal.

opening with a PBBO (Phlx's BBO).

Current BX Options 3, Section 8(b)(2) provides that “[i]f no trade is possible on BX, then BX will open dependent upon one of the following: (A) A Valid Width NBBO is present; (B) A certain number of other options exchanges (as determined by the Exchange) have disseminated a firm quote on OPRA; or (C) A certain period of time (as determined by the Exchange) has elapsed.” It will continue to permit one of these 3 scenarios to open an options series on BX. The Exchange also notes that a Valid Width NBBO must be present to open, pursuant to Options 3, Section 8(j) or (k), which are described below.

Further Opening Processes

If, as proposed, an opening did not occur pursuant to proposed paragraph (e) (Reopening After a Trading Halt) and there are opening Valid Width Quotes, or orders, that lock or cross each other, the System will calculate the Pre-Market BBO.³⁵ The Pre-Market BBO only uses Valid Width Quotes, which provide both a bid and offer as compared to orders which are one-sided. The rule text of proposed BX Options 3, Section 8(g) provides, “If there are opening Valid Width Quotes or orders that lock or cross each other, the System will calculate the Pre-Market BBO.” This rule text is the same as Phlx Options 3, Section 8(g). The Exchange calculates a Pre-Market BBO in order for the Exchange to open with a trade pursuant to proposed Options 3, Section 8(i), to ensure that the Pre-Market BBO is a Valid Width NBBO, which is required to open the

³⁵ See proposed BX Options 3, Section 8(g).

market.³⁶ The Exchange does not disseminate a Pre-Market BBO, rather, the Exchange disseminates imbalance messages to notify Participants of available trading opportunities on BX during the Opening Process.

Potential Opening Price

Current BX Options 3, Section 8(b)(4) provides that the “[t]he BX Opening Cross shall occur at the price that maximizes the number of contracts of eligible interest in BX Options to be executed at or within the ABBO and within a defined range, as established and published by the Exchange, of the Valid Width NBBO.” The proposed Opening Process seeks to maximize the number of number of contracts of eligible interest that will execute during the Opening Process. The Exchange proposes to establish boundaries, similar to Phlx, to establish the Opening Price. The ABBO will continue to be considered as part of the Potential Opening Price. Proposed BX Options 3, Section 8(i) describes the manner in which the ABBO is considered in arriving at the Potential Opening Price.

Proposed BX Options 3, Section 8(h), similar to Phlx Options 3, Section 8(h), describes the general concept of how the System calculates the Potential Opening Price under all circumstances, once the Opening Process is triggered. The first sentence of that paragraph describes a Potential Opening Price as a price where the System may open once all other Opening Process criteria is met. Next, the rule text provides, “[t]o calculate the Potential Opening Price, the System will take into consideration all Valid Width Quotes and orders (including Opening Sweeps) for the option series and identify

³⁶ The Pre-Market BBO is calculated to ensure, when the Exchange opens with a trade, a Valid Width NBBO is present, particularly when there is no away market quote or when the away market quote is not a Valid Width NBBO.

the price at which the maximum number of contracts can trade (“maximum quantity criterion”). In addition, paragraphs (i)(1)(C) and (j)(5) - (7) below contain additional provisions related to the Potential Opening Price.” The proposal attempts to maximize the number of contracts that can trade, and is intended to find the most reasonable and suitable price, relying on the maximization to reflect the best price.

Proposed BX Options 3, Section 8(h)(1) presents the scenario for more than one Potential Opening Price. Proposed Options 3, Section 8(h)(1) provides,

More Than One Potential Opening Price. When two or more Potential Opening Prices would satisfy the maximum quantity criterion and leave no contracts unexecuted, the System takes the highest and lowest of those prices and takes the mid-point; if such mid-point is not expressed as a permitted minimum price variation, it will be rounded to the minimum price variation that is closest to the closing price for the affected series from the immediately prior trading session. If there is no closing price from the immediately prior trading session, the System will round up to the minimum price variation to determine the Opening Price.

Proposed BX Options 3, Section 8(h)(2) presents the scenario for two or more Potential Opening Prices. Proposed Options 3, Section 8(h)(2) provides, “If two or more Potential Opening Prices for the affected series would satisfy the maximum quantity criterion and leave contracts unexecuted, the Opening Price will be either the lowest executable bid or highest executable offer of the largest sized side.” This, again, bases the Potential Opening Price on the maximum quantity that is executable.

Proposed BX Options 3, Section 8(h)(3) provides that “[t]he Opening Price is bounded by the better away market price that cannot be satisfied with the Exchange routable interest.” The Exchange does not open with a trade at a price that trades through another market’s BBO. This process, importantly, breaks a tie by considering the largest sized side and away markets, which are relevant to determining a fair Opening Price.

The System applies certain boundaries to the Potential Opening Price to help ensure that the price is a reasonable one by identifying the quality of that price; if a well-defined, fair price can be found within these boundaries, the option series can open at that price without going through a further price discovery mechanism.

Proposed BX Options 3, Section 8(i), Opening with a Trade, provides: The Exchange will open the option series for trading with a trade on Exchange interest only at the Opening Price, if any of these conditions occur:

(A) the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO, which is also a Valid Width NBBO;

(B) the Potential Opening Price is at or within the non-zero bid ABBO, which is also a Valid Width NBBO, if the Pre-Market BBO is crossed; or

(C) where there is no ABBO, the Potential Opening Price is at or within the Pre-Market BBO, which is also a Valid Width NBBO.

For the purposes of calculating the mid-point the Exchange will use the better of the Pre-Market BBO or ABBO as a boundary price and will open that options series for trading with an execution at the resulting Potential Opening Price.³⁷

These boundaries serve to validate the quality of the Opening Price. Proposed BX Options 3, Section 8(i), provides that the Exchange will open the option series for trading with an execution at the resulting Potential Opening Price, as long as it is within the

³⁷ BX's current rule at Options 3, Section 8(b)(4)(B) states, "If more than one price exists under subparagraph (A), and there are no contracts that would remain unexecuted in the cross, the BX Opening Cross shall occur at the midpoint price, rounded to the penny closest to the price of the last execution in that series (and in the absence of a previous execution price, the price will round up, if necessary) of (1) the National Best Bid or the last offer on BX Options against which contracts will be traded whichever is higher, and (2) the National Best Offer or the last bid on BX Options against which contracts will be traded whichever is lower." This process for considering the mid-point is being eliminated in favor of Phlx's methodology for calculating the mid-point as described in proposed BX Options 3, Section 8(h).

defined boundaries regardless of any imbalance. The Exchange believes that since the Opening Price can be determined within a well-defined boundary and not trading through other markets, it is fair to open the market immediately with a trade and to have the remaining interest available to remain on the Order Book to be potentially executed in the displayed market. Using a boundary-based price counterbalances opening faster at a less bounded and perhaps less expected price and reduces the possibility of leaving an imbalance.

Proposed BX Options 3, Section 8(i)(2), provides that if there is more than one Potential Opening Price which meets the conditions set forth in proposed BX Options 3, Section 8(i)(1)(A), (B) or (C), where (A) no contracts would be left unexecuted and (B) any value used for the mid-point calculation (which is described in subparagraph (g)) would cross either: (i) the Pre-Market BBO or (ii) the ABBO, then the Exchange will open the option series for trading with an execution and use the best price which the Potential Opening Price crosses as a boundary price for the purpose of the mid-point calculation. If these aforementioned conditions are not met, but a Valid Width NBBO is present, an Opening Quote Range is calculated as described in proposed BX Options 3, Section 8(j) and the price discovery mechanism, described in proposed BX Options 3, Section 8(k), would commence. The proposed rule explains the boundary, as well as the price basis for the mid-point calculation, to enable the market to immediately open with a trade, which improves the detail included in the rule. The Exchange believes that this process is logical because it seeks to select a fair and balanced price. This rule text is similar to Phlx Options 3, Section 8(i).

Today, BX has the concept of a Valid Width NBBO in its current rule. Rather than adopt Phlx's notion of a Quality Opening Market,³⁸ which is very similar to the concept of a Valid Width NBBO, BX retained the concept of a Valid Width NBBO. Phlx's rules at Options 3, Section 8(d), require a Valid Width Quote. The calculation of Phlx's Quality Opening Market is based on the best bid and offer of Valid Width Quotes. BX's proposed rule will only require a Valid Width NBBO, which is the combination of all away market quotes and Valid Width Quotes received over SQF. Unlike Phlx's requirements in Options 3, Section 8(d), which require a Lead Market Maker's quote, a BX Lead Market Maker may quote during the Opening Process, but is not required to quote in the Opening Process. BX's proposed rule retained the concept of a Valid Width NBBO because there is no requirement for Lead Market Makers to submit a Valid Width Quote. In contrast, Phlx utilized a Quality Opening Market concept.

³⁸ Phlx's Quality Opening Market is a bid/ask differential applicable to the best bid and offer from all Valid Width Quotes defined in a table to be determined by the Exchange and published on the Exchange's web site. The calculation of Quality Opening Market is based on the best bid and offer of Valid Width Quotes. The differential between the best bid and offer are compared to reach this determination. The allowable differential, as determined by the Exchange, takes into account the type of security (for example, Penny Pilot versus non-Penny Pilot issue), volatility, option premium, and liquidity. The Quality Opening Market differential is intended to ensure the price at which the Exchange opens reflects current market conditions. See Phlx Options 3, Section 8(a)(viii).

Similarly, BX's Valid Width NBBO is the combination of all away market quotes and Valid Width Quotes received over the SQF. The Valid Width NBBO will be configurable by the underlying security, and tables with valid width differentials, which will be posted by the Exchange on its website. Away markets that are crossed will void all Valid Width NBBO calculations. If any Market Maker quotes on the Exchange are crossed internally, then all Exchange quotes will be excluded from the Valid Width NBBO calculation. These two concepts both provide the applicable bid/ask differential and ensure the price at which the Exchange opens reflects current market conditions.

BX's Valid Width NBBO is configurable by underlying, and a table with valid width differentials is available on BX's webpage.³⁹ Away markets that are crossed (e.g. Cboe crosses MIAX, BOX crosses CBOE) will void all Valid Width NBBO calculations. If any Market Maker quotes on BX Options are crossed internally, then all such quotes will be excluded from the Valid Width NBBO calculation. Within the Valid Width NBBO, all away market quotes and any combination of Market Maker Valid Width Quotes, whether they include the Exchange's Best Bid or Offer or not, are represented. The price discovery on BX currently includes not only Market Maker quotes, but also away market interest, this will remain the same with the proposal. The following examples illustrate the calculation of the Valid Width NBBO:

Example 1: (away markets are crossed)

Assume the Valid Width NBBO bid/ask differential is set by BX at .10.

Market Maker1 is quoting on the Exchange 1.05-1.15

Market Maker2 is quoting on the Exchange 1.00-1.10

BX BBO 1.05-.1.10

Assume Cboe is quoting .90-1.10

Assume MIAX is quoting .70-.85.

Since the ABBO is crossed (.90-.85), Valid Width NBBO calculations are not taken into account until the away markets are no longer crossed. Once the away markets are no longer crossed, the Exchange will determine if a Valid Width NBBO can be calculated. Assume the ABBO uncrosses because MIAX updates their quote to .90-1.15, the BX BBO of 1.05-1.10 is considered a Valid Width NBBO. Pursuant to proposed Options 3, Section 8(f), BX Options will open with no trade and BBO disseminated as 1.05-1.10.

Example 2: (BX Options orders/quotes are crossed, ABBO is Valid Width NBBO)

Assume that the Valid Width NBBO bid/ask differential is set by the Exchange at .10.

³⁹

See

https://www.nasdaqtrader.com/Content/TechnicalSupport/BXOptions_SystemSettings.pdf.

Market Maker1 is quoting on the Exchange 1.05-1.15 (10x10 contracts)

Market Maker2 is quoting on the Exchange .90-.95 (10x10 contracts)

BX BBO crossed, 1.05-.95, while another Market Maker3 is quoting on the Exchange at .90-1.15 (10x10 contracts).

Since the BX BBO is crossed, the crossing quotes are excluded from the Valid Width NBBO calculation. However, assume Cboe is quoting .95-1.10 and MIAX is quoting .95-1.05, resulting in an uncrossed ABBO of .95-1.05.

The ABBO of .95-1.05 meets the required .10 bid/ask differential and is considered a Valid Width NBBO. As Market Maker1 and Market Maker2 have 10 contracts each, these contracts will cross because there is more than one price at which those contracts could execute. The opening will occur with 10 contracts executing at 1.00, which is the mid-point of the NBBO.

At the end of the Opening Process, only the quote from Market Maker3 remains so the BX Options disseminated quote at the end of Opening Process will be .90-1.15 (10x10 contracts).

The requirement of a Valid Width NBBO being present continues to ensure that the Opening Price is rationally based on what is present in the broader marketplace during the Opening Process. As noted herein, the Valid Width NBBO includes all away market quotes. A Potential Opening Price must be at or within the ABBO, provided the market opened prior to calculation an OQR as discussed below.

Proposed BX Options 3, Section 8(j) provides that the System will calculate an Opening Quote Range (“OQR”) for a particular option series that will be utilized in the price discovery mechanism if the Exchange has not opened subject to any of the provisions described above. Provided the Exchange has been unable to open the option series⁴⁰ the OQR would broaden the range of prices at which the Exchange may open.

This would allow additional interest to be eligible for consideration in the Opening

⁴⁰ This would refer to an opening pursuant to proposed BX Options 3, Section 8(f) or (i).

Process. The OQR is an additional type of boundary beyond the boundaries mentioned in proposed BX Options 3, Section 8(h) and (i). OQR is intended to limit the Opening Price to a reasonable, middle ground price and thus reduce the potential for erroneous trades during the Opening Process. Although the Exchange applies other boundaries such as the BBO, the OQR provides a range of prices that may be able to satisfy additional contracts, while still ensuring a reasonable Opening Price. The Exchange seeks to execute as much volume as is possible at the Opening Price. OQR is constrained by the least aggressive limit prices within the broader limits of OQR. The least aggressive buy order or Valid Width Quote bid and least aggressive sell order or Valid Width Quote offer within the OQR will further bound the OQR. Although the Exchange applies other boundaries such as the BBO, the OQR is outside of the BBO. It is meant to provide a price that can satisfy more size without becoming unreasonable. Below is an example of the manner in which OQR is constrained.

