

*Required fields are shown with yellow backgrounds and asterisks.*

Page 1 of \*       SECURITIES AND EXCHANGE COMMISSION      File No.\* SR -  - \*   
 WASHINGTON, D.C. 20549      Form 19b-4      Amendment No. (req. for Amendments \*)

Filing by Nasdaq MRX, LLC  
 Pursuant to Rule 19b-4 under the Securities Exchange Act of 1934

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

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

Exhibit 2 Sent As Paper Document       Exhibit 3 Sent As Paper Document

**Description**

Provide a brief description of the action (limit 250 characters, required when Initial is checked \*).

Proposal to amend the Exchange opening process.

**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 \*       Last Name \*   
 Title \*   
 E-mail \*   
 Telephone \*       Fax

**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         
 By      

(Name \*)

edward.knight@nasdaq.com

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 MRX, LLC (“MRX” or the “Exchange”), pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> is filing with the Securities and Exchange Commission (“SEC” or “Commission”) a proposal to amend the opening process.

A notice of the proposed rule change for publication in the Federal Register is at Exhibit 1 and the text of the amended Exchange Rule is at Exhibit 5.

(b) Not applicable.

(c) Not applicable.

2. Procedures of the Self-Regulatory Organization

The proposed rule change was approved by the Board of Directors of the Exchange on November 10, 2016. 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

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

a. Purpose

The purpose of this rule change is to amend the MRX opening process in connection with a technology migration to a Nasdaq, Inc. (“Nasdaq”) supported

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

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

architecture. INET is the proprietary core technology utilized across Nasdaq's global markets and utilized on The NASDAQ Options Market LLC ("NOM"), NASDAQ PHLX LLC ("Phlx") and NASDAQ BX, Inc. ("BX") (collectively "Nasdaq Exchanges"). The migration of MRX to the Nasdaq INET architecture would result in higher performance, scalability, and more robust architecture. With this system migration, the Exchange intends to adopt the Phlx opening process.

The Exchange intends to begin implementation of the proposed rule change in Q3 2017. The migration will be on a symbol by symbol basis, and the Exchange will issue an alert to Members to provide notification of the symbols that will migrate and the relevant dates.

### **Generally**

With the re-platform, the Exchange will now be built on the Nasdaq INET architecture, which allows certain trading system functionality to be performed in parallel. The Exchange believes that this architecture change will improve the Member experience by reducing overall latency compared to the current MRX system because of the manner in which the system is segregated into component parts to handle processing.

### **Opening Rotation**

MRX will replace its current opening process at Rule 701 with Phlx's Opening Process.<sup>3</sup> The Exchange believes that the proposed opening process will provide a

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<sup>3</sup> See Phlx Rule 1017. See also Securities Exchange Act Release No. 79274 (November 9, 2016), 81 FR 80694 (November 16, 2016) (SR-Phlx-2017-79) (notice of Filing of Partial Amendment No. 2 and Order Granting Approval of a Proposed Rule Change, as Modified by Partial Amendment No. 2, to Amend PHLX Rule 1017, Openings in Options).

similar experience for Members and investors that trade on MRX to the experience that they receive on Phlx today.

### **Current Opening Process**

Today, for each class of options that has been approved for trading, the opening rotation is conducted by the Primary Market Maker (“PMM”) appointed to such class of options pursuant to MRX Rule 701(b)(1). The Exchange may direct that one or more trading rotations be employed on any business day to aid in producing a fair and orderly market pursuant to MRX Rule 701(a)(1). For each rotation so employed, except as the Exchange may direct, rotations are conducted in the order and manner the PMM determines to be appropriate under the circumstances pursuant to MRX Rule 701(a)(2). The PMM, with the approval of the Exchange, has the authority to determine the rotation order and manner and may also employ multiple trading rotations simultaneously pursuant to MRX Rule 701(a)(3).

Trading rotations are employed at the opening of the Exchange each business day and during the reopening of the market after a trading halt pursuant to MRX Rule 701(b). The opening rotation in each class of options is held promptly following the opening of the market for the underlying security.<sup>4</sup> The opening rotation for options contracts in an underlying security is delayed until the market for such underlying security has opened unless the Exchange determines that the interests of a fair and orderly market are best served by opening trading in the options contracts pursuant to MRX Rule 701(b)(3).

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<sup>4</sup> The “market for the underlying security” is 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. See MRX Rule 701(b)(2).

Market Makers on MRX are held to quoting obligations as outlined in MRX Rule 803. Further, Market Makers quotes prior to the opening rotation, including PMM quotes, are permitted with spread differential of no more than \$0.25 between the bid and offer for each options contract for which the bid is less than \$2, no more than \$0.40 where the bid is at least \$2 but does not exceed \$5, no more than \$0.50 where the bid is more than \$5 but does not exceed \$10, no more than \$0.80 where the bid is more than \$10 but does not exceed \$20, and no more than \$1 where the bid is \$20 or greater, provided that the Exchange may establish differences other than the above for one or more options series, as specified in MRX Rule 803(b)(4). These differentials are defined as Valid Width Quotes for purposes of this rule proposal.

The PMM appointed to an option class can initiate the rotation process by sending a rotation request to the Exchange or by authorizing the Exchange to auto-rotate the class. In addition, there are instances where the PMM is unable to initiate the rotation process. In such instances the Exchange may initiate the rotation process by using the Exchange's "Delayed Opening Process," which provides an alternative method for opening an option class when the PMM is unable to initiate the rotation process.<sup>5</sup> Once the PMM or Exchange initiates the opening rotation, the Exchange will automatically process displayed quotes and orders via a process that determines the price at which the maximum number of contracts can trade within certain established boundary prices. In order to protect interest from trading at bad prices, quotes and orders are not executed outside of the established boundary prices. If there are no quotes or orders that lock or

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<sup>5</sup> Certain conditions must be met for the Delayed Opening Process to be used to initiate the opening process.

cross each other, the Exchange will open a series by disseminating the Exchange's best bid and offer among quotes and orders under certain conditions.

The Exchange proposes to replace this process with an opening process similar to a recently approved Phlx opening process as noted above.<sup>6</sup>

### **Opening Process**

The Exchange will adopt a "Definitions" section at proposed MRX Rule 701(a), similar to Phlx Rule 1017(a), to define several terms that are used throughout the opening rule. Similar to today, the Exchange will conduct an electronic opening for all option series traded on the Exchange using its trading system (hereinafter "system").

The Exchange proposes to define the following terms, which are described below: "ABBO," "market for the underlying security," "Opening Price," "Opening Process," "Pre-Market BBO," "Potential Opening Price," "Quality Opening Market," "Valid Width Quote," and "Zero Bid Market."

The Exchange proposes to define "Opening Process" at proposed Rule 701(a)(4) by cross-referencing proposed Rule 701(c). The Exchange proposes to define "Opening Price" at proposed Rule 701(a)(3) by cross-referencing proposed Rule 701(h) and (j). The Exchange proposes to define "Potential Opening Price" at proposed Rule 701(a)(5) by cross-referencing proposed Rule 701(g). The Exchange proposes to define "ABBO" at proposed Rule 701(a)(1) as the Away Best Bid or Offer. The ABBO does not include MRX's market. The Exchange proposes to define "market for the underlying security" at proposed Rule 702(a)(2) as either the primary listing market or the primary volume market (defined as the market with the most liquidity in that underlying security for the

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<sup>6</sup> See note 3 above. Nasdaq ISE, LLC ("ISE") and Nasdaq GEMX, LLC ("GEMX") have similar opening processes. See ISE and GEMX Rules 701.

previous two calendar months), as determined by the Exchange by underlying and announced to the membership on the Exchange's web site.<sup>7</sup> The Exchange notes that the term "Market Makers" is currently defined in MRX Rule 100(a)(25) as referring to Primary Market Makers or "PMMs" and Competitive Market Makers or "CMMs," collectively. The next definition is "Pre-Market BBO" defined at proposed Rule 701(a)(6) as the highest bid and the lowest offer among Valid Width Quotes.<sup>8</sup> The Pre-Market BBO does not include orders. The term "Quality Opening Market" is defined at proposed Rule 701(a)(7) as 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.<sup>9</sup> This 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. The Exchange utilizes its experience with products to make this determination. Next, a "Valid Width Quote" is defined at proposed Rule 701(a)(8) as a two-sided electronic quotation submitted by a Market

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<sup>7</sup> Today, all are the primary listing market. The Exchange would consider switching to primary volume market if a different market begins to trade more volume than the primary listing market and the primary volume market becomes a more reliable source of prices with more liquidity.

<sup>8</sup> Valid Width Quotes is defined at proposed Rule 701(a)(8).

<sup>9</sup> Phlx maintains a table on its website with this information. See [http://www.nasdaqtrader.com/content/phlxxl/phlxiiisys\\_overview.pdf](http://www.nasdaqtrader.com/content/phlxxl/phlxiiisys_overview.pdf). MRX will publish similar details on its website.



Maker that consists of a bid/ask differential that is compliant with Rule 803(b)(4). The term “Zero Bid Market” is defined at proposed Rule 701(a)(9) where the best bid for an options series is zero. The Exchange believes that these definitions will bring additional clarity to the proposed rule.