OQR Example: Assume the below pre-opening interest:

Lead Market Maker quotes 4.10 (100) x 4.20 (50)

Order1: Public Customer Buy 300 @ 4.39

Order2: Public Customer Sell 50 @ 4.13

Order3: Public Customer Sell 5 @ 4.29

Opening Quote Range configuration in this scenario is +/- 0.10

9:30 a.m. events occur, underlying opens

First imbalance message: Buy imbalance @ 4.20, 100 matched, 200 unmatched

Next 3 imbalance messages: Buy imbalance @ 4.29, 105 matched, 195 unmatched

Potential Opening Price calculation would have been $4.20 + 0.10 = 4.30$, but OQR is further bounded by the least aggressive Sell order @ 4.29

Order1 executes against Order 2 50 @ 4.29

Order1 executes against Lead Market Maker quote 50 @ 4.29

Order1 executes against Order 3 5 @ 4.29

Remainder of Order1 cancels as it is through the Opening Price

Lead Market Maker quote purges as its entire offer side volume has been exhausted

Specifically, to determine the minimum value for the OQR, an amount, as defined in a table to be determined by the Exchange, will be subtracted from the highest quote bid among Valid Width Quotes on the Exchange and on the away market(s), if any, except as provided in proposed BX Options 3, Section 8(j) paragraphs (3) and (4). To determine the maximum value for the OQR, an amount, as defined in a table to be determined by the Exchange, will be added to the lowest quote offer among Valid Width Quotes on the Exchange and on the away market(s), if any, except as provided in proposed BX Options 3, Section 8(j) paragraphs (3) and (4).⁴¹ However, if one or more away markets are disseminating a BBO that is not crossed, and there are Valid Width Quotes on the Exchange that cross each other or are marketable against the ABBO, then the minimum value for the OQR will be the highest away bid.⁴² It should be noted that the Opening Process would stop and an option series will not open if the ABBO becomes crossed, pursuant to proposed Options 3, Section 8(d)(3). In addition, the maximum value for the OQR will be the lowest away offer.⁴³

If there is more than one Potential Opening Price possible, where no contracts would be left unexecuted, any price used for the mid-point calculation (which is described in proposed BX Options 3, Section 8(h)(3)), that is outside of the OQR, will be restricted to the OQR price on that side of the market for the purposes of the mid-point calculation. BX Options 3, Section 8(j)(4) continues the theme of relying on both

⁴¹ See proposed BX Options 3, Section 8(j)(2).

⁴² See proposed BX Options 3, Section 8(j)(3)(A).

⁴³ See proposed BX Options 3, Section 8(j)(3)(B).

maximizing executions and looking at the correct side of the market to determine a fair price.

Proposed BX Options 3, Section 8(j)(5) deals with the situation where there is an away market price involved. If there is more than one Potential Opening Price possible, where no contracts would be left unexecuted, pursuant to proposed BX Options 3, Section 8(h)(3), when contracts will be routed, the System will use the away market price as the Potential Opening Price. The Exchange is seeking to execute the maximum amount of volume possible at the Opening Price. The Exchange will enter into the Order Book any unfilled interest at a price equal to or inferior to the Opening Price.⁴⁴ It should be noted, the Exchange will not trade through an away market.⁴⁵

Finally, proposed BX Options 3, Section 8(j)(6) provides if the Exchange determines that non-routable interest can execute the maximum number of Exchange contracts against Exchange interest, after routable interest has been determined by the System to satisfy the away market, then the Potential Opening Price is the price at which the maximum number of contracts can execute, excluding the interest which will be routed to an away market, which may be executed on the Exchange as described in proposed BX Options 3, Section 8(h). This continues the theme of trying to satisfy the maximum amount of interest during the Opening Process. This is similar to Phlx Options 3, Section 8(j). BX's proposed rule at Options 3, Section 8(j)(6) provides that the System

⁴⁴ See proposed BX Options 3, Section 8(k)(5).

⁴⁵ See current BX Options 3, Section 5(d).

will route all routable interest pursuant to Options 3, Section 10(a)(1).⁴⁶ Both Phlx and the proposed BX rule cite to their respective allocation rules.⁴⁷

Price Discovery Mechanism

If the Exchange has not opened pursuant to proposed paragraphs (f) or (i), after the OQR is calculated, pursuant to proposed BX Options 3, Section 8(j), the Exchange will conduct a price discovery mechanism, pursuant to proposed BX Options 3, Section 8(k), which is similar to Phlx Options 3, Section 8(k). The price discovery mechanism is the process by which the Exchange seeks to identify an Opening Price having not been able to do so following the process outlined thus far herein. The principles behind the price discovery mechanism are, as described above, to satisfy the maximum number of contracts possible by identifying a price that may leave unexecuted contracts. However, the price discovery mechanism applies a proposed, wider boundary to identify the Opening Price, and the price discovery mechanism involves seeking additional liquidity.

The Exchange believes that conducting the price discovery process in these situations protects orders from receiving a random price that does not reflect the totality of what is happening in the markets on the opening, and also further protects opening interest from receiving a potentially erroneous execution price on the opening. Opening immediately has the benefit of speed and certainty, but that benefit must be weighed

⁴⁶ Phlx Options 3, Section 8(k)(C)(6) provides, “The System will execute orders at the Opening Price that have contingencies (such as, without limitation, all-or-none) and non-routable orders, such as a “Do Not Route” or “DNR” Orders, to the extent possible. The System will only route non-contingency Public Customer and Professional orders.” Phlx routes Public Customer and Professional orders, while BX would route orders for all market participants.

⁴⁷ Phlx Options 3, Section 8(k)(E) provides that the allocation provisions of Options 3, Section 10 will apply.

against the quality of the execution price, and whether orders were left unexecuted. The Exchange believes that the proposed rule strikes an appropriate balance.

The proposed rule attempts to open using Exchange interest only to determine an Opening Price, provided certain conditions contained in proposed BX Options 3, Section 8(j) are present, to ensure market participants receive a quality execution in the opening. The proposed rule does not consider away market liquidity, for purposes of routing interest to other markets, until the price discovery mechanism pursuant to proposed paragraph (k). Rather, away market prices are considered for purposes of avoiding trade-throughs. As a result, the Exchange might open without routing, if all of the conditions described above are met. The Exchange believes that the benefit of this process is a more rapid opening with quality execution prices. Opening with a quote, pursuant to Options 3, Section 8(f), would not require consideration of away market quotes because BX would have opened with a local quote that was not locked or crossed with the away market, provided there are no opening quotes or orders that lock or cross each other, and no routable orders locking or crossing the ABBO.⁴⁸ With respect to Opening with a Trade, pursuant to Options 3, Section 8(i), the Exchange would not consider away market interest if it could open immediately with a trade, provided that the Exchange would not trade-through an away market. If BX is locked and crossed with an away market, then the Exchange would require additional price discovery, pursuant to Options 3, Section 8(j) and (k). Finally, the Exchange considers away market interest in the Valid Width NBBO.

⁴⁸ See BX Options 3, Section 8(f).

Today, pursuant to current BX Options 3, Section 8(b)(3) and (7), BX disseminates, by electronic means, an Order Imbalance Indicator every 5 seconds beginning between 9:20 and 9:28, or a shorter dissemination interval as established by the Exchange, with the default being set at 9:25 a.m. The start of dissemination, and a dissemination interval, are posted by BX on its website. Also, BX would disseminate an Order Imbalance Indicator for an imbalance containing marketable routable interest.⁴⁹ The Exchange proposes to continue to disseminate an imbalance, but instead of the manner in which BX utilizes an Order Imbalance Indicator today, BX would instead post up to 4 Imbalance Messages which each run its own Imbalance Timer, similar to Phlx. Today, BX's imbalance process begins, even if it has no interest. With this proposal, BX's imbalance message will serve to notify Participants of the availability of interest to cross in the opening. The Exchange believes that the proposed methodology will attract interest during the Opening Process, because the imbalance message will highlight for Participants the available size that may be crossed. The Exchange believes that Phlx's process attracts additional liquidity, because the proposed amendments are intended to create a more robust experience for market participants seeking to have their orders executed during the Opening Process. The Exchange believes adopting Phlx's process improves the quality of execution of BX Options' opening by attracting more liquidity through more meaningful imbalance notifications that broadcast trading opportunities during BX's Opening Process. The proposed changes give Participants more transparency into BX's Opening Process that would afford them a better experience.

⁴⁹ See current BX Options 3, Section 8(b)(3).

Specifically, proposed BX Options 3, Section 8(k)(1) provides that the System will broadcast an Imbalance Message for the affected series (which includes the symbol, side of the imbalance, size of matched contracts, size of the imbalance, and Potential Opening Price bounded by the Pre-Market BBO) to participants, and begin an “Imbalance Timer,” not to exceed three seconds to notify Participants of available interest that may be crossed during the Opening Process. The Imbalance Timer would initially be set 200 milliseconds.⁵⁰ The Imbalance Message is intended to attract additional liquidity, much like an auction, using an auction message and timer. The Imbalance Timer would be for the same number of seconds for all options traded on the Exchange. Pursuant to this proposed rule, as described in more detail below, the Exchange may have up to 4 Imbalance Messages which each run its own Imbalance Timer.

The Exchange proposes to provide at BX Options 3, Section 8(k)(1)(A),

An Imbalance Message will be disseminated showing a “0” volume and a \$0.00 price if: (i) no executions are possible but routable interest is priced at or through the ABBO; or (ii) internal quotes are crossing each other. Where the Potential Opening Price is through the ABBO, an imbalance message will display the side of interest priced through the ABBO.

This rule text explains the information that is being conveyed when an imbalance message indicates “0” volume, such as (i) when no executions are possible and routable interest is priced at or through the ABBO; or (ii) internal quotes are crossing each other.

The Imbalance Message provides detail regarding the potential state of the interest available. Where the Potential Opening Price is through the ABBO, an imbalance

⁵⁰ The Phlx timer is currently set at 200 milliseconds. The Exchange will issue a notice to provide the initial setting and would thereafter issue a notice if it were to change the timing. If the Exchange were to select a time which exceeds 3 seconds, it would be required file a rule proposal with the Commission.

message will display the side of interest priced through the ABBO. The Imbalance Message provides transparency to market participants during the Opening Process. This rule text differs from Phlx Options 3, Section 8(k)(A)(1),⁵¹ which also provides, "...or there is a Valid Width Quote, but there is no Quality Opening Market." BX, as noted herein, does not have a concept of a Quality Opening Market, but does have a concept of a Valid Width NBBO, which is always required, when attempting to open with a trade pursuant to Options 3 Section 8(d)(4). In addition, a Valid Width Quote is always required on Phlx pursuant to Options 3, Section 8(d), but the open is not required to be quoted by a Lead Market Maker on BX. Therefore, the third prong, a Valid Width Quote from a local Market Maker, in the Phlx rule text is unnecessary for BX.

Proposed BX Options 3, Section 8(k)(2), states that any new interest received by the System will update the Potential Opening Price. An update may not result in an immediate change to the Potential Opening Price, however, the Exchange will consider new interest as it arrives and update the Potential Opening Price accordingly based on existing interest and new interest. By way of example:

Case 1 – An update which does not result in a change to Potential Opening Price
Valid Width NBBO = 0.20

CBOE market maker quotes 1.15 x 1.30 (10)

BX Market Maker quotes 1 x 1.25 (10)

⁵¹ Phlx Options 3, Section 8(k)(A)(1) provides, "An Imbalance Message will be disseminated showing a "0" volume and a \$0.00 price if: (i) no executions are possible but routable interest is priced at or through the ABBO; (ii) internal quotes are crossing each other; or (iii) there is a Valid Width Quote, but there is no Quality Opening Market. Where the Potential Opening Price is through the ABBO, an imbalance message will display the side of interest priced through the ABBO."

Order to sell arrives for 1 contract @ 1.26 (Potential Opening Price updates, but determines there is no match, and therefore no change to lack of Potential Opening Price)

Order to buy arrives for 100 contracts @ 1.26 (Potential Opening Price updates, and changes to 1.26)

Order to buy arrives for 1000 contracts @ 1.24 (Potential Opening Price updates, but remains unchanged from 1.26)

Case 2 – An update results in a change to the Potential Opening Price

Valid Width NBBO = 0.20

CBOE market maker quotes 1.15 x 1.30 (10)

BX Market Maker quotes 1 x 1.25 (10)

Order to sell arrives for 1 contract @ 1.26 (Potential Opening Price updates, but determines there is no match, and therefore no change to lack of Potential Opening Price)

Order to buy arrives for 1000 contracts @ 1.24 (Potential Opening Price updates, but determines there is no match, and therefore no change to lack of Potential Opening Price)

Order to sell arrives for 1000 contracts @ 1.24 (Potential Opening Price updates and changes to 1.24)

If during or at the end of the Imbalance Timer, the Opening Price is at or within the OQR, the Imbalance Timer will end and the System will open with a trade at the Opening Price if the executions consist of Exchange interest only without trading through the ABBO, and without trading through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price. If no new interest comes in during the Imbalance Timer, and the Potential Opening Price is at or within OQR and does not trade through the ABBO, the Exchange will open with a trade at the end of the Imbalance Timer at the Potential Opening Price. This reflects that the Exchange is seeking to identify a price on the Exchange without routing away, yet which price may not trade through another market and the quality of which is addressed by applying the OQR boundary.

Provided the option series has not opened pursuant to proposed Options 3, Section 8(k)(2),⁵² the System will send a second Imbalance Message with a Potential Opening Price that is bounded by the OQR (and would not trade through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price) and includes away market volume in the size of the imbalance to Participants; and concurrently initiate a Route Timer, not to exceed one second.⁵³ The Route Timer is intended to give Exchange users an opportunity to respond to an Imbalance Message before any opening interest is routed to away markets and, thereby, maximize trading on the Exchange. If during the Route Timer, interest is received by the System, which would allow the Opening Price to be within OQR, without trading through away markets and without trading through the limit price(s) of interest within OQR, which is unable to be fully executed, the System will open with trades and the Route Timer will simultaneously end. The System will monitor quotes and orders received during the Route Timer period and make ongoing corresponding changes to the permitted OQR and Potential Opening Price to reflect them.⁵⁴ This proposal serves to widen the boundary of

⁵² The System would not open pursuant to proposed Options 3, Section 8(k)(2) if the Potential Opening Price is outside of the OQR, or if the Potential Opening Price is at or within the OQR, but would otherwise trade through the ABBO, or through the limit price(s) of interest within the OQR, which is unable to be fully executed at the Potential Opening Price.