### **Eligible Interest**

The first part of the Opening Process determines what constitutes eligible interest. Eligible interest during the Opening Process includes Valid Width Quotes, Opening Sweeps and orders. The Exchange proposes to adopt in proposed paragraph (b) of Rule 701 a provision that quotes,<sup>10</sup> other than Valid Width Quotes, will not be included in the Opening Process. All-or-None Orders that can be satisfied, and the displayed and non-displayed portions of Reserve Orders are considered for execution and in determining the Opening Price throughout the Opening Process.

The Exchange notes that only Public Customer interest is routable during the Opening Process. All other non-Public Customer interest will not be routed during the Opening Process. Unlike the regular session where orders route if they cannot execute on MRX, the Opening Process is a price discovery process which considers interest, both on MRX 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 only routes Public Customer interest at this time rather than all interest because this type of interest always receives priority on MRX and this process ensures that Public Customer

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<sup>10</sup> The term quotes shall refer to a two-sided quote.

interest will be executed with priority during the Opening Process. Other interest is not routable until after the Exchange has completed the Opening Process.

The Exchange notes that Opening Sweeps may be submitted through the new Specialized Quote Feed or “SQF” protocol which permits one-sided orders to be entered by a Market Maker. Today, orders are entered by all participants through FIX and/or DTI on MRX. After the re-platform the INET architecture, all participants will continue to be able to submit orders through FIX, however, DTI will no longer be available. An Opening Sweep is a Market Maker order submitted for execution against eligible interest in the system during the Opening Process.<sup>11</sup> It is similar to an Opening Only Order<sup>12</sup> that can be entered for the opening rotation only and any portion of the order that is not executed during the opening rotation is cancelled. However, it should also be noted that an Opening Sweep may only be submitted by a Market Maker when he/she has a Valid Width Quote in the affected series whereas, there is no such restriction on Opening Only Orders. 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. If a Market Maker does not want to submit or is unable to maintain a Valid Width Quote, the Market Maker can submit Opening Only Order instead.

### **Opening Sweep**

Proposed Rule 701(b)(1) provides that a Market Maker assigned in a particular option may only submit an Opening Sweep if, at the time of entry of the Opening Sweep, that Market Maker has already submitted and maintains a Valid Width Quote. All

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<sup>11</sup> See proposed MRX Rule 715(t).

<sup>12</sup> See MRX Rule 715(o).

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. 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.<sup>13</sup>

Proposed Rule 701(b)(2) states that the system will aggregate the size of all eligible interest for a particular participant category<sup>14</sup> at a particular price level for trade allocation purposes pursuant to MRX Rule 713. Eligible interest may be submitted into MRX's system and will be received starting at the times noted herein. Proposed Rule 701(c) provides that Market Maker Valid Width Quotes and Opening Sweeps received starting at 9:25 AM Eastern Time will be included in the Opening Process.<sup>15</sup> 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

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<sup>13</sup> See proposed MRX Rule 701(b)(1)(ii). See also proposed MRX Rule 715(t).

<sup>14</sup> MRX allocates first to Priority Customers and then to all other Members by pro-rata. This is different from Phlx which allocates to Customers first, then to market makers pro-rata and then to all others pro-rata. See MRX Rule 713 and Phlx Rule 1014(g)(vii).

<sup>15</sup> The Opening Process for foreign currency options will also include Market Maker Valid Width Quotes and Opening Sweeps received starting at 9:25 AM Eastern Time.

Width Quotes and Opening Sweeps. The 9:25 AM Eastern Time trigger is intended to tie the option Opening Process to quoting in the majority of the underlying securities<sup>16</sup>; 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.<sup>17</sup>

Proposed Rule 701(c)(1) describes when the Opening Process can begin with specific time-related triggers. The proposed rule provides that the Opening Process for an option series will be conducted pursuant to proposed Rule 701(f) though (j) on or after 9:30 AM Eastern Time 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 security in the case of U.S. dollar-settled foreign currency options (or such

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<sup>16</sup> For purposes of this rule, the underlying security can also be an index. With respect to foreign currency options, the Exchange notes that those markets open prior to 9:30 AM Eastern Time. The Exchange proposes to open the foreign currency options at the same time as other options on the Exchange merely to conform the timeframe for the open. Today, on Phlx, foreign currency options trade similar to other options. With this proposal all products would trade during the same session.

<sup>17</sup> Id.

shorter time as determined by the Exchange and disseminated to membership on the Exchange's web site)<sup>18</sup> any of the following: (i) the PMM's Valid Width Quote; (ii) the Valid Width Quotes of at least two CMMs; or (iii) if neither the PMM's Valid Width Quote nor the Valid Width Quotes of two CMMs have been submitted within such timeframe, one CMM has submitted a Valid Width Quote.<sup>19</sup> These three requirements are intended to tie the option Opening Process to receipt of liquidity. If one of the above three conditions are not met, the Exchange will not initiate the Opening Process or continue an ongoing Opening Process if we do not have one of the three conditions (i, ii or iii); thus, a Forced Opening pursuant to proposed Rule 701(j)(5) could not occur.

The Exchange is proposing to state in proposed Rule 701(c)(2) that for all options, the underlying security, including indexes, must be open on the primary market 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

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<sup>18</sup> The Exchange anticipates initially setting the timeframe during which a PMM Valid Width quote or the presence of at least two CMM Valid Width Quotes will initiate the Opening Process at 30 seconds. The timeframe is consistent with the current timeframe utilized on Phlx. The Exchange believes 30 seconds is the appropriate amount of time as it provides time for the PMM and CMMs to assess the underlying security or index price and submit Valid Width Quotes as well as ample time for the underlying security or index price to stabilize. After this 30 second period, the Exchange will initiate the Opening Process provided one CMM has submitted a Valid Width Quote since the market for the underlying security or index has had opportunity to stability. The Exchange may reduce this timeframe if it is determined that the Opening Process is taking longer to initiate than the marketplace expects. The Exchange will provide notice of the initial setting to Members. The Exchange will provide notice of the shorter time period to Members if the Exchange determines to reduce the timeframe.

<sup>19</sup> See proposed Rule 701(c)(1)(i) – (iii).

milliseconds and no more than 5 seconds.<sup>20</sup> 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.

Proposed Rule 701(c)(3) states that the PMM assigned in a particular equity or index option must enter a Valid Width Quote, in 90% of their assigned series, not later than one minute following the dissemination of a quote or trade by the market for the underlying security or, in the case of index options, following the receipt of the opening price in the underlying index. The PMM assigned in a particular U.S. dollar-settled foreign currency option must enter a Valid Width Quote, in 90% of their assigned series, not later than one minute after the announced market opening. Furthermore, a CMM that submits a quote pursuant to proposed Rule 701 in any option series when the PMM's

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<sup>20</sup> 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 MRX 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.

quote has not been submitted shall be required to submit continuous, two-sided quotes<sup>21</sup> in such option series until such time as the PMM submits his/her quote, after which the Market Maker that submitted such quote shall be obligated to submit quotations pursuant to Rule 804(e). The Opening Process will stop and an option series will not open if the ABBO becomes crossed or a Valid Width Quote(s) pursuant to proposed Rule 701(c)(1) is no longer present. Once each of these conditions no longer exists, the Opening Process in the affected option series will start again pursuant to proposed Rule 701(e) – (j) as proposed in Rule 701(c)(5). 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 because it is indicative of uncertainty in the marketplace of where the option series should be valued. In this case, 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.

The Exchange notes that the obligation to quote during the Opening Process is separate from a PMM's obligation to quote after the Opening Process. The 90% requirement will be separately reviewed for the Opening Process as compared to quoting obligations after the Opening Process which are contained in Supplementary Material to Rule 804<sup>22</sup>. The Exchange is proposing a 90% requirement during the Opening Process

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<sup>21</sup> The Exchange has regulatory surveillances in place with respect to Market Maker continuous quoting obligations both at the opening and during the other trading sessions. See MRX Rule 804 regarding quoting obligations.

<sup>22</sup> ISE Rule 804(e)(1) requires a market maker to enter continuous quotations for the options classes to which it is appointed. Supplementary Material .01 to ISE Rule 804 provides, that “[a] Primary Market Maker shall be deemed to have provided continuous quotes pursuant to paragraph (e)(1) of Rule 804 if it provides two-

in order to provide PMMs an allowance for quotes that may be removed due to risk protections<sup>23</sup> such as the automated removal of quotes<sup>24</sup> which would prevent the PMM from meeting a strict 100% quoting obligation. The Exchange notes that with the proposed rule change, the Opening Process will be conducted with receipt, within the specified timeframe, of either the PMM's Valid Width Quote, the Valid Width Quotes of two CMMs or if neither the PMM or two CMM's have submitted Valid Width Quotes within the specified time frame then one CMM Valid Width Quote.<sup>25</sup>

### **Reopening After a Trading Halt**

This section is intended to provide information regarding the manner in which a trading halt would impact the Opening Process. Proposed Rule 701(d) states that the procedure described in this Rule may be used to reopen an option after a trading halt. The Exchange is adding that 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 proposed Rule 701(c)(1). This is because these times relate to the normal market opening in the morning.

### **Opening with a BBO**

This next section describes when the Exchange may open with a quote on its market. Proposed Rule 701(e), "Opening with a BBO (No Trade)," provides that if there

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sided quotes for 90% of the time that an options class is open for trading on the Exchange. Compliance with this Primary Market Maker quoting requirement and the Competitive Market Maker quoting requirements contained in (e)(2)(iii) above will be applied to all option classes quoted collectively on a daily basis."

<sup>23</sup> The risk protections in MRX Rule 804(g) apply during the Opening Process.

<sup>24</sup> See MRX Rule 804(g).

<sup>25</sup> See proposed Rule 701(c)(1)(i)-(iii).



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, unless all three of the following conditions exist: (i) a Zero Bid Market; (ii) no ABBO; and (iii) no Quality Opening Market. A Quality Opening Market is determined by reviewing all Valid Width Quotes and determining if the difference of the best bid of those Valid Width Quotes and the best offer of those Valid Width Quotes are of no more than a certain width.<sup>26</sup> The Exchange utilizes the quotes to assist in determining a fair and reasonable Opening Price. Quotes are utilized because Members are obligated to provide both a bid and sell price, providing a reasonable baseline of where the marketplace views fair value.

If all three of these conditions exist, the Exchange will calculate an Opening Quote Range pursuant to paragraph (i) and conduct the Price Discovery Mechanism or "PDM" pursuant to paragraph (j). The Exchange believes that when all three of these conditions exist, further price discovery is warranted to validate or perhaps update the Potential Opening Price and to attract additional interest to perhaps render an opening trade possible, because: (i) a Zero Bid Market reflects a lack of buying interest that could benefit from price discovery; (ii) the lack of an ABBO means there is no external check on the Exchange's market for that options series; and (iii) the lack of a Quality Opening Market indicates that the Exchange's market is wide. If no quotes or orders lock/cross each other, nothing matches and there can be no trade. The Exchange believes that when

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<sup>26</sup> Phlx maintains a table on its website with this information. See [http://www.nasdaqtrader.com/content/phlxxl/phlxiiisys\\_overview.pdf](http://www.nasdaqtrader.com/content/phlxxl/phlxiiisys_overview.pdf). MRX will publish similar details on its website.

these conditions exist, it is difficult to arrive at a reasonable and expected price. If the provisions in proposed Rule 701(e)(i) through (iii) exist, an Opening Quote Range is calculated pursuant to proposed Rule 701(i) and thereafter, the PDM in proposed Rule 701(j) will initiate.<sup>27</sup>

### **Further Opening Processes**

If an opening did not occur pursuant to proposed Rule 701(e) and there are opening Valid Width Quotes, or orders, that lock or cross each other, the system will calculate the Pre-Market BBO.<sup>28</sup> The Exchange notes that the Pre-Market BBO only uses quotes, which provide both a bid and offer as compared to orders which are one sided.

Proposed Rule 701(g) describes the general concept of how the system calculates the Potential Opening Price under all circumstances once the Opening Process is triggered. Specifically, the system will take into consideration all Valid Width Quotes and orders (including Opening Sweeps and displayed and non-displayed portions of Reserve Orders), except All-or-None Orders that cannot be satisfied, for the option series and identify the price at which the maximum number of contracts can trade (“maximum quantity criterion”). Proposed Rule 701(h)(3)(i) and proposed Rule 701(i) at paragraphs (5) through (7) contain additional provisions related to Potential Opening Price which are discussed in further detail herein. 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.

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<sup>27</sup> OQR and PDM processes may also initiate pursuant to proposed Rule 701(h).

<sup>28</sup> See proposed Rule 701(f).

Proposed Rule 701(g)(1) presents the scenario for 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.

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.<sup>29</sup> This, again, bases the Potential Opening Price on the maximum quantity that is executable. The Potential Opening Price calculation is bounded by the better away market price that cannot be satisfied with the Exchange routable interest.<sup>30</sup> The Exchange does not open with a trade that trades through another market. 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 PDM. Proposed Rule 701(h), "Opening with Trade," provides the Exchange will open the option series for trading with a trade of

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<sup>29</sup> See proposed Rule 701(g)(2).

<sup>30</sup> See proposed Rule 701(g)(3).

Exchange interest only at the Opening Price, if certain conditions described below take place. The first condition is provided in proposed Rule 701(h)(1), the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO. The second condition is provided for in Rule 701(h)(2), the Potential Opening Price is at or within the non-zero bid ABBO if the Pre-Market BBO is crossed. The third provision is provided for in proposed Rule 701(h)(3), where there is no ABBO, the Potential Opening Price is at or within the Pre-Market BBO which is also a Quality Opening Market. For the purposes of calculating the midpoint the Exchange will use the better of the Pre-Market BBO or ABBO as a boundary price.

These boundaries serve to validate the quality of the Opening Price. Proposed Rule 701(h) 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 be 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 Rule 701(h)(3)(i) provides that if there is more than one Potential Opening Price which meets the conditions set forth in proposed Rule 701(h)(1), (2) or (3), where (A) no contracts would be left unexecuted and (B) any value used for the midpoint calculation (which is described in proposed Rule 701(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, an Opening Quote Range is calculated as described in proposed Rule 701(i) and the PDM, described in proposed Rule 701(j), would commence. The proposed rule explains the boundary as well as the price basis for the mid-point calculation for immediate opening 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.

Proposed Rule 701(i) provides that the system will calculate an Opening Quote Range (“OQR”) for a particular option series that will be utilized in the PDM if the Exchange has not opened subject to any of the provisions described above. Provided the Exchange has been unable to open the option series under Rule 701(e) or (h), 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 Rule 701(g) and (h). 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.

Specifically, to determine the minimum value for the OQR, an amount, as defined in a table to be determined by the Exchange,<sup>31</sup> 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 Rule 701(i) 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 Rule 701(i) paragraphs (3) and (4).<sup>32</sup> However, if one or more away markets are collectively disseminating a BBO that is not crossed, and there are Valid Width Quotes on the Exchange that are executable against each other or that cross the away market ABBO, then the minimum value for the OQR will be the highest away bid.<sup>33</sup> 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 Rule 701(c)(5). In addition, the maximum value for the OQR will be the lowest away offer.<sup>34</sup> And if, however, there are Valid Width Quotes on the Exchange that are executable against each other, and there is no away market disseminating a BBO in the affected option series, the minimum value for the OQR will be the lowest quote bid among Valid Width Quotes on the Exchange, and the

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<sup>31</sup> See note 26 above.

<sup>32</sup> See proposed Rule 701(i)(2).

<sup>33</sup> See proposed Rule 701(i)(3)(i).

<sup>34</sup> See proposed Rule 701(i)(3)(ii).

maximum value for the OQR will be the highest quote offer among Valid Width Quotes on the Exchange.<sup>35</sup>

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 Rule 701(g)(1)) 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. Rule 701(i)(5) continues the theme of relying on both maximizing executions and looking at the correct side of the market to determine a fair price.

Proposed Rule 701(i)(6) 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 Rule 701(g)(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. It should be noted, the Exchange will not trade through an away market.

Finally, proposed Rule 701(i)(7) 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 Rule 701(g).

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<sup>35</sup> See proposed Rule 701(i)(4)(i) and (ii).

The system will route Public Customer interest in price/time priority to satisfy the away market. This continues the theme of trying to satisfy the maximum amount of interest during the Opening Process.

### **Price Discovery Mechanism**

If the Exchange has not opened pursuant to proposed Rule 701(e) or (h), and after the OQR is calculated pursuant to proposed Rule 701(i), the Exchange will conduct a PDM pursuant to proposed Rule 701(j). The PDM 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 PDM are, as described above, to satisfy the maximum number of contracts possible by identifying a price that may leave unexecuted contracts. However, the PDM applies a proposed, wider boundary to identify the Opening Price and the PDM involves seeking additional liquidity.

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.

The proposed rule attempts to open using Exchange interest only to determine an Opening Price, provided certain conditions contained in proposed Rule 701(i) 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 PDM, rather the 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.

Specifically, proposed Rule 701(j)(1) provides that the system will broadcast an Imbalance Message for the affected series (which includes the symbol, side of the imbalance (unmatched contracts), 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 would initially be set 200 milliseconds.<sup>36</sup> The Imbalance Message is intended to attract additional liquidity, much like an auction, using an auction message and timer.<sup>37</sup> 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.

Proposed Rule 701(j)(2), states that 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

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<sup>36</sup> The Phlx timer is 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.

<sup>37</sup> For example, see COOP and COLA descriptions in Phlx Rule 1098.

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 Rule 701(j)(2),<sup>38</sup> pursuant to proposed Rule 701(j)(3) 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.<sup>39</sup> 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

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<sup>38</sup> The Exchange notes that the system would not open pursuant to proposed Rule 701(j)(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.

<sup>39</sup> 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. The MRX 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.

which is unable to be fully executed at the Opening Price, the system will open with a trade at the Opening Price and the Route Timer will simultaneously end. The system will monitor quotes received during the Route Timer period and make ongoing corresponding changes to the permitted OQR and Potential Opening Price to reflect them.<sup>40</sup> 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 Rule 701(j)(3)(iii) provides, if no trade occurred pursuant to proposed Rule 701(j)(3)(ii), 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 that 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. The Exchange will open the option series by routing and/or trading on the Exchange, pursuant to proposed Rule 701(j)(3)(iii) paragraphs (A) through (C).

Proposed Rule 701(j)(3)(iii)(A) 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

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<sup>40</sup> See proposed Rule 701(j)(3)(ii).

to such better priced away markets as Intermarket Sweep Order (“ISO”) designated as Immediate-or-Cancel (“IOC”) order(s), and determine an opening 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 Rule 701(j)(3)(iii)(B) or (C) described hereinafter. 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 Rule 701(j)(3)(iii)(B) 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 Rule 701(j)(vi)(C)(3)(ii). This continues with the theme of maximum possible execution of the interest on the Exchange or away markets.