⁵³ The Route Timer would be a brief timer that operates as a pause before an order is routed to an away market. Currently, the Phlx Route Timer is set to one second. BX's Route Timer will also be initially set to one second. The Exchange will issue a notice to Members to provide the initial setting and would thereafter issue a notice to Members, if it were to change the timing within the range of up to one second. If the Exchange were to select a time beyond one second, it would be required file a rule proposal with the Commission.

⁵⁴ See proposed BX Options 3, Section 8(k)(3)(B).

available Opening Prices, which should similarly increase the likelihood that an Opening Price can be determined. The Route Timer, like the Imbalance Timer, is intended to permit responses to be submitted and considered by the System in calculating the Potential Opening Price. The System does not route away until the Route Timer ends.

Proposed Options 3, Section 8(k)(3)(C) provides if no trade occurred pursuant to proposed Section 8(k)(3)(B), when the Route Timer expires, if the Potential Opening Price is within OQR (and would not trade through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price), the System will determine if the total number of contracts displayed at better prices than the Exchange's Potential Opening Price on away markets ("better priced away contracts") would satisfy the number of marketable contracts available on the Exchange. This provision protects the unexecuted interest and should result in a fairer price.⁵⁵ The Exchange will open the option series by routing and/or trading on the Exchange, pursuant to proposed Options 3, Section 8(k)(3)(C) paragraphs (i) through (iii).

Proposed Options 3, Section 8(k)(3)(C)(i) provides if the total number of better priced away contracts would satisfy the number of marketable contracts available on the Exchange on either the buy or sell side, the System will route all marketable contracts on

⁵⁵ Current BX Options 3, Section 8(b)(4)(C) considers unexecuted contracts. The proposed Opening Process likewise serves to protect unexecuted interest and also execute as many contract as possible during the Opening Process. The System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price. Any unexecuted contracts from the imbalance not traded or routed will be cancelled back to the entering participant if they remain unexecuted and priced through the Opening Price. All other interest will be eligible for trading after opening, if consistent with the Participant's instruction as provided for within proposed Options 3, Section 8(k)(3)(E) pursuant to a Forced Opening.

the Exchange to such better priced away markets as Intermarket Sweep Order (“ISO”),⁵⁶ designated as Immediate-or-Cancel (“IOC”)⁵⁷ Order(s), and determine an opening BX Best Bid or Offer (“BBO”) that reflects the interest remaining on the Exchange. The System will price any contracts routed to away markets at the Exchange’s Opening Price or pursuant to proposed Options 3, Section 8(k)(3)(C)(ii) or (iii) described below. Routing away at the Exchange’s Opening Price is intended to achieve the best possible price available at the time the order is received by the away market.

Proposed Options 3, Section 8(k)(3)(C)(ii) provides if the total number of better priced away contracts would not satisfy the number of marketable contracts the Exchange has, the System will determine how many contracts it has available at the Exchange Opening Price. If the total number of better priced away contracts, plus the number of contracts available at the Exchange Opening Price, would satisfy the number of marketable contracts on the Exchange on either the buy or sell side, the System will

⁵⁶ BX Options 3, Section 7(a)(6) provides that an “Intermarket Sweep Order” or “ISO” are limit orders that are designated as ISOs in the manner prescribed by BX and are executed within the System by Participants at multiple price levels without respect to Protected Quotations of other Eligible Exchanges as defined in Options 5, Section 1. ISOs may have any time-in-force designation except WAIT, are handled within the System pursuant to Options 3, Section 10 and shall not be eligible for routing as set out in Options 3, Section 19. ISOs with a time-in-force designation of GTC are treated as having a time-in-force designation of Day.

⁵⁷ BX Options 3, Section 7(b)(2) provides that an “Immediate Or Cancel” or “IOC” shall mean for orders so designated, that if after entry into the System a marketable order (or unexecuted portion thereof) becomes non-marketable, the order (or unexecuted portion thereof) shall be canceled and returned to the entering participant. IOC Orders shall be available for entry from the time prior to market open specified by the Exchange on its website until market close and for potential execution from 9:30 a.m. until market close. IOC Orders entered between the time specified by the Exchange on its website and 9:30 a.m. Eastern Time will be held within the System until 9:30 a.m. at which time the System shall determine whether such orders are marketable.

contemporaneously route, based on price/time priority of routable interest, a number of contracts that will satisfy interest at away markets at prices better than the Exchange Opening Price and trade available contracts on the Exchange at the Exchange Opening Price. The System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price pursuant to this subparagraph. This continues with the theme of maximum possible execution of the interest on the Exchange or away markets.

Proposed Options 3, Section 8(k)(3)(C)(iii) provides if the total number of better priced away contracts, plus the number of contracts available at the Exchange Opening Price, plus the contracts available at away markets at the Exchange Opening Price would satisfy the number of marketable contracts the Exchange has on either the buy or sell side, the System will contemporaneously route, based on price/time priority of routable interest, a number of contracts that will satisfy interest at away markets at prices better than the Exchange Opening Price (pricing any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price), trade available contracts on the Exchange at the Exchange Opening Price, and route a number of contracts that will satisfy interest at away markets at prices equal to the Exchange Opening Price. This provision is intended to introduce routing to away markets potentially both at a better price than the Exchange Opening Price, as well as at the Exchange Opening Price to access as much liquidity as possible to maximize the number of contracts able to be traded as part of the Opening Process. The Exchange routes at the better of the Exchange's Opening Price or the order's limit price to first ensure the order's limit price is not violated. Routing away at the Exchange's Opening Price is intended to achieve the

best possible price for the routed order, at the time the order is received by the away market. By way of example:

Example of Interest “Better Than” and “Better of the Exchange Opening Price”

rule text: Options 3, Section 8(k)(3)(C)(ii), Options 3, Section 8(k)(3)(C)(iii) and Options 3, Section 8(k)(5)

BX Market Maker 1 BBO 4.00 x 4.15 (100 contracts)

Cboe 4.00 x 4.14 (100 contracts)

DNR Order to buy 105 @ 4.20

Routable SRCH Order to buy 100 contracts at 4.18

Sell 2 contracts @ 4.21

After imbalance process:

SRCH Order routes at limit price of 4.18 (better than Opening Price of 4.20) and executes at 4.14 on Cboe’s offer.

DNR Order trades 100 with BX Market Maker quote (quote purges)

Proposed Options 3, Section 8(k)(3)(D) provides that the System may send up to two additional Imbalance Messages⁵⁸ (which may occur while the Route Timer is operating) bounded by OQR and reflecting away market interest in the volume. These boundaries are intended to assist in determining a reasonable price at which an option series might open. This provision is proposed to further state that after the Route Timer has expired, the processes in proposed Options 3, Section 8(k)(3)(C)(3) will repeat (except no new Route Timer will be initiated). No new Route Timer is initiated, because

⁵⁸ The first two Imbalance Messages always occur if there is interest which will route to an away market. If the Exchange is thereafter unable to open at a price without trading through the ABBO, up to two more Imbalance Messages may occur based on whether or not the Exchange has been able to open before repeating the Imbalance Process. The Exchange may open prior to the end of the first two Imbalance Messages provided routing is not necessary.

after the Route Timer has been initiated and subsequently expired, no further delay is needed before routing contracts. This is the case if at any point thereafter the Exchange is able to satisfy the total number of marketable contracts the Exchange has by executing on the Exchange and routing to other markets.

Proposed Options 3, Section 8(k)(3)(E), entitled “Forced Opening,” will describe what happens as a last resort in order to open an options series when the processes described above have not resulted in an opening of the options series. Under this process, called a Forced Opening, after all additional Imbalance Messages have occurred, pursuant to proposed subparagraph (D), the System will open the series by executing as many contracts as possible by routing to away markets at prices better than the Exchange Opening Price for their disseminated size, trading available contracts on the Exchange at the Exchange Opening Price bounded by OQR (without trading through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price). The System will also route contracts to away markets at prices equal to the Exchange Opening Price at their disseminated size. In this situation, the System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order’s limit price. Any unexecuted interest from the imbalance not traded or routed will be cancelled back to the entering Participant, if they remain unexecuted and priced through the Opening Price, otherwise orders will remain in the Order Book. All other interest will be eligible for trading after opening, if consistent with the Participant’s instruction. The boundaries of OQR and limit prices within the OQR are intended to ensure a quality Opening Price as well as protect unexecutable interest, which may not be able to be fully

executed. This rule differs from Phlx's rule.⁵⁹ On Phlx, unless the member that submitted the original order has instructed the Exchange in writing to reenter the remaining size, the remaining size will be automatically submitted as a new order, whereas BX's proposed rule will cancel the order back to the entering party. The Exchange believes that cancelling the order back to the Participant allows for the Participant to determine how its customer would like its order to be handled. The Exchange believes that there are many methods in which to handle an order that is not executed. BX proposes to cancel back to provide certainty to its Participants, in line with current handling on BX.

Proposed Options 3, Section 8(k)(3)(F), provides the System will execute non-routable orders, such as "Do-Not-Route" or "DNR" Orders,⁶⁰ to the extent possible. The

⁵⁹ Phlx Options 3, Section 8(k)(C)(5), "Forced Opening. After all additional Imbalance Messages have occurred pursuant to paragraph (4) above, the System will open the series by executing as many contracts as possible by routing to away markets at prices better than the Exchange Opening Price for their disseminated size, trading available contracts on the Exchange at the Exchange Opening Price bounded by OQR (without trading through the limit price(s) of interest within OQR which is unable to be fully executed at the Opening Price), and routing contracts to away markets at prices equal to the Exchange Opening Price at their disseminated size. In this situation, the System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price. Any unexecuted interest from the imbalance not traded or routed will be cancelled back to the entering participant if they remain unexecuted and priced through the Opening Price, unless the member that submitted the original order has instructed the Exchange in writing to reenter the remaining size, in which case the remaining size will be automatically submitted as a new order. All other interest will be eligible for trading after opening, if consistent with the member's instructions."

⁶⁰ A Do-Not-Route Order is described within BX Options 5, Section 4(a)(iii)(A).

System will only route non-contingency orders.⁶¹ Unlike Phlx,⁶² which describes contingency orders, BX does not have contingency orders that participate in the Opening Process.⁶³ The Exchange is adding this detail to memorialize the manner in which the System will execute non-routable orders at the opening. The Exchange desires to provide certainty to market participants as to which contingency orders will execute, and which orders will route during the Opening Process.

The Exchange proposes to state at Options 3, Section 8(k)(4) that, pursuant to Options 3, Section 8(k)(3)(F), the System will re-price Do Not Route Orders (that would otherwise have to be routed to the exchange(s) disseminating the ABBO for an opening to occur) to a price that is one minimum trading increment inferior to the ABBO, and disseminate the re-priced DNR Order as part of the new BBO. This paragraph explains the treatment of DNR Orders, similar to Phlx Options 3, Section 8(k)(3)(D). The System will re-price a DNR Order when any residual DNR Order interest, which was not satisfied in the Opening Process, crosses the ABBO.⁶⁴

Proposed BX Options 3, Section 8(k)(5) provides that the System will cancel any order or quote priced through the Opening Price. All other interest will be eligible for

⁶¹ Phlx's Rule at Options 3, Section 8(k)(6) states that the System will only route Public Customer and Professional orders. BX will allow all orders to route not just Public Customer and Professional orders.

⁶² See Phlx Options 3, Section 8(k)(C)(6).

⁶³ BX Minimum Quantity Orders and All-or-None Orders, which are described within Options 3, Section 7(a)(4) and (8), respectively, are both Immediate or Cancel Orders, which are rejected pre-opening and therefore do not participate in the Opening Process.

⁶⁴ See proposed BX Options 3, Section 8(k)(4).

trading after the opening. This rule text is similar to Phlx Options 3, Section 8(k)(G). This rule text makes clear that interest priced through the Opening will be cancelled.

Proposed BX Options 3, Section 8(k)(6), which is identical to Phlx Options 3, Section 8(k)(E), provides that during the opening of the option series, where there is an execution possible, the System will give priority to Market Orders⁶⁵ first, then to resting Limit Orders⁶⁶ and quotes. The allocation provisions of Options 3, Section 10 will apply. Options 3, Section 10 describes BX's Order Book allocation. The Exchange is providing certainty to market participants as to the priority scheme during the Opening Process. Market Orders will be immediately executed first, because these orders have no specified price and Limit Orders will be executed, thereafter, in accordance with the prices specified.

Proposed BX Options 3, Section 8(k)(7), which is identical to Phlx Options 3, Section 8(k)(F), provides that upon opening of an option series, regardless of an execution, the System disseminates the price and size of the Exchange's best bid and offer (BBO). This provision simply makes known the manner in which the Exchange establishes the BBO for purposes of reference upon opening.

Finally, proposed BX Options 3, Section 8(k)(8) provides that any remaining contracts, which are not priced through the Exchange Opening Price after routing a

⁶⁵ BX Options 3, Section 7(a)(5) provides that "Market Orders" are orders to buy or sell at the best price available at the time of execution. Participants can designate that their Market Orders not executed after a pre-established period of time, as established by the Exchange, will be cancelled back to the Participant.

⁶⁶ BX Options 3, Section 7(a)(3) provides that "Limit Orders" are orders to buy or sell an option at a specified price or better. A limit order is marketable when, for a limit order to buy, at the time it is entered into the System, the order is priced at the current inside offer or higher, or for a limit order to sell, at the time it is entered into the System, the order is priced at the inside bid or lower.

number of contracts to satisfy better priced away contracts, will be posted to the Order Book at the better of the away market price or the order's limit price. This includes DNR Orders that are not crossed with the Opening Price. Only in the event that ABBO interest, which the DNR Order would otherwise be crossing, has been satisfied by routable interest during the Opening Process would DNR Orders be included within the remaining contracts described in proposed BX Options 3, Section 8(k)(8).⁶⁷ This rule text accounts for orders which have routed away and returned unsatisfied, and also accounts for interest that remains unfilled during the Opening Process, provided that interest was not priced through the Opening Price.

The Exchange cancels orders, which are priced through the Opening Price, since it lacks enough liquidity to satisfy these orders on the opening, yet their limit price gives the appearance that they should have been executed. The Exchange believes that market participants would prefer to have these orders returned to them for further assessment, rather than have these orders immediately entered onto the Order Book at a price which is more aggressive than the price at which the Exchange opened.