Proposed Rule 701(j)(3)(iii)(C) 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 other 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 available at the time the order is received by the away market.

Proposed Rule 701(j)(4) provides that the system may send up to two additional Imbalance Messages<sup>41</sup> (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 Rule 701(j)(3) will repeat (except no new Route Timer will be

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<sup>41</sup> 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.

initiated). No new Route Timer is initiated because the Exchange believes that after the Route Timer has been initiated and subsequently expired, no further delay is needed before routing contracts 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 Rule 701(j)(5), 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 Rule 701(j)(4), 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 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 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, otherwise orders will remain in the Order Book.

The boundaries of OQR and limit prices within the OQR are intended to ensure a quality Opening Price as well as protect the unexecutable interest entered with a limit price which may not be able to be fully executed. There is some language in the Phlx

rule that is not applicable to the MRX opening because MRX does not have automatic re-pricing of orders resting in the Rulebook. Phlx's rule permits members to provide instructions to re-enter the remaining size of an unexecuted order for automatic submission as a new order, the MRX rule will not permit this submission.

Proposed Rule 701(j)(6) provides the system will execute orders at the Opening Price that have contingencies (such as without limitation, All-or-None and Reserve Orders) and non-routable orders such as "Do-Not-Route" or "DNR" Orders,<sup>42</sup> to the extent possible. The system will only route non-contingency Public Customer orders, except that the full volume of Public Customer Reserve Orders may route. The Exchange is adding this detail to memorialize the manner in which the system will execute 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.

Proposed Rule (j)(6)(i) provides the system will cancel (1) any portion of a Do-Not-Route order that would otherwise have to be routed to the exchange(s) disseminating the ABBO for an opening to occur, or (2) any order that is priced through the Opening Price. All other interest will remain in the system and be eligible for trading after opening. The Exchange cancels these orders 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 participants would prefer to have these

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<sup>42</sup> A Do-Not-Route order is a market or limit order that is to be executed in whole or in part on the Exchange only. Due to prices available on another options exchange (as provided in Chapter 19 (Order Protection; Locked and Crossed Markets)), any balance of a do-not-route order that cannot be executed upon entry, or placed on the Exchange's limit order book, will be automatically cancelled. See Rule 715(m).

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.

Proposed Rule 701(k) provides during the opening of the option series, where there is an execution possible, the system will give priority to Market Orders<sup>43</sup> first, then to resting Limit Orders<sup>44</sup> and quotes. The allocation provisions of MRX Rule 713 and the Supplementary Material to that rule apply with respect to other orders and quotes with the same price. 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.

Finally, proposed Rule 701(l) provides upon opening of the option series, regardless of an execution, the system disseminates the price and size of the Exchange's best bid and offer (BBO).<sup>45</sup> This provision simply makes known the manner in which the Exchange establishes the BBO for purposes of reference upon opening.

There are some differences between the Phlx and MRX rules. MRX has a Reserve Order and Phlx does not have this order type. With Reserve Orders, the displayed and non-displayed portions of Reserve Orders are considered for execution and in determining the Opening Price throughout the Opening Process. Today, MRX permits

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<sup>43</sup> A Market Orders is defined as an order to buy or sell a stated number of options contracts that is to be executed at the best price obtainable when the order reaches the Exchange. See MRX Rule 715(a).

<sup>44</sup> A Limit Order is an order to buy or sell a stated number of options contracts at a specified price or better. See MRX Rule 715(b).

<sup>45</sup> See proposed Rule 701(j)(F).



orders to route during regular trading, however, the Exchange does not perform away market routing during the opening rotation. With this proposal, routing is considered during the Opening Process.

With respect to the Opening Sweep, the Exchange proposes to adopt an order type at new Rule 715(t) entitled “Opening Sweep.” This order type is proposed to be a Market Maker order submitted for execution against eligible interest in the system during the Opening Process pursuant to Rule 701(b)(i). The Exchange believes that describing this order type within Rule 715 will provide clarity to the introduction of Opening Sweeps.

#### **Opening Process Examples:**

The following examples are intended to demonstrate the Opening Process.

##### **Example 1. Proposed Rule 701(e) Opening with an Exchange BBO (No Trade).**

Suppose the PMM 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 an ABBO and no Zero Bid Market, the System does not conduct the PDM and the option opens without delay.

**Example 2a. Proposed Rule 701(h) Opening with Trade.** Suppose the PMM 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 Rule 701(h)(i), the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO.

**Example 2b. Proposed Rule 701(h) Opening with Trade.** Similarly, suppose the PMM 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 Rule 701(h)(i), as the Potential Opening Price is outside the Pre-

Market BBO. The System thereafter calculates the OQR and initiates the PDM, as discussed in proposed Rule 701(j), to facilitate the Opening Process for the option.

**Example 3. Proposed Rule 701(j)(2) Price Discovery Mechanism and first iteration.** Assume the set up described in Example 2b and an allowable OQR of 0.04. When the PDM is initiated, the System broadcasts an Imbalance Message. At the end of the Imbalance Timer, the option opens with an Opening Price of 2.11 because it is within OQR and the ABBO. The maximum value for OQR is the lowest quote offer of 2.10 plus 0.04.

**Example 4. Proposed Rule 701(j)(3) Price Discovery Mechanism and second iteration with routing.** Suppose the PMM 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 PMM quote. Customer A enters a routable buy order at 2.10 for 150 contracts. The PDM 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 PDM 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 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.

**Example 5. Proposed Rule 701(j)(5) Forced Opening.** Suppose the PMM enters a quote, 2.00 (100) bid and 2.10 (100) offer and the defined allowable OQR is 0.04. A Market Maker enters a quote for 2.05 (100) x 2.14 (100). Firm A enters a buy order of 250 contracts for 2.15 which is more aggressive than the expected OQR of 2.14. The PDM initiates because the Potential Opening Price of 2.15 is outside the Pre-Market BBO (2.05 x 2.10). Assume no additional interest is received during the PDM. After the final Imbalance Timer, the System opens the option for trading with an execution of 200 contracts at an Opening Price of 2.14, which is the boundary of OQR. The residual 50 contracts from Firm A are cancelled back to the participant because the limit order price of 2.15 is priced through the Opening Price of 2.14.

#### **After-hours trading rotations**

The Exchange notes that no after-hours trading rotation will be offered with the proposed Opening Process. The current MRX rule describes a manual process related to after-hours trading rotations that does not exist in the automated Opening Process described in the proposed rule. Today, MRX Rule 701(c)(2) - (4) permits the Exchange to employ a manual trading rotation if the conditions specified in MRX Rule 701(c)(1) permit such a trading rotation and notice was provided prior to such rotation for a non-expiring options contract. MRX has not employed after-hours trading rotations for several years. With the proposed opening rule, there will be no after-hours trading.

(b) Statutory Basis

The Exchange believes that its proposal is consistent with Section 6(b) of the Act,<sup>46</sup> in general, and furthers the objectives of Section 6(b)(5) of the Act,<sup>47</sup> in particular, in that it is designed to promote just and equitable principles of trade, to remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general to protect investors and the public interest for the reasons stated below.

The Exchange's proposal to adopt the Phlx Opening Process is consistent with the Act because the new rule seeks to find the best price. The proposal permits 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

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<sup>46</sup> 15 U.S.C. 78f(b).

<sup>47</sup> 15 U.S.C. 78f(b)(5).

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 to adopt a "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. The Exchange added the definitions to provide clarity and consistency throughout the proposed rule.

### **Eligible Interest**

The first part of the Opening Process determines what constitutes eligible interest. The Exchange's proposal seeks to make clear what type of eligible opening interest is included. The Exchange notes that 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. Finally, All-or-None Orders that can be satisfied, and the displayed and non-displayed portions of Reserve Orders are considered for execution and in determining the Opening Price throughout 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.

The system will only route Public Customer orders during the Opening Process. Other non-Public Customer orders will not route. Unlike the regular session where

orders route if they cannot execute on MRX, the Opening Process is a price discovery process which considers interest, both on MRX 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 only routes Public Customer interest at this time rather than all interest because this type of interest always receives priority on MRX and this process ensures that Public Customer interest will be executed with priority during the Opening Process. Other interest is not routable until after the Exchange has completed the Opening Process.

### **Opening Sweep**

The Exchange believes that it is consistent with the Act to introduce the concept of an Opening Sweep and memorialize this order type within Rule 715(t). While the Opening Sweep is similar to an Opening Only Order,<sup>48</sup> it can be entered for the Opening Process only and any portion of the order that is not executed during the Opening Process is cancelled. An Opening Sweep may only be submitted by a Market Maker when he/she has a Valid Width Quote in the affected series<sup>49</sup> whereas, there is no such restriction on Opening Only Orders. The Exchange believes the addition of this order type is consistent with the Act because it provides for a specific type of order that may be entered during the Opening Process similar to Phlx for proposes of qualifying as eligible interest. The Exchange notes that this order type would be not valid outside of the opening in other

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<sup>48</sup> See MRX Rule 715(o).

<sup>49</sup> 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.

trading sessions. The Exchange is providing definitive rules that concern the manner in which Opening Sweeps may be entered into the system. For example, 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.<sup>50</sup> 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 Rule 701(b)(2) that the system will aggregate the size of all eligible interest for a particular participant category<sup>51</sup> at a particular price level for trade allocation purposes pursuant to MRX Rule 713. The Exchange believes that this allocation is consistent with the Act because it mirrors the current allocation process on MRX in other trading sessions.

The proposed rule notes the specific times that eligible interest may be submitted into MRX's system. The Exchange's proposed time for entering Market Maker Valid Width Quotes and Opening Sweeps (9:25 AM Eastern Time) eligible to participate in the Opening Process, are consistent with the Act because the times are intended to tie the

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<sup>50</sup> See proposed MRX Rule 701(b)(1)(ii). See also proposed MRX Rule 715(t).

<sup>51</sup> MRX allocates first to Priority Customers and then to all other Members by pro-rata. This is different from Phlx which allocates to Customers first, then to market makers pro-rata and then to all others pro-rata. See MRX Rule 713 and Phlx Rule 1014(g)(vii).

option Opening Process to quoting in certain underlying securities<sup>52</sup>; 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. With respect to foreign currency options, the Exchange notes that those markets open prior to 9:30 AM Eastern Time. The Exchange proposes to open the foreign currency options at the same time as other options. The Exchange believes that conforming the Opening Process and trading hours for foreign currency options to that of other options will conform the trading rules so all products would trade during the same session. Also, this proposed language adds specificity to the rule regarding the submission of orders.

The Exchange's proposal at Rule 701(c)(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 Eastern Time provided the ABBO, if any, is not crossed and the system has received within specified time periods certain specified interest,<sup>53</sup> is consistent with the Act because this requirement is intended to tie the option Opening Process to receipt of liquidity. If one of the above three conditions specified in proposed Rule 701(c)(1)(i) – (iii) is not met, the Exchange will not initiate the Opening Process or continue an ongoing Opening Process. The Exchange's proposed rule considers the liquidity present on its market before initiating other processes to obtain additional pricing information. The Exchange's

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<sup>52</sup> For purposes of this rule, the underlying security can also be an index.

<sup>53</sup> See proposed Rule 701(c)(1)(i) – (iii).

proposal to adopt the Phlx Opening Process is consistent with the Act because the new rule seeks to find the best price.

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.

The Exchange's proposal at Rule 701(c)(3) requires the PMM assigned in a particular equity or index option to enter a Valid Width Quote, in 90% of their assigned series, not later than one minute following the dissemination of a quote or trade by the market for the underlying security or, in the case of index options, following the receipt of the opening price in the underlying index. The PMM assigned in a particular U.S. dollar-settled foreign currency option must enter a Valid Width Quote, in 90% of their assigned series, also not later than one minute after the announced market opening. The



Exchange's proposal to set a PMM's quoting obligations to 90% of their assigned series, not later than one minute following the dissemination of a quote or trade by the market for the underlying security or, in the case of index options, following the receipt of the opening price in the underlying index or not later than one minute for a U.S. dollar-settled foreign currency option is consistent with the Act. The 90% continuous quoting obligation provides an equivalent quoting obligation during the entirety of the trading day,<sup>54</sup> with this proposed standard. The Exchange notes that the quoting obligations for the Opening Process, will be separately calculated from the remainder of the trading day so that a PMM would be required to independently comply with the quoting obligations during the Opening Process as compared to the remainder of the trading day. The Exchange believes that the 90% quoting obligation will ensure liquidity on MRX during the Opening Process. The Exchange also believes that a higher quoting requirement during the Opening Process compared to the remainder of the trading day would place a burden on PMMs with respect to quoting at the Opening which would in turn make them less inclined to make markets on MRX. The Exchange believes that the 90% proposed quoting requirements should enhance the market making functions for PMMs and serve to maintain a fair and orderly market thereby promoting the protection of investors and the public interest. The Exchange notes the 90% quoting obligation is higher than other markets today.<sup>55</sup>

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<sup>54</sup> See Supplementary Material to MRX Rule 804.

<sup>55</sup> The Miami International Securities Exchange LLC ("MIAX") has no quoting obligations for Primary Lead Market Makers during the opening but has a 90% continuous quoting standard for the remainder of the trading day. See MIAX Rules 503 and 604(e)(1)(i). MIAX revised market maker quoting obligations prior to and during the opening process. Specifically, MIAX Rule 503(e)(5) provides that, "[t]he Primary Lead Market Maker assigned in a particular equity

The Exchange notes that the obligations placed on market makers, as described above to continuously quote both during the Opening Process and throughout the remainder of the trading day, afford these market participants certain benefits on MRX. Specifically, pursuant to MRX Rule 713, the PMM shall be granted certain allocations.<sup>56</sup> The Exchange notes that PMMs have certain required certain quoting obligations and as a result they reap certain benefits for their participation on MRX.

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option class must enter valid width quotes not later than one minute following the dissemination of a quote or trade by the market for the underlying security.” See Securities Exchange Act Release No. 68954 (February 20, 2013), 78 FR 13107 (February 26, 2017) (SR-MIAX-2013-04).

<sup>56</sup> Pursuant to MRX Rule 713(e), if there are two (2) or more Professional Orders or market maker quotes at the Exchange's best bid or offer, after all Priority Customer Orders (if any) at that price have been filled, executions at that price will be allocated between the Professional Orders and market maker quotes pursuant to an allocation procedure to be determined by the Exchange from time to time; provided, however, that if the PMM is quoting at the Exchange's best bid or offer, it shall have precedence over Professional Orders and CMM quotes for execution of orders that are for a specified number of contracts or fewer, which number shall be determined by the Exchange from time to time.

In addition, Supplementary Material to MRX Rule 713 provides that: (b) If the Primary Market Maker is quoting at the best price, it has participation rights equal to the greater of (i) the proportion of the total size at the best price represented by the size of its quote, or (ii) sixty percent (60%) of the contracts to be allocated if there is only one (1) other Professional Order or market maker quotation at the best price, forty percent (40%) if there are two (2) other Professional Orders and/or market maker quotes at the best price, and thirty percent (30%) if there are more than two (2) other Professional Orders and/or market maker quotes at the best price; and (c) Orders for five (5) contracts or fewer will be executed first by the Primary Market Maker; provided however, that on a quarterly basis the Exchange will evaluate what percentage of the volume executed on the Exchange (excluding volume resulting from the execution of orders in the Facilitation Mechanism (see Rule 716(d))) is comprised of orders for five (5) contracts or fewer executed by Primary Market Makers, and will reduce the size of the orders included in this provision if such percentage is over forty percent (40%). The PMM participation rights and the small order preference allocations are not guarantees; the PMM (i) must be quoting at the execution price to receive an allocation of any size, and (ii) cannot execute a greater number of contracts than the size that is associated with its quote.

Furthermore, the Exchange proposes that a CMM that submits a quote pursuant to proposed Rule 701 in any option series when the PMM's quote has not been submitted shall be required to submit continuous, two-sided quotes in such option series until such time as the PMM submits his/her quote, after which the Market Maker that submitted such quote shall be obligated to submit quotations pursuant to Rule 804(e). This proposal is consistent with the Act because the Exchange will not open if the ABBO becomes crossed or a Valid Width Quote(s) pursuant to proposed Rule 701(c)(1) is no longer present. Instead the process would restart and all eligible opening interest will continue to be considered during the Opening Process when the process is re-started. The Exchange's proposal is consistent with the Act and promotes just and equitable principles of trade because the rule reflects that the ABBO cannot be crossed because it is indicative of uncertainty in the marketplace of where the option series should be valued. 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.

#### **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 Rule 701(d) 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 Rule 701(c)(1). 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.

### **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, unless all three of the following conditions exist: (i) a Zero Bid Market; (ii) no ABBO; and (iii) no Quality Opening Market.<sup>57</sup> The Exchange utilizes the quotes to assist in determining a fair and reasonable Opening Price, which is consistent with the Act because Members are obligated to provide both a bid and sell price. The Exchange believes that this measure provides a reasonable baseline of where the marketplace views fair value.

If all three of these conditions exist, the Exchange will calculate an OQR pursuant to paragraph (i) and conduct the PDM pursuant to paragraph (j). This approach is consistent with the Act because when all three of these conditions exist, further price discovery is warranted to validate or perhaps update the Exchange's BBO and to attract additional interest to perhaps render an opening trade possible. The Exchange notes that a Zero Bid Market reflects a lack of buying interest to assist in validating a reasonable opening BBO, the lack of an ABBO means there is no external check on the Exchange's market for that options series; and the lack of a Quality Opening Market indicates that the Exchange's market is wide. For these reasons, the Exchange believes that when these conditions exist, it is difficult to determine if the Exchange BBO is reasonable and

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<sup>57</sup> The Exchange notes herein that a Quality Opening Market is determined by reviewing all Valid Width Quotes and determining if the difference of the best bid of those Valid Width Quotes and the best offer of those Valid Width Quotes are of no more than a certain width.

therefore an OQR is calculated pursuant to proposed Rule 701(i) and thereafter, the PDM in proposed Rule 701(j) will initiate.

The Exchange believes that proposed rule promotes just and equitable principles of trade, because the proposed conditions involving Zero Bid Markets, no ABBO and no Quality Opening Market trigger the PDM rather than an immediate opening in order to validate the Opening Price against away markets or by attracting additional interest to address the specific condition. This is consistent with the Act because 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 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 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 MRX'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 PDM 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 Rule 701. The Exchange

believes the process presented in the PDM 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 PDM 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.