Opening Process Cancel Timer

The Exchange proposes to retain BX's Opening Order Cancel Timer, which is currently described within Options 3, Section 8(c). The Exchange proposes to relocate this rule text within Options 3, Section 8(l), similar to Phlx Options 3, Section 8(l), and rename it "Opening Process Cancel Timer." While the Exchange is retaining the timer, the Exchange proposes to amend the rule text to conform the language to Phlx's rule text. This process specifies that if an options series has not opened before the conclusion of the

⁶⁷ DNR Orders that are not crossed with the Opening Price rest on the Order Book at the better of the ABBO price or the DNR Order's limit order price.

Opening Process Cancel Timer, a Participant may elect to have orders returned by providing written notification to the Exchange. The Opening Process Cancel Timer will continue to be posted by the Exchange on its website. Orders submitted through FIX with a TIF of Good-Till-Canceled⁶⁸ or “GTC” may not be cancelled, as is the case today. This provision would provide for the continued return of orders for un-opened options symbols. As is the case today, Participants would have the ability to elect to have orders returned, except for non-GTC orders, when options do not open. This functionality provides Participants with choice about where, and when, they can send orders for the opening that would afford them the best experience.

Opening Process Examples

The following examples are intended to demonstrate the Opening Process.

Example 1. Proposed Options 3, Section 8(f) Opening with a BBO (No Trade).

Suppose the Lead Market Maker (“LMM”) in an option enters a quote, 2.00 (100) bid and 2.10 (100) offer and a buy order to pay 2.05 for 10 contracts is present in the System. The System also observes an ABBO is present with CBOE quoting a spread of 2.05 (100) and 2.15 (100). Given the Exchange has no interest which locks or crosses each other and does not cross the ABBO, the option opens for trading with an Exchange BBO of 2.05 (10) x 2.10 (100) and no trade. Since there is a Valid Width NBBO, the System does not conduct the price discovery mechanism and the option opens without delay.

Example 2a. Proposed Options 3, Section 8(i) Opening with Trade. Suppose the LMM enters the same quote in an option, 2.00 (100) bid and 2.10 (100) offer. This quote defines the Pre-Market BBO. CBOE disseminates a quote of 2.01 (100) by 2.09 (100), making up the ABBO. Firm A enters a buy order at 2.04 for 50 contracts.

⁶⁸ BX Options 3, Section 7(b)(4) provides that a “Good Til Cancelled” or “GTC” shall mean for orders so designated, that if after entry into System, the order is not fully executed, the order (or unexecuted portion thereof) shall remain available for potential display and/or execution unless cancelled by the entering party, or until the option expires, whichever comes first. GTC Orders shall be available for entry from the time prior to market open specified by the Exchange on its website until market close and for potential execution from 9:30 a.m. until market close.

Firm B enters a sell order at 2.04 for 50 contracts. The Exchange opens with the Firm A and Firm B orders fully trading at an Opening Price of 2.04 which satisfies the condition defined in proposed Options 3, Section 8(i), the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO, which is a Valid Width NBBO.

Example 2b. Proposed Options 3, Section 8(i) Opening with Trade. Similarly, suppose the LMM enters the same quote in an option, 2.00 (100) bid and 2.10 (100) offer. A Market Maker enters a quote of 2.00 (100) x 2.12 (100). The Pre-Market BBO is therefore 2.00 bid and 2.10 offer. CBOE disseminates a quote of 2.05 (100) by 2.15 (100), making up the ABBO. Firm A enters a buy order at 2.11 for 300 contracts. Firm B enters a sell order at 2.11 for 100 contracts. The option does not open for trading because the Potential Opening Price of 2.11 does not satisfy the condition defined in proposed Options 3, Section 8(i) as the Potential Opening Price is outside the Pre-Market BBO. The System thereafter calculates the OQR and initiates the price discovery mechanism, as discussed in proposed Options 3, Section 8(k) to facilitate the Opening Process for the option.

Assume an allowable OQR of 0.04. When the price discovery mechanism is initiated:

The System broadcasts the first Imbalance Message with a Potential Opening Price of 2.10 and a sell side imbalance of 200 and 100 matched.

The System opens with a trade @ 2.11 with Firm A buying 100 from the LMM and another 100 from Firm B; invoking OQR of 0.04 (the maximum value for OQR is the lowest quote offer (2.10) plus 0.04).

Example 3. Proposed Options 3, Section 8(k) Price Discovery Mechanism and second iteration with routing. Suppose the LMM enters a quote, 2.00 (100) bid and 2.10 (100) offer and the defined allowable OQR is 0.04. If CBOE disseminates a quote of 2.00 (100) by 2.09 (100), the away offer is better than the LMM quote. Public Customer A enters a routable buy order at 2.10 for 150 contracts. The price discovery mechanism initiates because the Potential Opening Price (2.10) is equal to the Pre-Market BBO but outside of the ABBO. The Potential Opening Price is 2.10 because there is both buy and sell interest at that price point. The System is unable to open after the first iteration of Imbalance since the Potential Opening Price is within the OQR but outside of the ABBO. The System proceeds with the price discovery mechanism and initiates a Route Timer and broadcasts a second Imbalance Message (assume no additional interest is received during the imbalance period). The System opens the option for trading after the Route Timer has expired and the Imbalance Timer has completed since the Potential Opening Price is within OQR. The System routes 100 contracts of the Public Customer order to the better priced away offer at CBOE. The Exchange would route to CBOE at an Opening Price of 2.10 to execute against the interest at 2.09 on CBOE. The 50 options contracts open and execute on the Exchange with an Opening Price of 2.10. The Exchange routes to CBOE using the Exchange's Opening Price to ensure, if there is market

movement, that the routed order is able to access any price point equal to or better than the Exchange's Opening Price.

Options 2, Section 4

The Exchange proposed to define a "Valid Width Quote" within proposed Options 3, Section 8(a)(9) as "a two-sided electronic quotation, submitted by a Market Maker, quoted with a difference not to exceed \$5 between the bid and offer regardless of the price of the bid." The Exchange proposed to state within proposed BX Options 3, Section 8(a)(9), similar to Phlx's Rule at Options 3, Section 8(a)(ix), that the "The Exchange may establish differences other than the above for one or more series or classes of options." The Exchange proposes to remove the rule text from Options 2, Section 4(g) and reserve that subparagraph. Options 2, Section 4(g) provides,

(g) *Unusual Conditions - Opening Auction.* If the interest of maintaining a fair and orderly market so requires, BX Regulation may declare that unusual market conditions exist in a particular issue and allow LMMs in that issue to make auction bids and offers with spread differentials of up to two times, or in exceptional circumstances, up to three times, the legal limits permitted under this Rule. In making such determinations to allow wider markets, BX Regulation should consider the following factors: (A) whether there is pending news, a news announcement or other special events; (B) whether the underlying security is trading outside of the bid or offer in such security then being disseminated; (C) whether Options Participants receive no response to orders placed to buy or sell the underlying security; and (D) whether a vendor quote feed is clearly stale or unreliable.

(1) In the event that BX Regulation determines that unusual market conditions exist in any option, it will be the responsibility of BX Regulation to file a report with Exchange Operations setting forth the relief granted for the unusual market conditions, the time and duration of such relief and the reasons therefore.

Phlx's Rule at Options 3, Section 8(a)(ix) allows the Exchange to establish differences, other than those noted within Options 3, Section 8(a)(ix), for one or more series or classes of options. The Exchange is proposing to add similar discretion to proposed BX

Options 3, Section 8(a)(9). The rule text of BX Options 2, Section 4(g) permits spread differentials of up to two times, or in exceptional circumstances, up to three times, the legal limits permitted under this Rule. This limitation does not exist today on Phlx, Nasdaq ISE, LLC (“ISE”), Nasdaq GEMX, LLC (“GEMX”) or Nasdaq MRX, LLC (“MRX”).⁶⁹ Today, BX Regulation takes into account: (A) whether there is pending news, a news announcement or other special events; (B) whether the underlying security is trading outside of the bid or offer in such security then being disseminated; (C) whether Options Participants receive no response to orders placed to buy or sell the underlying security; and (D) whether a vendor quote feed is clearly stale or unreliable, in making such determinations when granting quoting discretion. The ability to establish differences, other than the stated bid/ask differentials, for one or more series or classes of options already exists today for BX Lead Market Maker quoting requirements, however this discretion in the opening is limited by BX Options 2, Section 4(g).⁷⁰ The Exchange’s proposal would align the procedure BX would follow with procedures of other Nasdaq options exchanges, which notify members in writing, via an Options Regulatory Alert, of any discretion that is being granted by the Exchange. BX would no longer file a report with BX operations. Today, no other Nasdaq exchange files a report when it grants exemptions in the opening, including exemptions for BX Market Makers. The Exchange notes that decisions to grant exemptions in the opening are made based on current market conditions. BX is required to react swiftly when market conditions change dramatically and, thereby, may require BX to grant quoting relief in the opening.

⁶⁹ ISE, GEMX and MRX Rules at Options 3, Section 8(a)(8) provides the same discretionary language as exists on Phlx today.

⁷⁰ See BX Options 2, Section 4(f)(5).

The additional steps that are currently required on BX are not conducive to granting relief in fast changing markets. The Exchange notes that other options markets do not limit the quote relief they would grant their lead market makers in the same manner as BX limits quote relief for its Lead Market Makers. The Exchange believes that permitting BX to have the same discretion as Phlx, ISE, GEMX and MRX will assist the Exchange in making similar determinations to affected options series.

Implementation

The Exchange intends to begin implementation of the proposed rule change prior to October 30, 2020. The Exchange will issue an Options Trader Alert to Members to provide notification of the symbols that will migrate and the relevant dates.

2. Statutory Basis

The Exchange believes that its proposal is consistent with Section 6(b) of the Act,⁷¹ in general, and furthers the objectives of Section 6(b)(5) of the Act,⁷² in particular, in that it is designed to promote just and equitable principles of trade and to protect investors and the public interest for the reasons stated below.

The Exchange's proposal to amend BX's Opening Process is consistent with the Act. The Exchange believes that adopting some methodologies similar to Phlx Options 3, Section 8 will enhance BX's current Opening Process, while retaining certain elements of its current process, such as the Valid Width NBBO⁷³ and not requiring its Lead Market

⁷¹ 15 U.S.C. 78f(b).

⁷² 15 U.S.C. 78f(b)(5).

⁷³ The Exchange proposes to retain the Valid Width NBBO requirements with respect to Opening With a Trade pursuant to proposed Options 3, Section 8(i) and (j).

Makers to quote during the Opening Process.⁷⁴ Also, the proposed amendments will continue to allow BX to open with an optimal price, as the proposed rule further limits the opening price boundaries. At a high level, the proposal would permit the price of the underlying security to settle down and not flicker back and forth among prices after its opening. It is common for a stock to fluctuate in price immediately upon opening; such volatility reflects a natural uncertainty about the ultimate Opening Price, while the buy and sell interest is matched. The proposed rule provides for a range of no less than 100 milliseconds and no more than 5 seconds, in order to ensure that it has the ability to adjust the period for which the underlying security must be open on the primary market. The Exchange may determine that in periods of high/low volatility that allowing the underlying to be open for a longer/shorter period of time may help to ensure more stability in the marketplace prior to initiating the Opening Process.

Definitions

The Exchange's proposal amends and alphabetizes the current definitions within Options 3, Section 8(a). The Exchange proposes to set forth the following terms: "Away Best Bid or Offer" or "ABBO;" "imbalance;" "market for the underlying security;" "Opening Price;" "Opening Process;" "Potential Opening Price;" "Pre-Market BBO;" "Valid Width National Best Bid or Offer" or "Valid Width NBBO;" "Valid Width Quote," and "Zero Bid Market." The amendment of the "Definitions" section is consistent with the Act because the terms will assist market participants in understanding the meaning of terms used throughout the proposed Rule.

⁷⁴ Today, BX Lead Market Makers may quote during the opening, but they are not obligated to quote. BX Lead Market Makers are required to quote intra-day. See BX Options 2, Section 4(j).

With respect to the amendment to the definition of the term, “market for the underlying security,” the Exchange’s proposal would remove the concept of a primary volume market and replace that concept with an alternative market designated by the primary market. It is most likely the case that the primary market is the primary volume market, so this term offers no contingency in most cases. The primary market has the ability to designate an alternate primary market when the primary market is experiencing difficulties. In those situations, the Exchange proposes to utilize the alternate primary market to open its market. For example, in the event that the New York Stock Exchange LLC was unable to open because of an issue with its market and it designated NYSE Arca as its alternative market, then BX would utilize NYSE Arca as the market for the underlying security.

Second, the Exchange proposes another alternative in the event that the primary market does not open, and an alternate primary market is not designated and/or is also unable to open. In this situation, the Exchange proposes to utilize a non-primary market to open its market. The Exchange will select the non-primary market with the most liquidity in the aggregate for all underlying securities from the primary market for the previous two calendar months, excluding the primary and alternate markets. For example, in the event that the New York Stock Exchange LLC was unable to open because of an issue with its market and it designated NYSE Arca as its alternative market, and the alternate primary was unable to open or NYSE was unable to designate an alternate market because of system difficulties, then BX would determine which non-primary market had the most liquidity in the aggregate for all underlying securities for the previous two calendar months, excluding the primary and alternate markets. The

Exchange would utilize that market to open all underlying securities from the primary market. In order to open an option series it would require an equity market's underlying quote. Utilizing a non-primary market with the most liquidity in the aggregate for all underlying securities for the previous two calendar months will ensure that the Exchange opens based on the next best alternative to the primary market given the circumstances. This contingency will provide the Exchange with the ability to open in situations where the primary market is experiencing an issue, and also where an alternative primary market may also be impacted. The Exchange believes that this proposal would protect investors and the general public by providing additional venues for BX to utilize as part of its Opening Process and thereby allow investors to transact on its market. The Exchange desires to open its market despite any issues that may arise with the underlying market. The Exchange is proposing alternate methods to open its market to account for situations which may arise if the primary market is unable to open, and if the proposed alternate designated market is unable to open. Once the market opens with an underlying price, the options market may continue to trade for the remainder of the trading day. The Exchange believes it benefits investors and the general public to have the options market available to enter new positions, or close open positions. This term is identical to Phlx's Options 3, Section 8(a)(ii).