It is consistent with the Act to not consider away market liquidity, i.e. away market volume, until the PDM 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. 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 sends an Imbalance Message as proposed within Rule 701(j)(1), 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 Rule 701(j)(3)(iii)(C) 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 Rule 701(j)(5), entitled "Forced Opening," provides for the situation where, 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 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 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 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, 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 MRX 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.<sup>58</sup> 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.

Finally, proposed Rule 701(l) 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.

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. The proposal does not change the intense competition that exists among the options markets for options business including on the opening. Nor does the Exchange believe that the proposal will impose any burden on intra-market competition; the Opening Process involves many types of participants and interest.

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<sup>58</sup> See proposed Rule 701(j)(6)(i) and (k).

The Exchange's proposal to set a PMM's quoting obligations to 90% of their assigned series, not later than one minute following the dissemination of a quote or trade by the market for the underlying security or, in the case of index options, following the receipt of the opening price in the underlying index or not later than one minute for a U.S. dollar-settled foreign currency option does not create an undue burden on competition. The 90% quoting requirement would conform the quoting percentage for a PMM throughout the trading day.<sup>59</sup> The Exchange believes that providing an equivalent quoting obligation for the Opening Process, which will be separately calculated from the remainder of the trading day, will provide consistency.

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)

Not applicable.

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

The proposed rule change is based on a Phlx rule change.<sup>60</sup> There are some differences between the Phlx and MRX rules. MRX has a Reserve Order and Phlx does not have this order type. With Reserve Orders, the displayed and non-displayed portions

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<sup>59</sup> See Supplementary Material to MRX Rule 804.

<sup>60</sup> See note 3 above.

of Reserve Orders are considered for execution and in determining the Opening Price throughout the Opening Process. Today, MRX permits orders to route during regular trading, however, the Exchange does not perform away market routing during the opening rotation. With this proposal, routing is considered during the Opening Process. The Exchange notes that the quoting obligations during the Opening differ for MRX and Phlx. The Exchange is requesting a 90% quoting obligation for PMMs at the open while Phlx has a 100% quoting obligation at its open.

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.
11. Exhibits
  1. Notice of proposed rule for publication in the Federal Register.
  5. Text of the proposed rule change.

**EXHIBIT 1**

SECURITIES AND EXCHANGE COMMISSION  
(Release No. \_\_\_\_\_ ; File No. SR-MRX-2017-01)

May \_\_, 2017

Self-Regulatory Organizations; Nasdaq MRX, LLC; Notice of Filing of Proposed Rule Change to Amend the Opening Process

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)<sup>1</sup>, and Rule 19b-4 thereunder,<sup>2</sup> notice is hereby given that on May 31, 2017, Nasdaq MRX, LLC (“MRX” 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 the opening process.

The text of the proposed rule change is available on the Exchange’s Website at [www.ise.com](http://www.ise.com), at the principal office of the Exchange, and at the Commission’s Public Reference Room.

II. Self-Regulatory Organization’s Statement of the Purpose of, and 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

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

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

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 purpose of this rule change is to amend the MRX opening process in connection with a technology migration to a Nasdaq, Inc. ("Nasdaq") supported architecture. INET is the proprietary core technology utilized across Nasdaq's global markets and utilized on The NASDAQ Options Market LLC ("NOM"), NASDAQ PHLX LLC ("Phlx") and NASDAQ BX, Inc. ("BX") (collectively "Nasdaq Exchanges"). The migration of MRX to the Nasdaq INET architecture would result in higher performance, scalability, and more robust architecture. With this system migration, the Exchange intends to adopt the Phlx opening process.

The Exchange intends to begin implementation of the proposed rule change in Q3 2017. The migration will be on a symbol by symbol basis, and the Exchange will issue an alert to Members to provide notification of the symbols that will migrate and the relevant dates.

**Generally**

With the re-platform, the Exchange will now be built on the Nasdaq INET architecture, which allows certain trading system functionality to be performed in parallel. The Exchange believes that this architecture change will improve the Member experience by reducing overall latency compared to the current MRX system because of the manner in which the system is segregated into component parts to handle processing.

**Opening Rotation**

MRX will replace its current opening process at Rule 701 with Phlx's Opening Process.<sup>3</sup> The Exchange believes that the proposed opening process will provide a similar experience for Members and investors that trade on MRX to the experience that they receive on Phlx today.

**Current Opening Process**

Today, for each class of options that has been approved for trading, the opening rotation is conducted by the Primary Market Maker ("PMM") appointed to such class of options pursuant to MRX Rule 701(b)(1). The Exchange may direct that one or more trading rotations be employed on any business day to aid in producing a fair and orderly market pursuant to MRX Rule 701(a)(1). For each rotation so employed, except as the Exchange may direct, rotations are conducted in the order and manner the PMM determines to be appropriate under the circumstances pursuant to MRX Rule 701(a)(2). The PMM, with the approval of the Exchange, has the authority to determine the rotation order and manner and may also employ multiple trading rotations simultaneously pursuant to MRX Rule 701(a)(3).

Trading rotations are employed at the opening of the Exchange each business day and during the reopening of the market after a trading halt pursuant to MRX Rule 701(b). The opening rotation in each class of options is held promptly following the opening of

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<sup>3</sup> See Phlx Rule 1017. See also Securities Exchange Act Release No. 79274 (November 9, 2016), 81 FR 80694 (November 16, 2016) (SR-Phlx-2017-79) (notice of Filing of Partial Amendment No. 2 and Order Granting Approval of a Proposed Rule Change, as Modified by Partial Amendment No. 2, to Amend PHLX Rule 1017, Openings in Options).

the market for the underlying security.<sup>4</sup> The opening rotation for options contracts in an underlying security is delayed until the market for such underlying security has opened unless the Exchange determines that the interests of a fair and orderly market are best served by opening trading in the options contracts pursuant to MRX Rule 701(b)(3).

Market Makers on MRX are held to quoting obligations as outlined in MRX Rule 803. Further, Market Makers quotes prior to the opening rotation, including PMM quotes, are permitted with spread differential of no more than \$0.25 between the bid and offer for each options contract for which the bid is less than \$2, no more than \$0.40 where the bid is at least \$2 but does not exceed \$5, no more than \$0.50 where the bid is more than \$5 but does not exceed \$10, no more than \$0.80 where the bid is more than \$10 but does not exceed \$20, and no more than \$1 where the bid is \$20 or greater, provided that the Exchange may establish differences other than the above for one or more options series, as specified in MRX Rule 803(b)(4). These differentials are defined as Valid Width Quotes for purposes of this rule proposal.

The PMM appointed to an option class can initiate the rotation process by sending a rotation request to the Exchange or by authorizing the Exchange to auto-rotate the class. In addition, there are instances where the PMM is unable to initiate the rotation process. In such instances the Exchange may initiate the rotation process by using the Exchange's "Delayed Opening Process," which provides an alternative method for opening an option

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<sup>4</sup> The "market for the underlying security" is 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. See MRX Rule 701(b)(2).



class when the PMM is unable to initiate the rotation process.<sup>5</sup> Once the PMM or Exchange initiates the opening rotation, the Exchange will automatically process displayed quotes and orders via a process that determines the price at which the maximum number of contracts can trade within certain established boundary prices. In order to protect interest from trading at bad prices, quotes and orders are not executed outside of the established boundary prices. If there are no quotes or orders that lock or cross each other, the Exchange will open a series by disseminating the Exchange's best bid and offer among quotes and orders under certain conditions.

The Exchange proposes to replace this process with an opening process similar to a recently approved Phlx opening process as noted above.<sup>6</sup>

### **Opening Process**

The Exchange will adopt a "Definitions" section at proposed MRX Rule 701(a), similar to Phlx Rule 1017(a), to define several terms that are used throughout the opening rule. Similar to today, the Exchange will conduct an electronic opening for all option series traded on the Exchange using its trading system (hereinafter "system").

The Exchange proposes to define the following terms, which are described below: "ABBO," "market for the underlying security," "Opening Price," "Opening Process," "Pre-Market BBO," "Potential Opening Price," "Quality Opening Market," "Valid Width Quote," and "Zero Bid Market."

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<sup>5</sup> Certain conditions must be met for the Delayed Opening Process to be used to initiate the opening process.

<sup>6</sup> See note 3 above. Nasdaq ISE, LLC ("ISE") and Nasdaq GEMX, LLC ("GEMX") have similar opening processes. See ISE and GEMX Rules 701.

The Exchange proposes to define “Opening Process” at proposed Rule 701(a)(4) by cross-referencing proposed Rule 701(c). The Exchange proposes to define “Opening Price” at proposed Rule 701(a)(3) by cross-referencing proposed Rule 701(h) and (j). The Exchange proposes to define “Potential Opening Price” at proposed Rule 701(a)(5) by cross-referencing proposed Rule 701(g). The Exchange proposes to define “ABBO” at proposed Rule 701(a)(1) as the Away Best Bid or Offer. The ABBO does not include MRX’s market. The Exchange proposes to define “market for the underlying security” at proposed Rule 702(a)(2) as either the primary listing market or the primary volume market (defined as the market with the most liquidity in that underlying security for the previous two calendar months), as determined by the Exchange by underlying and announced to the membership on the Exchange’s web site.<sup>7</sup> The Exchange notes that the term “Market Makers” is currently defined in MRX Rule 100(a)(25) as referring to Primary Market Makers or “PMMs” and Competitive Market Makers or “CMMs,” collectively. The next definition is “Pre-Market BBO” defined at proposed Rule 701(a)(6) as the highest bid and the lowest offer among Valid Width Quotes.<sup>8</sup> The Pre-Market BBO does not include orders. The term “Quality Opening Market” is defined at proposed Rule 701(a)(7) as 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

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<sup>7</sup> Today, all are the primary listing market. The Exchange would consider switching to primary volume market if a different market begins to trade more volume than the primary listing market and the primary volume market becomes a more reliable source of prices with more liquidity.

<sup>8</sup> Valid Width Quotes is defined at proposed Rule 701(a)(8).

published on the Exchange's web site.<sup>9</sup> This 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. The Exchange utilizes its experience with products to make this determination. Next, a "Valid Width Quote" is defined at proposed Rule 701(a)(8) as a two-sided electronic quotation submitted by a Market Maker that consists of a bid/ask differential that is compliant with Rule 803(b)(4). The term "Zero Bid Market" is defined at proposed Rule 701(a)(9) where the best bid for an options series is zero. The Exchange believes that these definitions will bring additional clarity to the proposed rule.

### **Eligible Interest**

The first part of the Opening Process determines what constitutes eligible interest. Eligible interest during the Opening Process includes Valid Width Quotes, Opening Sweeps and orders. The Exchange proposes to adopt in proposed paragraph (b) of Rule 701 a provision that quotes,<sup>10</sup> other than Valid Width Quotes, will not be included in the Opening Process. All-or-None Orders that can be satisfied, and the displayed and non-

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<sup>9</sup> Phlx maintains a table on its website with this information. See [http://www.nasdaqtrader.com/content/phlxxl/phlxiiisys\\_overview.pdf](http://www.nasdaqtrader.com/content/phlxxl/phlxiiisys_overview.pdf). MRX will publish similar details on its website.

<sup>10</sup> The term quotes shall refer to a two-sided quote.

displayed portions of Reserve Orders are considered for execution and in determining the Opening Price throughout the Opening Process.

The Exchange notes that only Public Customer interest is routable during the Opening Process. All other non-Public Customer interest will not be routed during the Opening Process. Unlike the regular session where orders route if they cannot execute on MRX, the Opening Process is a price discovery process which considers interest, both on MRX 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 only routes Public Customer interest at this time rather than all interest because this type of interest always receives priority on MRX and this process ensures that Public Customer interest will be executed with priority during the Opening Process. Other interest is not routable until after the Exchange has completed the Opening Process.

The Exchange notes that Opening Sweeps may be submitted through the new Specialized Quote Feed or “SQF” protocol which permits one-sided orders to be entered by a Market Maker. Today, orders are entered by all participants through FIX and/or DTI on MRX. After the re-platform the INET architecture, all participants will continue to be able to submit orders through FIX, however, DTI will no longer be available. An Opening Sweep is a Market Maker order submitted for execution against eligible interest in the system during the Opening Process.<sup>11</sup> It is similar to an Opening Only Order<sup>12</sup> that can be entered for the opening rotation only and any portion of the order that is not

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<sup>11</sup> See proposed MRX Rule 715(t).

<sup>12</sup> See MRX Rule 715(o).

executed during the opening rotation is cancelled. However, it should also be noted that an Opening Sweep may only be submitted by a Market Maker when he/she has a Valid Width Quote in the affected series whereas, there is no such restriction on Opening Only Orders. 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. If a Market Maker does not want to submit or is unable to maintain a Valid Width Quote, the Market Maker can submit Opening Only Order instead.

### **Opening Sweep**

Proposed Rule 701(b)(1) provides that a Market Maker assigned in a particular option may only submit an Opening Sweep if, at the time of entry of the Opening Sweep, that Market Maker has already submitted and maintains 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. 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.<sup>13</sup>

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<sup>13</sup> See proposed MRX Rule 701(b)(1)(ii). See also proposed MRX Rule 715(t).

Proposed Rule 701(b)(2) states that the system will aggregate the size of all eligible interest for a particular participant category<sup>14</sup> at a particular price level for trade allocation purposes pursuant to MRX Rule 713. Eligible interest may be submitted into MRX's system and will be received starting at the times noted herein. Proposed Rule 701(c) provides that Market Maker Valid Width Quotes and Opening Sweeps received starting at 9:25 AM Eastern Time will be included in the Opening Process.<sup>15</sup> 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 Eastern Time trigger is intended to tie the option Opening Process to quoting in the majority of the underlying securities<sup>16</sup>; 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

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<sup>14</sup> MRX allocates first to Priority Customers and then to all other Members by pro-rata. This is different from Phlx which allocates to Customers first, then to market makers pro-rata and then to all others pro-rata. See MRX Rule 713 and Phlx Rule 1014(g)(vii).

<sup>15</sup> The Opening Process for foreign currency options will also include Market Maker Valid Width Quotes and Opening Sweeps received starting at 9:25 AM Eastern Time.

<sup>16</sup> For purposes of this rule, the underlying security can also be an index. With respect to foreign currency options, the Exchange notes that those markets open prior to 9:30 AM Eastern Time. The Exchange proposes to open the foreign currency options at the same time as other options on the Exchange merely to conform the timeframe for the open. Today, on Phlx, foreign currency options trade similar to other options. With this proposal all products would trade during the same session.

quotes, based on the Exchange's experience when underlying quotes start becoming available.<sup>17</sup>

Proposed Rule 701(c)(1) describes when the Opening Process can begin with specific time-related triggers. The proposed rule provides that the Opening Process for an option series will be conducted pursuant to proposed Rule 701(f) through (j) on or after 9:30 AM Eastern Time 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 security in the case of U.S. dollar-settled foreign currency options (or such shorter time as determined by the Exchange and disseminated to membership on the Exchange's web site)<sup>18</sup> any of the following: (i) the PMM's Valid Width Quote; (ii) the

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<sup>17</sup> Id.

<sup>18</sup> The Exchange anticipates initially setting the timeframe during which a PMM Valid Width quote or the presence of at least two CMM Valid Width Quotes will initiate the Opening Process at 30 seconds. The timeframe is consistent with the current timeframe utilized on Phlx. The Exchange believes 30 seconds is the appropriate amount of time as it provides time for the PMM and CMMs to assess the underlying security or index price and submit Valid Width Quotes as well as ample time for the underlying security or index price to stabilize. After this 30 second period, the Exchange will initiate the Opening Process provided one CMM has submitted a Valid Width Quote since the market for the underlying security or index has had opportunity to stabilize. The Exchange may reduce this timeframe if it is determined that the Opening Process is taking longer to initiate than the marketplace expects. The Exchange will provide notice of the initial setting to Members. The Exchange will provide notice of the shorter time period to Members if the Exchange determines to reduce the timeframe.

Valid Width Quotes of at least two CMMs; or (iii) if neither the PMM's Valid Width Quote nor the Valid Width Quotes of two CMMs have been submitted within such timeframe, one CMM has submitted a Valid Width Quote.<sup>19</sup> These three requirements are intended to tie the option Opening Process to receipt of liquidity. If one of the above three conditions are not met, the Exchange will not initiate the Opening Process or continue an ongoing Opening Process if we do not have one of the three conditions (i, ii or iii); thus, a Forced Opening pursuant to proposed Rule 701(j)(5) could not occur.

The Exchange is proposing to state in proposed Rule 701(c)(2) that for all options, the underlying security, including indexes, must be open on the primary market 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.<sup>20</sup> 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

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<sup>19</sup> See proposed Rule 701(c)(1)(i) – (iii).

<sup>20</sup> 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 MRX 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.



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.

Proposed Rule 701(c)(3) states that the PMM assigned in a particular equity or index option must enter a Valid Width Quote, in 90% of their assigned series, not later than one minute following the dissemination of a quote or trade by the market for the underlying security or, in the case of index options, following the receipt of the opening price in the underlying index. The PMM assigned in a particular U.S. dollar-settled foreign currency option must enter a Valid Width Quote, in 90% of their assigned series, not later than one minute after the announced market opening. Furthermore, a CMM that submits a quote pursuant to proposed Rule 701 in any option series when the PMM's quote has not been submitted shall be required to submit continuous, two-sided quotes<sup>21</sup> in such option series until such time as the PMM submits his/her quote, after which the Market Maker that submitted such quote shall be obligated to submit quotations pursuant to Rule 804(e). The Opening Process will stop and an option series will not open if the ABBO becomes crossed or a Valid Width Quote(s) pursuant to proposed Rule 701(c)(1) is no longer present. Once each of these conditions no longer exists, the Opening Process in the affected option series will start again pursuant to proposed Rule 701(e) – (j) as proposed in Rule 701(c)(5). 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 because it is indicative of uncertainty in the

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<sup>21</sup> The Exchange has regulatory surveillances in place with respect to Market Maker continuous quoting obligations both at the opening and during the other trading sessions. See MRX Rule 804 regarding quoting obligations.

marketplace of where the option series should be valued. In this case, 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.