Eligible Interest

The first part of the proposed BX Opening Process determines what constitutes eligible interest. The Exchange's proposal seeks to make clear what type of eligible opening interest is included. Valid Width Quotes, Opening Sweeps, and orders are included. The Exchange further notes that Market Makers may submit quotes, Opening Sweeps and orders, but quotes other than Valid Width Quotes will not be included in the

Opening Process. The Exchange believes that defining what qualifies as eligible interest is consistent with the Act because market participants will be provided with certainty, when submitting interest, as to which type of interest will be considered in the Opening Process.

Unlike the regular session where orders route if they cannot execute on BX, the Opening Process is a price discovery process which considers interest, both on BX and away markets, to determine the optimal bid and offer with which to open the market. The Opening Process seeks the price point at which the most number of contracts may be executed while protecting away market interest.

The Exchange's proposal to define an "Opening Sweep" within BX Options 3, Section 7(b)(9), similar to Phlx Options 3, Section 7(b)(i), will also align the BX and Phlx rules. Specifically, the Exchange proposes to remove the current order type described as "On the Open Order" and instead adopt an "Opening Sweep" order type, similar to Phlx at Options 3, Section 7(b)(6). The adoption of an Opening Sweep is consistent with the Act because the order type will permit Market Makers to continue to submit orders during the Opening Process for execution against eligible interest in the System. Other market participants may continue to also submit orders with a TIF of "OPG" for the Opening Process. As is the case today, only a Market Maker may enter an Opening Sweep into SQF for execution against eligible interest in the System during the Opening Process. Therefore, all Participants will continue to be able to enter orders into the Opening Process. The order types are very similar; both order types are cancelled upon the open if not executed. A difference is that the Opening Sweep is not subject to

any risk protections listed within Options 3, Section 15, except for Automated Quotation Adjustments.⁷⁵

BX also proposes to replace its current “TIF” of “On the Open Order” or “OPG” to an “Opening Only” or “OPG” TIF, which can only be executed in the Opening Process pursuant to Options 3, Section 8.⁷⁶ This TIF is similar to Phlx, in that, any portion of the order that is not executed during the Opening Process is cancelled. This order type is not subject to any protections listed in Options 3, Section 15.⁷⁷ The Exchange believes that the adoption of the Opening Sweep and OPG Order is consistent with the Act in that Participants will be able to continue to submit orders to be entered into the Opening Process. The two orders types will conform Phlx’s order types, which are relevant to the Opening Process, with those of BX. These order types would continue to not be not valid outside of the Opening Process; they may not be submitted in the regular trading session.

With respect to an Opening Sweep, the Exchange further provides the manner in which Opening Sweeps may be entered into the System. The Exchange proposes rule text within Options 3, Section 8(b)(1)(B), which is similar to Phlx Options 3, Section 8(b)(i)(B). An Opening Sweep may be entered at any price with a minimum price

⁷⁵ Automated Quotation Adjustments are described within BX Options 3, Section 15(c)(2).

⁷⁶ See current BX Options 3, Section 7(a)(9).

⁷⁷ Phlx Options 3, Section 7(c)(3) provides that an OPG Order is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments. Today, OPG Orders on Phlx are not subject to any protections, including Automated Quotation Adjustments protections. Phlx intends to file a rule change to remove the rule text which provides, “except for Automated Quotation Adjustments,” as OPG Orders are subject to that risk protection. BX will not include the exception in the proposed rule text. OPG Orders are handled in the same manner by the Phlx System today and the BX System, as proposed.

variation applicable to the affected series, on either side of the market, at single or multiple price level(s), and may be cancelled and re-entered. A single Market Maker may enter multiple Opening Sweeps, with each Opening Sweep at a different price level. If a Market Maker submits multiple Opening Sweeps, the System will consider only the most recent Opening Sweep at each price level submitted by such Market Maker.

Unexecuted Opening Sweeps will be cancelled once the affected series is open.⁷⁸ The Exchange believes that the addition of Opening Sweeps will also provide certainty to market participants as to the manner in which the System will handle such interest.

With respect to trade allocation, the proposal notes at proposed BX Options 3, Section 8(b)(2) that the System will allocate pursuant to BX Options 3, Section 10, as is the case today. This rule text is similar to Phlx Options 3, Section 8(b)(ii).⁷⁹ The allocation methodology is not being amended with this proposal.

The Exchange believes that this allocation is consistent with the Act because it mirrors the current allocation process on BX in other trading sessions.

The Exchange proposes at BX Options 3, Section 8(d) the specific times that eligible interest may be submitted into BX's System. The Exchange's proposed time for entering Market Maker Valid Width Quotes and Opening Sweeps (9:25 AM) eligible to

⁷⁸ See proposed BX Options 3, Section 8(b)(1)(B). See also proposed BX Options 3, Section 7(a)(9).

⁷⁹ Current BX Options 3, Section 8(b)(5) states, "If the BX Opening Cross price is selected and fewer than all contracts of Eligible Interest that are available in BX Options would be executed, all Eligible Interest shall be executed at the BX Opening Cross price in accordance with the execution algorithm assigned to the associated underlying option." The Exchange would continue to allocate pursuant to the Exchange's allocation methodology within Options 3, Section 10. Further, in accordance with current BX Options 3, Section 8(b)(6), all eligible interest will be executed at the Opening Price and displayed on OPRA.

participate in the Opening Process, are consistent with the Act because the times are intended to tie the option Opening Process to quoting in certain underlying securities⁸⁰; it presumes that option quotes submitted before any indicative quotes have been disseminated for the underlying security may not be reliable or intentional. The Exchange believes the time represents a reasonable timeframe at which to begin utilizing option quotes, based on the Exchange's experience when underlying quotes start becoming available. The proposed language adds specificity to the rule regarding the submission of orders.

The Exchange's proposal at BX Options 3, Section 8(d)(1) describes when the Opening Process can begin with specific time-related triggers. The proposed rule, which provides that the Opening Process for an option series will be conducted on or after 9:30 AM, when the System has received an opening trade or quote on the market for the underlying security in the case of equity options or in the case of index options is consistent with the Act. This requirement is intended to tie the option Opening Process to receipt of liquidity. If the System has not received an opening trade or quote on the market for the underlying security, the Exchange will not initiate the Opening Process or continue an ongoing Opening Process. The Exchange's proposal to amend its Opening Process is consistent with the Act because the new rule continues to seek the best price. Phlx Rules at Options 3, Section 8(d)(iii) and (iv) describe quoting requirements for Lead Market Makers once an underlying security in the assigned option series has opened for trading. Today, BX, unlike Phlx, does not require its Lead Market Makers to submit Valid Width Quotes. BX is not proposing to adopt the same quoting requirements during

⁸⁰ For purposes of this rule, the underlying security can also be an index.

the Opening Process that exist on Phlx. Therefore, the Phlx requirement for Lead Market Makers would not be applicable to BX. Further, proposed BX Options 3, Section 8(d)(3) makes clear that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. Therefore, the Exchange does not note within proposed Options 3, Section 8(d)(1) that the ABBO may not be crossed. While, BX is not adopting Phlx's requirement to quote in the Opening Process, protections exist within proposed Options 3, Section 8(d)(4). A Valid Width NBBO must be present for BX to Open with a Trade pursuant to this proposal.

The Exchange's proposed rule considers the underlying security, including indexes, which must be open on the primary market for a certain time period for all options to be determined by the Exchange for the Opening Process to commence. The Exchange proposes a time period be no less than 100 milliseconds and no more than 5 seconds to permit the price of the underlying security to settle down and not flicker back and forth among prices after its opening. Since it is common for a stock to fluctuate in price immediately upon opening, the Exchange accounts for such volatility in its process. The volatility reflects a natural uncertainty about the ultimate Opening Price, while the buy and sell interest is matched. The Exchange's proposed range is consistent with the Act, because it ensures that it has the ability to adjust the period for which the underlying security must be open on the primary market. The Exchange may determine that in periods of high/low volatility that allowing the underlying to be open for a longer/shorter period of time may help to ensure more stability in the marketplace prior to initiating the Opening Process.

Similar to Phlx Options 3, Section 8(d)(v), BX Options 3, Section 8(d)(3) provides that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. Once this condition no longer exists, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) of Options 3, Section 8. All eligible opening interest will continue to be considered during the Opening Process when the process is re-started. Not opening if the ABBO becomes crossed is consistent with the Act and the protection of investors and the public interest because a crossed ABBO is indicative of uncertainty in the marketplace with respect to where the option series should be valued. Waiting for the ABBO to become uncrossed before initiating the Opening Process ensures that there is stability in the marketplace and will assist the Exchange in determining the Opening Price. Unlike Phlx Options 3, Section 8(d)(v),⁸¹ BX will not consider if a Valid Width Quote(s) is no longer present. Unlike Phlx, BX does not require its Lead Market Makers to quote in the Opening Process. This requirement is not necessary for BX as BX's market would open with a BBO, pursuant to Options 3, Section 8(f), unless the ABBO becomes crossed.

The Exchange's proposal to add rule text, within proposed Options 3, Section 8(d)(4), to make clear that the Exchange would not open with a trade, pursuant to paragraph (i)(2), if a Valid Width NBBO is not present is consistent with the Act. Once this condition no longer exists, the Opening Process in the affected options series will start again pursuant to paragraphs (j) and (k) below. Today, BX would not open with a

⁸¹ Phlx Options 3, Section 8(d)(v) provides, "The Opening Process will stop and an option series will not open if the ABBO becomes crossed or when a Valid Width Quote(s) pursuant to paragraph (d)(i) is no longer present. Once each of these conditions no longer exist, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below."

trade unless there is a Valid Width NBBO present. This would remain the case with this proposal. The Exchange believes that the addition of this text provides market participants with an expectation of the circumstances under which the Exchange would open an option series, as well as price protection afforded to interest attempting to participate in the Opening Process on BX.

Reopening After a Trading Halt

In order to provide certainty to market participants in the event of a trading halt, the Exchange provides in its proposal information regarding the manner in which a trading halt would impact the Opening Process. Proposed BX Options 3, Section 8(e) provides if there is a trading halt or pause in the underlying security, the Opening Process will start again, irrespective of the specific times listed in paragraph (d). The Exchange's proposal to restart, in the event of a trading halt, is consistent with the Act and promotes just and equitable principles of trade because the proposed rule ensures that there is stability in the marketplace in order to assist the Exchange in determining the Opening Price. Current BX Options 3, Section 8(b) similarly provides that an Opening Cross shall occur when trading resumes after a trading halt. The Exchange is not amending this provision, rather the text is being presented similar to Phlx's Options 3, Section 8.

Opening with a BBO

The Exchange's proposed rule accounts for a situation where there are no opening quotes or orders that lock or cross each other and no routable orders locking or crossing the ABBO. In this situation, the System will open with an opening quote by disseminating the Exchange's best bid and offer among quotes and orders ("BBO") that exist in the System at that time, if any of the conditions are met (1) a Valid Width NBBO is present; (2) a certain number of other options exchanges (as determined by the

Exchange) have disseminated a firm quote on OPRA; or (3) a certain period of time (as determined by the Exchange) has elapsed. These three conditions are similar to BX's current rule text within Options 3, Section 8(b). The Exchange desires to maintain these three potential conditions which it believes are valid sources of liquidity to determine an Opening Price.

Further Opening Processes and Price Discovery Mechanism

The proposed rule promotes just and equitable principles of trade because, in arriving at the Potential Opening Price, the rule considers the maximum number of contracts that can be executed, which results in a price that is logical and reasonable in light of away markets and other interest present in the System. As noted herein, the Exchange's Opening Price is bounded by the OQR without trading through the limit price(s) of interest within OQR, which is unable to fully execute at the Opening Price, in order to provide Participants with assurance that their orders will not be traded through. Although the Exchange applies other boundaries such as the BBO, the OQR provides a range of prices that may be able to satisfy additional contracts while still ensuring a reasonable Opening Price. The Exchange seeks to execute as much volume as is possible at the Opening Price. When choosing between multiple Opening Prices when some contracts would remain unexecuted, using the lowest bid or highest offer of the largest sized side of the market promotes just and equitable principles of trade because it uses size as a tie breaker.

The System will calculate an OQR for a particular option series that will be utilized in the price discovery mechanism if the Exchange has not opened, pursuant to the provisions in Options 3, Section 8(d)-(i). OQR would broaden the range of prices at which the Exchange may open to allow additional interest to be eligible for consideration

in the Opening Process. OQR is intended to limit the Opening Price to a reasonable, middle ground price, and thus reduce the potential for erroneous trades during the Opening Process. Although the Exchange applies other boundaries such as the BBO, the OQR provides a range of prices that may be able to satisfy additional contracts while still ensuring a reasonable Opening Price. More specifically, the Exchange's Opening Price is bounded by the OQR without trading through the limit price(s) of interest within OQR, which is unable to fully execute at the Opening Price in order to provide participants with assurance that their orders will not be traded through. The Exchange seeks to execute as much volume as is possible at the Opening Price.

The Exchange's method for determining the Potential Opening Price and Opening Price is consistent with the Act because the proposed process seeks to discover a reasonable price and considers both interest present in BX's System as well as away market interest. The Exchange's method seeks to validate the Opening Price and avoid opening at aberrant prices. The rule provides for opening with a trade, which is consistent with the Act, because it enables an immediate opening to occur within a certain boundary without need for the price discovery process. The boundary provides protections while still ensuring a reasonable Opening Price.

The proposed rule considers more than one Potential Opening Price, which is consistent with the Act, because it forces the Potential Opening Price to fall within the OQR boundary, thereby providing price protection. Specifically, the mid-point calculation balances the price among interest participating in the Opening, when there is more than one price at which the maximum number of contracts could execute. Limiting the mid-point calculation to the OQR, when a price would otherwise fall outside of the

OQR, ensures the final mid-point price will be within the protective OQR boundary. If there is more than one Potential Opening Price possible, where no contracts would be left unexecuted and any price used for the mid-point calculation is an away market price, when contracts will be routed, the System will use the away market price as the Potential Opening Price.

The Exchange's proposal to route all interest, pursuant to Options 3, Section 10(a)(1), is consistent with the Act. The Exchange believes that routing all routable interest will provide all market participants the opportunity to have their interest executed on away markets.

The price discovery mechanism reflects what is generally known as an imbalance process and is intended to attract liquidity to improve the price at which an option series will open as well as to maximize the number of contracts that can be executed on the opening. This process will only occur if the Exchange has not been able to otherwise open an option series utilizing the other processes available in proposed BX Options 3, Section 8. The Exchange believes the process presented in the price discovery mechanism is consistent with just and equitable principles of trade because the process applies a proposed, wider boundary to identify the Opening Price and seeks additional liquidity. The price discovery mechanism also promotes just and equitable principles of trade by taking into account whether all interest can be fully executed, which helps investors by including as much interest as possible in the Opening Process. The Exchange believes that conducting the price discovery process in these situations protects opening orders from receiving a random price that does not reflect the totality of what is happening in the markets on the opening and also further protects opening interest from

receiving a potentially erroneous execution price on the opening. Opening immediately has the benefit of speed and certainty, but that benefit must be weighed against the quality of the execution price and whether orders were left unexecuted. The Exchange believes that the proposed rule strikes an appropriate balance. Today, BX would start imbalance messages even without a Valid Width NBBO. With the proposed amendments, BX would not start the imbalance process unless a Valid Width NBBO was present.

It is consistent with the Act to not consider away market liquidity, i.e. away market volume, until the price discovery mechanism occurs because this proposed process provides for a swift, yet conservative opening. The Exchange is bounded by the Pre-Market BBO when determining an Opening Price. The away market prices would be considered, albeit not immediately. It is consistent with the Act to consider interest on the Exchange prior to routing to an away market, because the Exchange is utilizing the interest currently present on its market to determine a quality Opening Price.⁸² The Exchange will attempt to match interest in the System, which is within the OQR, and not leave interest unsatisfied that was otherwise at that price. The Exchange will not trade-through the away market interest in satisfying this interest at the Exchange. The proposal

⁸² Opening with a quote, pursuant to proposed Options 3, Section 8(f), would not require consideration of away market quotes because BX would have opened with a local quote that was not locked or crossed with the away market, provided there are no opening quotes or orders that lock or cross each other, and no routable orders locking or crossing the ABBO. With respect to Opening with a Trade, pursuant to Options 3, Section 8(i), the Exchange would not consider away market interest if it could open immediately with a trade, provided that the Exchange would never trade-through an away market. If BX is locked and crossed with an away market, then the Exchange would require additional price discovery, pursuant to paragraphs (j) and (k).

attempts to maximize the number of contracts that can trade, and is intended to find the most reasonable and suitable price, relying on the maximization to reflect the best price.

With respect to the manner in which the Exchange disseminates an Imbalance Message, as proposed within BX Options 3, Section 8(k)(A), the Imbalance Message is intended to attract additional liquidity, much like an auction, using an auction message and timer. The Imbalance Timer is consistent with the Act because it would provide a reasonable time for participants to respond to the Imbalance Message before any opening interest is routed to away markets and, thereby, maximize trading on the Exchange. The Imbalance Timer would be for the same number of seconds for all options traded on the Exchange. This process will repeat, up to four iterations, until the options series opens. The Exchange believes that this process is consistent with the Act because the Exchange is seeking to identify a price on the Exchange without routing away, yet which price may not trade through another market and the quality of which is addressed by applying the OQR boundary.

Proposed Options 3, Section 8(k)(3)(C)(i) provides if the total number of better priced away contracts, plus the number of contracts available at the Exchange Opening Price, plus the contracts available at away markets at the Exchange Opening Price, would satisfy the number of marketable contracts the Exchange has on either the buy or sell side, the System will contemporaneously route a number of contracts that will satisfy interest at away markets at prices better than the Exchange Opening Price (pricing any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price), trade available contracts on the Exchange at the Exchange Opening Price, and route a number of contracts that will satisfy interest at other markets at prices

equal to the Exchange Opening Price. This provision is consistent with the Act because it considers routing to away markets potentially both at a better price than the Exchange Opening Price, as well as at the Exchange Opening Price, to access as much liquidity as possible to maximize the number of contracts able to be traded as part of the Opening Process. The Exchange routes at the better of the Exchange's Opening Price or the order's limit price to first ensure the order's limit price is not violated. Routing away at the Exchange's Opening Price is intended to achieve the best possible price available at the time the order is received by the away market.

Proposed BX Options 3, Section 8(k)(3)(E), entitled "Forced Opening," provides for the situation where, as a last resort, the Exchange may open an options series when the processes described above have not resulted in an opening of the options series. Under a Forced Opening, the System will open the series executing as many contracts as possible by routing to away markets at prices better than the Exchange Opening Price for their disseminated size, trading available contracts on the Exchange at the Exchange Opening Price, bounded by OQR (without trading through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price). The System will also route interest to away markets at prices equal to the Exchange Opening Price at their disseminated size. In this situation, the System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price. Any unexecuted interest from the imbalance not traded or routed will be cancelled back to the entering participant, if they remain unexecuted and priced through the Opening Price, otherwise orders will remain in the Order Book. The Exchange believes that this process is consistent with the Act because after attempting to open by soliciting interest on BX

and considering other away market interest and considering interest responding to Imbalance Messages, the Exchange could not otherwise locate a fair and reasonable price with which to open options series.

The Exchange's proposal to memorialize the manner in which proposed rule will cancel and prioritize interest provides certainty to market participants as to the priority scheme during the Opening Process.⁸³ The Exchange's proposal to execute Market Orders first and then Limit Orders is consistent with the Act because these orders have no specified price and Limit Orders will be executed, thereafter, in accordance with the prices specified due to the nature of these order types. This is consistent with the manner in which these orders execute after the opening today.

Proposed BX Options 3, Section 8(k)(7), which provides upon opening of the option series, regardless of an execution, the System dissemination of the price and size of the Exchange's BBO, is consistent with the Act because it clarifies the manner in which the Exchange establishes the BBO for purposes of reference upon opening.

Proposed BX Options 3, Section 8(k)(8) accounts for remaining contracts, which did not price through the Opening Price. These contracts would post on the Order Book at the better of the away market price or the order's limit price. Specifically, any remaining contracts, which are not priced through the Exchange Opening Price after routing a number of contracts to satisfy better priced away contracts, will be posted to the Order Book at the better of the away market price or the order's limit price. This includes DNR Orders that are not crossed with the Opening Price. Only in the event that ABBO interest, which the DNR Order would otherwise be crossing, has been satisfied by

⁸³ See proposed BX Options 3, Section 8(j) and (k)(6)(B).

routable interest during the Opening Process would DNR Orders be included within the remaining contracts described in proposed BX Options 3, Section 8(k)(8).⁸⁴ This rule text accounts for orders which have routed away and returned unsatisfied, and also accounts for interest that remains unfilled during the Opening Process, provided that interest was not priced through the Opening Price. The Exchange believes that the proposed text in Options 3, Section 8(k)(8) is consistent with the Act in that the Exchange is accounting for the handling of all interest in the Opening Process with this rule text.

Opening Process Cancel Timer

The Exchange's proposal to retain its renamed "Opening Process Cancel Timer" within proposed BX Options 3, Section 8(l), with rule text modifications to conform the rule text similar to Phlx Options 3, Section 8(l), is consistent with the Act. The cancel timer will continue to provide Participants with the ability to elect to have orders returned, except for non-GTC orders. This functionality provides Participants with choice, when symbols do not open, about where, and when, they can send orders for the opening that would afford them the best experience.

Options 2, Section 4

The Exchange's proposal to remove the rule text from Options 2, Section 4(g) and permit BX to establish differences, other than noted within proposed BX Options 3, Section 8(a)(9), for one or more series or classes of options, similar to other Nasdaq affiliated exchanges,⁸⁵ is consistent with the Act. Today, BX Regulation takes into

⁸⁴ DNR Orders that are not crossed with the Opening Price rest on the Order Book at the better of the ABBO price or the DNR Order's limit order price.

⁸⁵ ISE, GEMX and MRX Rules at Options 3, Section 8(a)(8), and Phlx Rules at Options 3, Section 8(a)(ix), provide the same discretionary language.

account: (A) whether there is pending news, a news announcement or other special events; (B) whether the underlying security is trading outside of the bid or offer in such security then being disseminated; (C) whether Options Participants receive no response to orders placed to buy or sell the underlying security; and (D) whether a vendor quote feed is clearly stale or unreliable, in making such determinations regarding quoting discretion. The Exchange believes that permitting BX to have the same discretion as Phlx, ISE, GEMX and MRX will assist the Exchange in making similar determinations to affected options series. The Exchange's proposal to amend Options 2, Section 4(g) and instead permit the Exchange to grant discretion based on proposed BX Options 3, Section 8(a)(9) is consistent with the Act because such discretion would permit the Exchange the ability to attract liquidity from Market Makers, while also maintaining a fair and orderly market. Market Makers accept a certain amount of risk when quoting on the Exchange. The Exchange imposes quoting and other obligations on Market Makers.⁸⁶ These risks, which Market Makers accept each trading day are calculated risks. The Exchange considers certain factors, which are likely unforeseen, in determining whether to grant relief, either in individual options classes or for all option classes based upon specific criteria. The Exchange believes that it is necessary to grant quote relief in certain circumstances where a Market Maker may not have enough information to maintain fair and orderly markets.

⁸⁶ See BX Options 2, Sections 4 and 5.

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

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

Definitions

The Exchange's proposal to amend and alphabetize the current definitions within Options 3, Section 8(a) does not impose a burden on competition. The definitions will assist market participants in understanding the meaning of terms used throughout the proposed Rule.

Amending the definition of "market for the underlying security" within Options 3, Section 8(a)(ii) does not impose a burden on competition. The Exchange's proposal offers alternative paths to open BX in the event that the primary market or even a designated alternate primary market experiences an issue. The Exchange's proposal is intended to create additional certainty in the event that an issue with the primary market arises. With this proposal, the Exchange would have other equity markets to look to with respect to underlying prices on which to open BX. This proposal also does not impact the ability of other options markets to open.

Eligible Interest

Defining what qualifies as eligible interest does not impose a burden on competition because Participants will be provided with certainty, when submitting interest, as to which type of interest will be considered in the Opening Process. Unlike the regular session, where orders route if they cannot execute on BX, the Opening Process is a price discovery process which considers interest, both on BX and away markets, to determine the optimal bid and offer with which to open the market. The

Opening Process seeks the price point at which the most number of contracts may be executed while protecting away market interest.

The Exchange's proposal to define an "Opening Sweep" within BX Options 3, Section 7(a)(9), similar to Phlx Options 3, Section 7(b)(i), does not impose a burden on competition. Removing the current order type described as "On the Open Order" and instead adopting an "Opening Sweep" order type, similar to Phlx at Options 3, Section 7(b)(6), will permit Market Makers to continue to submit orders during the Opening Process for execution against eligible interest in the System. Other market participants will continue to also submit orders that enter with a TIF of "OPG" for the Opening Process.

Likewise, replacing the current "TIF" of "On the Open Order" or "OPG" to an "Opening Only" or "OPG" TIF, which can only be executed in the Opening Process, pursuant to Options 3, Section 8, and is similar to Phlx Options 3, Section 7(b)(6), does not burden competition. This TIF is similar to Phlx, in that, any portion of the order that is not executed during the Opening Process is cancelled. This order type is not subject to any protections listed in Options 3, Section 15.⁸⁷ Participants will be able to continue to submit orders to be entered into the Opening Process. The two orders types will conform to Phlx's order types, which are relevant to the Opening Process, with those of BX.

⁸⁷ Phlx Options 3, Section 7(c)(3) provides that an OPG Order is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments. Today, OPG Orders on Phlx are not subject to any protections, including Automated Quotation Adjustments protections. Phlx intends to file a rule change to remove the rule text which provides, "except for Automated Quotation Adjustments," as OPG Orders are subject to that risk protection. BX will not include the exception in the proposed rule text. OPG Orders are handled in the same manner by the Phlx System today and the BX System, as proposed.

These order types would continue to not be valid outside of an Opening Process; they may not be submitted in the regular trading session.

With respect to trade allocation, the proposal notes at proposed BX Options 3, Section 8(b)(2) that the System will allocate pursuant to BX Options 3, Section 10. The Exchange believes that this allocation does not impose a burden on competition because it mirrors the current allocation process on BX in other trading sessions.

Permitting the Opening Process for an option series to be conducted on or after 9:30 AM, when the System has received an opening trade or quote on the market for the underlying security in the case of equity options or in the case of index options⁸⁸ does not impose a burden on competition because this requirement will tie the option Opening Process to receipt of liquidity. The Exchange's proposed rule considers the liquidity present on its market before initiating other processes to obtain additional pricing information. Today, BX, unlike Phlx, does not require its Lead Market Makers to submit Valid Width Quotes. BX is not proposing to adopt the same quoting requirements during the Opening Process that exist on Phlx.

Similar to Phlx Options 3, Section 8(d)(v), proposed BX Options 3, Section 8(d)(3) provides that the Opening Process will stop and an option series will not open if the ABBO becomes crossed. This proposal does not impose a burden on competition. Once this condition no longer exists, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below. Unlike Phlx Options 3, Section 8(d)(v),⁸⁹ BX will not consider if a Valid Width Quote(s) is no longer present. Unlike

⁸⁸ See proposed BX Options 3, Section 8(d)(1).

⁸⁹ Phlx Options 3, Section 8(d)(v) provides, "The Opening Process will stop and an option series will not open if the ABBO becomes crossed or when a Valid Width

Phlx, BX does not require its Lead Market Makers to quote in the Opening Process. This requirement is not necessary for BX as BX's market would open with a BBO, pursuant to Options 3, Section 8(f), unless the ABBO becomes crossed.

The Exchange's proposal to add rule text within proposed Options 3, Section 8(d)(4) to make clear that the Exchange would not open with a trade, pursuant to paragraph (i)(2), if a Valid Width NBBO does not impose an undue burden on competition. Today, BX would not open with a trade unless there is a Valid Width NBBO present. This would remain the case with this proposal. The addition of this rule text provides market participants with an expectation of the circumstances under which the Exchange would open an option series.

Reopening After a Trading Halt

Proposed BX Options 3, Section 8(e) provides if there is a trading halt or pause in the underlying security, the Opening Process will start again irrespective of the specific times listed in paragraph (d). The Exchange's proposal to restart in the event of a trading halt does not impose a burden on competition because the proposed rule ensures that there is stability in the marketplace in order to assist the Exchange in determining the Opening Price.

Opening with a BBO

The Exchange's proposal to validate the Opening Price against away markets or by attracting additional interest to address the specific condition does not impose a

Quote(s) pursuant to paragraph (d)(i) is no longer present. Once each of these conditions no longer exist, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below."

burden on competition. It should avoid opening executions in very wide or unusual markets where an opening execution price cannot be validated.

Further Opening Processes and Price Discovery Mechanism

The proposed rule continues to consider the maximum number of contracts that can be executed, which results in a price that is logical and reasonable in light of away markets and other interest present in the System. The Exchange's method seeks to validate the Opening Price and avoid opening at aberrant prices does not impose a burden on competition. The Opening Price would be applied to all eligible interest.

Options 2, Section 4

The Exchange's proposal to remove the rule text from Options 2, Section 4(g) and permit BX to establish differences as noted within proposed Options 3, Section 8(a)(9), for one or more series or classes of options, similar to other Nasdaq Affiliated Exchanges,⁹⁰ does not create a burden on competition.

Finally, the proposed amendments do not create a burden on inter-market competition because other options markets have the same intra-day requirements.

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

No written comments were either solicited or received.

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

⁹⁰ ISE, GEMX and MRX Rules at Options 3, Section 8(a)(8) provides the same discretionary language as exists on Phlx today.

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

Electronic comments:

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>); or
- Send an e-mail to rule-comments@sec.gov. Please include File Number SR-BX-2020-016 on the subject line.

Paper comments:

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

All submissions should refer to File Number SR-BX-2020-016. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (<http://www.sec.gov/rules/sro.shtml>).

Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the

provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, 100 F Street, NE, Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. All comments received will be posted without change; 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-BX-2020-016 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.⁹¹

J. Matthew DeLesDernier
Assistant Secretary

⁹¹ 17 CFR 200.30-3(a)(12).

EXHIBIT 5

New text is underlined; deleted text is in brackets.

NASDAQ BX, Inc.

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Options 2 Options Market Participants

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Section 4. Obligations of Market Makers and Lead Market Makers

(a) – (f) No change.

(g) Reserved.[*Unusual Conditions - Opening Auction.* If the interest of maintaining a fair and orderly market so requires, BX Regulation may declare that unusual market conditions exist in a particular issue and allow LMMs in that issue to make auction bids and offers with spread differentials of up to two times, or in exceptional circumstances, up to three times, the legal limits permitted under this Rule. In making such determinations to allow wider markets, BX Regulation should consider the following factors: (A) whether there is pending news, a news announcement or other special events; (B) whether the underlying security is trading outside of the bid or offer in such security then being disseminated; (C) whether Options Participants receive no response to orders placed to buy or sell the underlying security; and (D) whether a vendor quote feed is clearly stale or unreliable.

(1) In the event that BX Regulation determines that unusual market conditions exist in any option, it will be the responsibility of BX Regulation to file a report with Exchange Operations setting forth the relief granted for the unusual market conditions, the time and duration of such relief and the reasons therefore.]

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Options 3 Options Trading Rules

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Section 7. Types of Orders and Order and Quote Protocols

The Exchange may determine to make certain order types and time-in-force, respectively, available on a class or System basis.

(a) The term “Order” shall mean a single order submitted to the System by a Participant that is eligible to submit such orders. The term “Order Type” shall mean the unique processing prescribed for designated orders that are eligible for entry into the System, and shall include:

* * * * *

(9) [The term “On the Open Order” shall mean an order with a designated time-in-force of “OPG”. An On the Open Order will be executable only during the Opening Cross. If such order is not executed in its entirety during the Opening Cross, the order, or any unexecuted portion of such order, will be cancelled back to the entering participant.] “Opening Sweep” is a one-sided order entered by a Market Maker through SQF for

execution against eligible interest in the System during the Opening Process. This order type is not subject to any protections listed in Options 3, Section 15, except for Automated Quotation Adjustments. The Opening Sweep will only participate in the Opening Process pursuant to Options 3, Section 8 and will be cancelled upon the open if not executed.

(b) The term “Time in Force” shall mean the period of time that the System will hold an order for potential execution, and shall include:

(1) [“On the Open Order” or “OPG” shall mean for orders so designated, that if after entry into the System, the order is not fully executed in its entirety during the Opening Cross, the order, or any unexecuted portion of such order, will be cancelled back to the entering participant.] An Opening Only order (“OPG”) is entered with a TIF of “OPG”. This order can only be executed in the Opening Process pursuant to Options 3, Section 8. This order type is not subject to any protections listed in Options 3, Section 15. Any portion of the order that is not executed during the Opening Process is cancelled. OPG orders may not route.

* * * * *

Sec. 8 Options Opening Process[and Halt Cross]

(a) Definitions. The Exchange conducts an opening for all option series traded on the Exchange using its System.

(1) An “Away Best Bid or Offer” or “ABBO” is the displayed National Best Bid or Offer not including the Exchange’s Best Bid or Offer.

(2) An “imbalance” is the number of unmatched contracts priced through the Potential Opening Price.

(3) A “market for the underlying security” is either the primary listing market or an alternative market designated by the primary market. In the event that the primary market is unable to open and an alternative market is not designated by the primary market and/or the alternative market designated by the primary market does not open, the Exchange may utilize a non-primary market to open all underlying securities from the primary market. The Exchange will select the non-primary market with the most liquidity in the aggregate for all underlying securities that trade on the primary market for the previous two calendar months, excluding the primary and alternative markets.

(4) An Opening Price is described herein in sections (i) and (k).

(5) An Opening Process is described herein in section (d).

(6) A Potential Opening Price is described herein in section (h).

(7) A Pre-Market BBO is the highest bid and the lowest offer among Valid Width Quotes.

(8) A “Valid Width National Best Bid or Offer” or “Valid Width NBBO” is the combination of all away market quotes and Valid Width Quotes received over the SQF. The Valid Width NBBO will be configurable by the underlying security, and tables with valid width differentials, which will be posted by the Exchange on its website. Away markets that are crossed will void all Valid Width NBBO calculations. If any Market Maker quotes on the Exchange are crossed internally, then all Exchange quotes will be excluded from the Valid Width NBBO calculation.

(9) A “Valid Width Quote” is a two-sided electronic quotation, submitted by a Market Maker, quoted with a difference not to exceed \$5 between the bid and offer regardless of the price of the bid. However, respecting in-the-money series where the market for the underlying security is wider than \$5, the bid/ask differential may be as wide as the quotation for the underlying security on the primary market, or its decimal equivalent rounded down to the nearest minimum increment. The Exchange may establish differences other than the above for one or more series or classes of options.

(10) A “Zero Bid Market” is where the best bid for an options series is zero.

(b) Eligible interest during the Opening Process includes Valid Width Quotes, Opening Sweeps and orders. Quotes, other than Valid Width Quotes, will not be included in the Opening Process.

(1) Opening Sweep. An Opening Sweep is defined at Options 3, Section 7(a)(9).

(A) A Market Maker assigned in a particular option may only submit an Opening Sweep if, at the time of entry of the Opening Sweep, the Market Maker has already submitted and maintained a Valid Width Quote. All Opening Sweeps in the affected series entered by a Market Maker will be cancelled immediately if that Market Maker fails to maintain a continuous quote with a Valid Width Quote in the affected series.

(B) Opening Sweeps may be entered at any price with a minimum price variation applicable to the affected series, on either side of the market, at single or multiple price level(s), and may be cancelled and re-entered. A single Market Maker may enter multiple Opening Sweeps, with each Opening Sweep at a different price level. If a Market Maker submits multiple Opening Sweeps, the System will consider only the most recent Opening Sweep at each price level submitted by such Market Maker in determining the Opening Price. Unexecuted Opening Sweeps will be cancelled once the affected series is open.

(2) The System will allocate interest pursuant to Options 3, Section 10.

(c) Reserved.

(d) Market Maker Valid Width Quotes and Opening Sweeps received starting at 9:25 AM are included in the Opening Process. Orders entered at any time before an option series opens are included in the Opening Process.

(1) The Opening Process for an option series will be conducted pursuant to paragraphs (f)- (k) below, on or after 9:30 AM, when the System has received an opening trade or quote on the market for the underlying security in the case of equity options or in the case of index options.

(2) For all options, the underlying security, including indexes, must be open on the market for the underlying security for a certain time period, as determined by the Exchange, for the Opening Process to commence. The time period shall be no less than 100 milliseconds and no more than 5 seconds.

(3) The Opening Process will stop and an option series will not open, if the ABBO becomes crossed. Once this condition no longer exists, the Opening Process in the affected option series will start again pursuant to paragraphs (f) - (k) below.

(4) The Opening Process will stop and an options series will not open, if a Valid Width NBBO is no longer present pursuant to paragraph (i)(2). Once this condition no longer exists, the Opening Process in the affected options series will start again pursuant to paragraphs (j) and (k) below.

(e) **Reopening After a Trading Halt.** The procedure described in this Rule will be used to reopen an option series after a trading halt. If there is a trading halt or pause in the underlying security, the Opening Process will start again irrespective of the specific times listed in paragraph (d).

(f) **Opening with a BBO (No Trade).** If there are no opening quotes or orders that lock or cross each other, and no routable orders locking or crossing the ABBO, the System will open with an opening quote by disseminating the Exchange's best bid and offer among quotes and orders ("BBO") that exist in the System at that time, if any of the below conditions are satisfied:

(1) a Valid Width NBBO is present;

(2) a certain number of other options exchanges (as determined by the Exchange) have disseminated a firm quote on OPRA; or

(3) a certain period of time (as determined by the Exchange) has elapsed.

(g) **Pre-Market BBO Calculation.** If there are opening Valid Width Quotes or orders that lock or cross each other, the System will calculate the Pre-Market BBO.

(h) **Potential Opening Price.** The Potential Opening Price indicates a price where the System may open once all other Opening Process criteria are met. To calculate the Potential Opening Price, the System will take into consideration all Valid Width Quotes and orders (including

Opening Sweeps) for the option series and identify the price at which the maximum number of contracts can trade (“maximum quantity criterion”). In addition, paragraphs (i)(1)(C) and (j)(5) - (7) below contain additional provisions related to the Potential Opening Price.

(1) More Than One Potential Opening Price. When two or more Potential Opening Prices would satisfy the maximum quantity criterion and leave no contracts unexecuted, the System takes the highest and lowest of those prices and takes the mid-point; if such mid-point is not expressed as a permitted minimum price variation, it will be rounded to the minimum price variation that is closest to the closing price for the affected series from the immediately prior trading session. If there is no closing price from the immediately prior trading session, the System will round up to the minimum price variation to determine the Opening Price.

(2) If two or more Potential Opening Prices for the affected series would satisfy the maximum quantity criterion and leave contracts unexecuted, the Opening Price will be either the lowest executable bid or highest executable offer of the largest sized side.

(3) The Opening Price is bounded by the better away market price that may not be satisfied with the Exchange routable interest.

(i) Opening with Trade.

(1) The Exchange will open the option series for trading with a trade on Exchange interest only at the Opening Price, if any of these conditions occur:

(A) the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO, which is also a Valid Width NBBO;

(B) the Potential Opening Price is at or within the non-zero bid ABBO, which is also a Valid Width NBBO, if the Pre-Market BBO is crossed; or

(C) where there is no ABBO, the Potential Opening Price is at or within the Pre-Market BBO, which is also a Valid Width NBBO.

(2) If there is more than one Potential Opening Price, which meets the conditions set forth in subparagraph (1) above, where:

(A) no contracts would be left unexecuted and

(B) any value used for the mid-point calculation (which is described in subparagraph (g) above) would cross either:

(i) the Pre-Market BBO, or

(ii) the ABBO,

then, for the purposes of calculating the midpoint, the Exchange will use the better of the Pre-Market BBO or ABBO as a boundary price and will open the option series for trading with an execution at the resulting Potential Opening Price. If these conditions are not met, but a Valid Width NBBO is present, an Opening Quote Range will be calculated pursuant to paragraph (j) below and, thereafter, the Price Discovery Mechanism in paragraph (k) below will commence.

(j) The System will calculate an Opening Quote Range (“OQR”) for a particular option series that will be utilized in the Price Discovery Mechanism described below, if the Exchange has not opened subject to any of the provisions above. OQR is constrained by the least aggressive limit prices within the broader limits of OQR. The least aggressive buy order or Valid Width Quote bid and least aggressive sell order or Valid Width Quote offer within the OQR will further bound the OQR.

(1) Except as provided in paragraphs (3) and (4) below, to determine the minimum value for the OQR, an amount, as defined in a table to be determined by the Exchange, will be subtracted from the highest quote bid among Valid Width Quotes on the Exchange and on the away market(s), if any.

(2) Except as provided in paragraphs (3) and (4) below, to determine the maximum value for the OQR, an amount, as defined in a table to be determined by the Exchange, will be added to the lowest quote offer among Valid Width Quotes on the Exchange and on the away market(s), if any.

(3) If one or more away markets are disseminating a BBO that is not crossed (the Opening Process will stop and an options series will not open if the ABBO becomes crossed pursuant to (d)(3)) and there are Valid Width Quotes on the Exchange that cross each other or are marketable against the ABBO:

(A) the minimum value for the OQR will be the highest away bid.

(B) the maximum value for the OQR will be the lowest away offer.

(4) If there is more than one Potential Opening Price possible, where no contracts would be left unexecuted, any price used for the mid-point calculation (which is described in subparagraph (h) above) that is wider than the OQR will be restricted to the OQR price on that side of the market for the purposes of the mid-point calculation.

(5) If there is more than one Potential Opening Price possible, where no contracts would be left unexecuted pursuant to paragraph (h)(3) above when contracts will be routed, the System will use the away market price as the Potential Opening Price.

(6) If the Exchange determines that non-routable interest can execute the maximum number of contracts against Exchange interest, after routable interest has been determined by the System to satisfy the away market, then the Potential Opening Price is the price at which the maximum number of contracts can execute, excluding the interest which will be routed to an away market, which may be executed on the Exchange as

described in paragraph (h) above. The System will route all routable interest pursuant to Options 3, Section 10(a)(1).

(k) Price Discovery Mechanism. If the Exchange has not opened pursuant to paragraphs (f) or (i) above, after the OQR calculation in paragraph (j), the Exchange will conduct the following Price Discovery Mechanism.

(1) First, the System will broadcast an Imbalance Message for the affected series (which includes the symbol, side of the imbalance, size of matched contracts, size of the imbalance, and Potential Opening Price bounded by the Pre-Market BBO) to participants, and begin an “Imbalance Timer,” not to exceed three seconds. The Imbalance Timer will be for the same number of seconds for all options traded on the Exchange. Each Imbalance Message is subject to an Imbalance Timer.

(A) An Imbalance Message will be disseminated showing a “0” volume and a \$0.00 price if: (i) no executions are possible, but routable interest is priced at or through the ABBO; or (ii) internal quotes are crossing each other. Where the Potential Opening Price is through the ABBO, an imbalance message will display the side of interest priced through the ABBO.

(2) Any new interest received by the System will update the Potential Opening Price. If during or at the end of the Imbalance Timer, the Opening Price is at or within the OQR, the Imbalance Timer will end and the System will open with a trade at the Opening Price if the executions consist of Exchange interest only without trading through the ABBO and without trading through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price. If no new interest comes in during the Imbalance Timer, and the Potential Opening Price is at or within OQR and does not trade through the ABBO, the Exchange will open with a trade at the end of the Imbalance Timer at the Potential Opening Price.

(3) Next, provided the option series has not opened pursuant to (k)(2) above, the System will:

(A) send a second Imbalance Message with a Potential Opening Price that is bounded by the OQR (and would not trade through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price) and includes away market volume in the size of the imbalance to participants; and concurrently

(B) initiate a Route Timer, not to exceed one second. The Route Timer operates as a pause before an order is routed to an away market. If during the Route Timer, interest is received by the System, which would allow the Opening Price to be within OQR without trading through away markets and without trading through the limit price(s) of interest within OQR, which is unable to be fully executed, the System will open with trades and the Route Timer will simultaneously end. The System will monitor quotes and orders received during

the Route Timer period and make ongoing corresponding changes to the permitted OQR and Potential Opening Price to reflect them.

(C) If no trade occurred pursuant to (B) above, when the Route Timer expires, and if the Potential Opening Price is within OQR (and would not trade through the limit price(s) of interest within OQR, which is unable to be fully executed at the Opening Price), the System will determine if the total number of contracts displayed at better prices than the Exchange's Potential Opening Price on away markets ("better priced away contracts") would satisfy the number of marketable contracts available on the Exchange. The Exchange will open the option series by routing and/or trading on the Exchange, pursuant to (i)-(iii) below.

(i) If the total number of better priced away contracts would satisfy the number of marketable contracts available on the Exchange on either the buy or sell side, the System will route all marketable contracts on the Exchange to such better priced away markets as an Intermarket Sweep Order ("ISO") designated as an Immediate-or-Cancel ("IOC") Order(s), and determine an opening BX Best Bid/Offer ("BBO") that reflects the interest remaining on the Exchange. The System will price any contracts routed to away markets at the Exchange's Opening Price; or

(ii) If the total number of better priced away contracts would not satisfy the number of marketable contracts the Exchange has, the System will determine how many contracts it has available at the Exchange Opening Price. If the total number of better priced away contracts, plus the number of contracts available at the Exchange Opening Price, would satisfy the number of marketable contracts on the Exchange, on either the buy or sell side, the System will contemporaneously route, based on price/time priority of routable interest, a number of contracts that will satisfy interest at away markets at prices better than the Opening Price, and trade available contracts on the Exchange at the Exchange Opening Price. The System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price pursuant to this subparagraph; or

(iii) If the total number of better priced away contracts, plus the number of contracts available at the Exchange Opening Price, plus the contracts available at away markets at the Exchange Opening Price would satisfy the number of marketable contracts the Exchange has, on either the buy or sell side, the System will contemporaneously route, based on price/time priority of routable interest, a number of contracts that will satisfy interest at away markets at prices better than the Exchange Opening Price (pricing any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price), trade available contracts on the Exchange at the Exchange Opening Price, and route a number of contracts

that will satisfy interest at away markets at prices equal to the Exchange Opening Price.

(D) The System may send up to two additional Imbalance Messages (which may occur while the Route Timer is operating) bounded by OQR and reflecting away market interest in the volume. After the Route Timer has expired, the processes in paragraph (C) will repeat (except no new Route Timer will be initiated).

(E) Forced Opening. After all additional Imbalance Messages have occurred pursuant to paragraph (D) above, the System will open the series by executing as many contracts as possible, by routing to away markets at prices better than the Exchange Opening Price for their disseminated size, trading available contracts on the Exchange at the Exchange Opening Price bounded by OQR (without trading through the limit price(s) of interest within OQR which is unable to be fully executed at the Opening Price), and routing contracts to away markets at prices equal to the Exchange Opening Price at their disseminated size. In this situation, the System will price any contracts routed to away markets at the better of the Exchange Opening Price or the order's limit price. Any unexecuted interest from the imbalance not traded or routed will be cancelled back to the entering participant, if they remain unexecuted and priced through the Opening Price. All other interest will be eligible for trading after opening, if consistent with the Participant's instruction.

(F) The System will execute non-routable orders, such as a "Do Not Route" or "DNR" Orders, to the extent possible. The System will only route non-contingency orders.

(4) Pursuant to Options 3, Section 8(k)(3)(F), the System will re-price Do Not Route Orders (that would otherwise have to be routed to the exchange(s) disseminating the ABBO for an opening to occur) to a price that is one minimum trading increment inferior to the ABBO, and disseminate the re-priced DNR Order as part of the new BBO.

(5) The System will cancel any order or quote that is priced through the Opening Price. All other interest will be eligible for trading after opening.

(6) During the opening of the option series, where there is an execution possible, the System will give priority to Market Orders first, then to resting Limit Orders and quotes. The allocation provisions of Options 3, Section 10 will apply.

(7) Upon opening of an option series, regardless of an execution, the System disseminates the price and size of the Exchange's best bid and offer (BBO).

(8) Remaining contracts, which are not priced through the Exchange Opening Price after routing a number of contracts to satisfy better priced away contracts, will be posted to the Order Book at the better of the away market price or the order's limit price.

(1) Opening Process Cancel Timer. The Opening Process Cancel Timer represents a period of time since the underlying market has opened, and shall be established and disseminated by the Exchange on its website. If an option series has not opened before the conclusion of the Opening Process Cancel Timer, a Participant may elect to have orders returned by providing written notification to the Exchange. These orders include all non-Good Til Cancelled Orders received over the FIX protocol.

[(a) Definitions. For the purposes of this Rule the term:

(1) "Imbalance" shall mean the number of contracts of Eligible Interest that may not be matched with other order contracts at a particular price at any given time.

(2) "Order Imbalance Indicator" shall mean a message disseminated by electronic means containing information about Eligible Interest and the price in penny increments at which such interest would execute at the time of dissemination. The Order Imbalance Indicator shall disseminate the following information:

(A) "Current Reference Price" shall mean an indication of what the opening cross price would be at a particular point in time.

(B) the number of contracts of Eligible Interest that are paired at the Current Reference Price;

(C) the size of any Imbalance; and

(D) the buy/sell direction of any Imbalance.

(3) "BX Opening Cross" shall mean the process for opening or resuming trading pursuant to this Rule and shall include the process for determining the price at which Eligible Interest shall be executed at the open of trading for the day, or the open of trading for a halted option, and the process for executing that Eligible Interest.

(4) "Eligible Interest" shall mean any quotation or any order that may be entered into the system and designated with a time-in-force of IOC (immediate-or-cancel), DAY (day order), GTC (good-till-cancelled), and OPG (On the Open Order). However, orders received via FIX protocol prior to the BX Opening Cross designated with a time-in-force of IOC will be rejected and shall not be considered eligible interest. Orders received via SQF prior to the BX Opening Cross designated with a time-in-force of IOC will remain in-force through the opening and shall be cancelled immediately after the opening.

(5) "Market for the Underlying Security" shall mean either the primary listing market, the primary volume market (defined as the market with the most liquidity in that underlying security for the previous two calendar months), or the first market to open the underlying security, as determined by the Exchange on an issue-by-issue basis and announced to the membership on the Exchange's web site.

(6) "Valid Width National Best Bid or Offer" or "Valid Width NBBO" shall mean the combination of all away market quotes and any combination of BX Options-registered Market Maker orders and quotes received over the SQF Protocols within a specified bid/ask differential as established and published by the Exchange. The Valid Width NBBO will be configurable by underlying, and tables with valid width differentials will be posted by BX on its website. Away markets that are crossed will void all Valid Width NBBO calculations. If any Market Maker orders or quotes on BX Options are crossed internally, then all such orders and quotes will be excluded from the Valid Width NBBO calculation.

(7) "Away Best Bid or Offer" or "ABBO" shall mean the displayed National Best Bid or Offer not including the Exchange's Best Bid or Offer.

(b) Processing of BX Opening Cross. For the opening of trading of option series traded on BX, the Opening Cross shall occur at or after 9:30, if the dissemination of a regular market hours quote or trade (as determined by the Exchange) by the Market for the Underlying Security has occurred (or, in the case of index options, the Exchange has received the opening price of the underlying index). Or, in the case of a trading halt, the Opening Cross shall occur when trading resumes pursuant to Options 3, Section 9. Market hours trading shall commence or, in the case of a halted option, resume when the BX Opening Cross concludes.

In each case, the opening of trading or resumption of trading after a halt of option series will be dependent on the following criteria, provided the ABBO is not crossed:

- (1) If there is a possible trade on BX, a Valid Width NBBO must be present.
- (2) If no trade is possible on BX, then BX will open dependent upon one of the following:
 - (A) A Valid Width NBBO is present;
 - (B) A certain number of other options exchanges (as determined by the Exchange) have disseminated a firm quote on OPRA; or
 - (C) A certain period of time (as determined by the Exchange) has elapsed.
- (3) BX shall disseminate by electronic means an Order Imbalance Indicator every 5 seconds beginning between 9:20 and 9:28, or a shorter dissemination interval as established by the Exchange, with the default being set at 9:25 a.m. The start of dissemination, and a dissemination interval, shall be posted by BX on its website.
- (4)
 - (A) The BX Opening Cross shall occur at the price that maximizes the number of contracts of Eligible Interest in BX Options to be executed at or within the ABBO and within a defined range, as established and published by the Exchange, of the Valid Width NBBO.

(B) If more than one price exists under subparagraph (A), and there are no contracts that would remain unexecuted in the cross, the BX Opening Cross shall occur at the midpoint price, rounded to the penny closest to the price of the last execution in that series (and in the absence of a previous execution price, the price will round up, if necessary) of (1) the National Best Bid or the last offer on BX Options against which contracts will be traded whichever is higher, and (2) the National Best Offer or the last bid on BX Options against which contracts will be traded whichever is lower.

(C) If more than one price exists under subparagraph (A), and contracts would remain unexecuted in the cross, then the opening price will be the highest/lowest price, in the case of a buy/sell imbalance, at which the maximum number of contracts can trade which is equal to or within a defined range, as established and published by the Exchange, of the Valid Width NBBO on the contra side of the imbalance that would not trade through the ABBO.

Regarding unexecuted contracts:

(i) If unexecuted contracts remain with a limit price that is equal to the opening price, then the remaining unexecuted contracts will be posted at the opening price, displayed one minimum price variation (MPV) away if displaying at the opening price would lock or cross the ABBO, with the contra-side BX Options BBO reflected as firm;

(ii) If unexecuted contracts remain with a limit price that is through the opening price, and there is a contra side ABBO at the opening price, then the remaining unexecuted contracts will be posted at the opening price, displayed one minimum price variation (MPV) away, with the contra side BX Options BBO reflected as firm and order handling of any remaining interest will be done in accordance with the routing and time-in-force instructions of such interest with the opening price representing the reference price set forth in Options 3, Section 10;

(iii) If unexecuted contracts remain with a limit price that is through the opening price, and there is no contra side ABBO at the opening price, then the remaining contracts will be posted at the opening price, with the contra-side BX Options BBO reflected as non-firm; and

(iv) Order handling of any residual unexecuted contracts will be done in accordance with Options 3, Section 8(b)(7), with the opening price representing the reference price.

(5) If the BX Opening Cross price is selected and fewer than all contracts of Eligible Interest that are available in BX Options would be executed, all Eligible Interest shall be executed at the BX Opening Cross price in accordance with the execution algorithm assigned to the associated underlying option.

(6) All Eligible Interest executed in the BX Opening Cross shall be executed at the BX Opening Cross price, trade reported anonymously, and disseminated via a national market

system plan. The BX Opening Cross price shall be the BX Official Opening Price for options that participate in the BX Opening Cross.

(7) If the conditions specified in (b) above have occurred, but there is an imbalance containing marketable routable interest, then one additional Order Imbalance Indicator will be disseminated, after which the cross will occur, executing the maximum number of contracts at the price provided for in subsection (b)(4) of this Rule. Any remaining Imbalance will be canceled, posted, or routed as per the directions on the customer's order.

(c) Absence of Opening Cross. If an Opening Cross in a symbol is not initiated before the conclusion of the Opening Order Cancel Timer, a firm may elect to have orders returned by providing written notification to the Exchange. These orders include all non GTC orders received over the FIX protocol. The Opening Order Cancel Timer represents a period of time since the underlying market has opened, and shall be established and disseminated by BX on its website.]

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Options 4A Options Index Rules

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Section 11. Trading Sessions

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(b) To begin trading at 9:30 am, an opening shall be held in each class of index options as provided in Options 3, Section 8 (Opening [and Halt Cross]Process).

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Options 6B Exercises and Deliveries

Section 1. Exercise of Options Contracts

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(8) Exercises of American-style, cash-settled index options (and the submission of corresponding "exercise advice" and "advice cancel" forms) shall be prohibited during any time when trading in such options is delayed, halted, or suspended, subject to the following exceptions:

(A) and (B) No change.

(C) Exercises of American-style, cash-settled index options shall not be prohibited during a trading halt that occurs at or after 4:00 p.m. Eastern Time. In the event of such a trading halt, exercises may occur through 4:20 p.m. Eastern Time. In addition, if trading resumes following such a trading halt (pursuant to the procedure described in Options 3, Section 8 (Opening [and Halt Cross]Process)), exercises may occur during the resumption of

trading and for five (5) minutes after the close of the resumption of trading. The provisions of this subparagraph 3 are subject to the authority of the Exchange to impose restrictions on transactions and exercises pursuant to Options 9, Section 18 (Limit on Outstanding Uncovered Short Positions).

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