The Exchange notes that the obligation to quote during the Opening Process is separate from a PMM's obligation to quote after the Opening Process. The 90% requirement will be separately reviewed for the Opening Process as compared to quoting obligations after the Opening Process which are contained in Supplementary Material to Rule 804<sup>22</sup>. The Exchange is proposing a 90% requirement during the Opening Process in order to provide PMMs an allowance for quotes that may be removed due to risk protections<sup>23</sup> such as the automated removal of quotes<sup>24</sup> which would prevent the PMM from meeting a strict 100% quoting obligation. The Exchange notes that with the proposed rule change, the Opening Process will be conducted with receipt, within the specified timeframe, of either the PMM's Valid Width Quote, the Valid Width Quotes of two CMMs or if neither the PMM or two CMM's have submitted Valid Width Quotes within the specified time frame then one CMM Valid Width Quote.<sup>25</sup>

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<sup>22</sup> ISE Rule 804(e)(1) requires a market maker to enter continuous quotations for the options classes to which it is appointed. Supplementary Material .01 to ISE Rule 804 provides, that “[a] Primary Market Maker shall be deemed to have provided continuous quotes pursuant to paragraph (e)(1) of Rule 804 if it provides two-sided quotes for 90% of the time that an options class is open for trading on the Exchange. Compliance with this Primary Market Marker quoting requirement and the Competitive Market Maker quoting requirements contained in (e)(2)(iii) above will be applied to all option classes quoted collectively on a daily basis.”

<sup>23</sup> The risk protections in MRX Rule 804(g) apply during the Opening Process.

<sup>24</sup> See MRX Rule 804(g).

<sup>25</sup> See proposed Rule 701(c)(1)(i)-(iii).

### **Reopening After a Trading Halt**

This section is intended to provide information regarding the manner in which a trading halt would impact the Opening Process. Proposed Rule 701(d) states that the procedure described in this Rule may be used to reopen an option after a trading halt. The Exchange is adding that 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 proposed Rule 701(c)(1). This is because these times relate to the normal market opening in the morning.

### **Opening with a BBO**

This next section describes when the Exchange may open with a quote on its market. Proposed Rule 701(e), “Opening with a BBO (No Trade),” provides that 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, unless all three of the following conditions exist: (i) a Zero Bid Market; (ii) no ABBO; and (iii) no Quality Opening Market. A Quality Opening Market is determined by reviewing all Valid Width Quotes and determining if the difference of the best bid of those Valid Width Quotes and the best offer of those Valid Width Quotes are of no more than a certain width.<sup>26</sup> The Exchange utilizes the quotes to assist in determining a fair and reasonable Opening Price. Quotes are utilized

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<sup>26</sup> Phlx maintains a table on its website with this information. See [http://www.nasdaqtrader.com/content/phlxxl/phlxiiisys\\_overview.pdf](http://www.nasdaqtrader.com/content/phlxxl/phlxiiisys_overview.pdf). MRX will publish similar details on its website.

because Members are obligated to provide both a bid and sell price, providing a reasonable baseline of where the marketplace views fair value.

If all three of these conditions exist, the Exchange will calculate an Opening Quote Range pursuant to paragraph (i) and conduct the Price Discovery Mechanism or “PDM” pursuant to paragraph (j). The Exchange believes that when all three of these conditions exist, further price discovery is warranted to validate or perhaps update the Potential Opening Price and to attract additional interest to perhaps render an opening trade possible, because: (i) a Zero Bid Market reflects a lack of buying interest that could benefit from price discovery; (ii) the lack of an ABBO means there is no external check on the Exchange’s market for that options series; and (iii) the lack of a Quality Opening Market indicates that the Exchange’s market is wide. If no quotes or orders lock/cross each other, nothing matches and there can be no trade. The Exchange believes that when these conditions exist, it is difficult to arrive at a reasonable and expected price. If the provisions in proposed Rule 701(e)(i) through (iii) exist, an Opening Quote Range is calculated pursuant to proposed Rule 701(i) and thereafter, the PDM in proposed Rule 701(j) will initiate.<sup>27</sup>

#### **Further Opening Processes**

If an opening did not occur pursuant to proposed Rule 701(e) and there are opening Valid Width Quotes, or orders, that lock or cross each other, the system will calculate the Pre-Market BBO.<sup>28</sup> The Exchange notes that the Pre-Market BBO only

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<sup>27</sup> OQR and PDM processes may also initiate pursuant to proposed Rule 701(h).

<sup>28</sup> See proposed Rule 701(f).

uses quotes, which provide both a bid and offer as compared to orders which are one sided.

Proposed Rule 701(g) describes the general concept of how the system calculates the Potential Opening Price under all circumstances once the Opening Process is triggered. Specifically, the system will take into consideration all Valid Width Quotes and orders (including Opening Sweeps and displayed and non-displayed portions of Reserve Orders), except All-or-None Orders that cannot be satisfied, for the option series and identify the price at which the maximum number of contracts can trade (“maximum quantity criterion”). Proposed Rule 701(h)(3)(i) and proposed Rule 701(i) at paragraphs (5) through (7) contain additional provisions related to Potential Opening Price which are discussed in further detail herein. 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 Rule 701(g)(1) presents the scenario for 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.

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.<sup>29</sup>

This, again, bases the Potential Opening Price on the maximum quantity that is executable. The Potential Opening Price calculation is bounded by the better away market price that cannot be satisfied with the Exchange routable interest.<sup>30</sup> The Exchange does not open with a trade that trades through another market. 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 PDM. Proposed Rule 701(h), “Opening with Trade,” provides the Exchange will open the option series for trading with a trade of Exchange interest only at the Opening Price, if certain conditions described below take place. The first condition is provided in proposed Rule 701(h)(1), the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO. The second condition is provided for in Rule 701(h)(2), the Potential Opening Price is at or within the non-zero bid ABBO if the Pre-Market BBO is crossed. The third provision is provided for in proposed Rule 701(h)(3), where there is no ABBO, the Potential Opening Price is at or within the Pre-Market BBO which is also a Quality Opening Market. For the purposes of calculating the midpoint the Exchange will use the better of the Pre-Market BBO or ABBO as a boundary price.

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<sup>29</sup> See proposed Rule 701(g)(2).

<sup>30</sup> See proposed Rule 701(g)(3).

These boundaries serve to validate the quality of the Opening Price. Proposed Rule 701(h) 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 be 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 Rule 701(h)(3)(i) provides that if there is more than one Potential Opening Price which meets the conditions set forth in proposed Rule 701(h)(1), (2) or (3), where (A) no contracts would be left unexecuted and (B) any value used for the mid-point calculation (which is described in proposed Rule 701(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, an Opening Quote Range is calculated as described in proposed Rule 701(i) and the PDM, described in proposed Rule 701(j), would commence. The proposed rule explains the boundary as well as the price basis for the mid-point calculation for immediate opening 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.

Proposed Rule 701(i) provides that the system will calculate an Opening Quote Range (“OQR”) for a particular option series that will be utilized in the PDM if the Exchange has not opened subject to any of the provisions described above. Provided the Exchange has been unable to open the option series under Rule 701(e) or (h), 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 Rule 701(g) and (h). 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.

Specifically, to determine the minimum value for the OQR, an amount, as defined in a table to be determined by the Exchange,<sup>31</sup> 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 Rule 701(i) 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 Rule 701(i) paragraphs (3) and (4).<sup>32</sup> However, if one or more away markets are collectively

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<sup>31</sup> See note 26 above.

<sup>32</sup> See proposed Rule 701(i)(2).



disseminating a BBO that is not crossed, and there are Valid Width Quotes on the Exchange that are executable against each other or that cross the away market ABBO, then the minimum value for the OQR will be the highest away bid.<sup>33</sup> 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 Rule 701(c)(5). In addition, the maximum value for the OQR will be the lowest away offer.<sup>34</sup> And if, however, there are Valid Width Quotes on the Exchange that are executable against each other, and there is no away market disseminating a BBO in the affected option series, the minimum value for the OQR will be the lowest quote bid among Valid Width Quotes on the Exchange, and the maximum value for the OQR will be the highest quote offer among Valid Width Quotes on the Exchange.<sup>35</sup>

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 Rule 701(g)(1)) 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. Rule 701(i)(5) continues the theme of relying on both maximizing executions and looking at the correct side of the market to determine a fair price.

Proposed Rule 701(i)(6) 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 Rule 701(g)(3), when contracts

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<sup>33</sup> See proposed Rule 701(i)(3)(i).

<sup>34</sup> See proposed Rule 701(i)(3)(ii).

<sup>35</sup> See proposed Rule 701(i)(4)(i) and (ii).

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. It should be noted, the Exchange will not trade through an away market.

Finally, proposed Rule 701(i)(7) 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 Rule 701(g). The system will route Public Customer interest in price/time priority to satisfy the away market. This continues the theme of trying to satisfy the maximum amount of interest during the Opening Process.

### **Price Discovery Mechanism**

If the Exchange has not opened pursuant to proposed Rule 701(e) or (h), and after the OQR is calculated pursuant to proposed Rule 701(i), the Exchange will conduct a PDM pursuant to proposed Rule 701(j). The PDM 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 PDM are, as described above, to satisfy the maximum number of contracts possible by identifying a price that may leave unexecuted contracts. However, the PDM applies a proposed, wider boundary to identify the Opening Price and the PDM involves seeking additional liquidity.

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.

The proposed rule attempts to open using Exchange interest only to determine an Opening Price, provided certain conditions contained in proposed Rule 701(i) 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 PDM, rather the 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.

Specifically, proposed Rule 701(j)(1) provides that the system will broadcast an Imbalance Message for the affected series (which includes the symbol, side of the imbalance (unmatched contracts), 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 would initially be set 200 milliseconds.<sup>36</sup> The Imbalance Message is intended to attract additional liquidity,

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<sup>36</sup> The Phlx timer is 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

much like an auction, using an auction message and timer.<sup>37</sup> 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.

Proposed Rule 701(j)(2), states that 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. 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 Rule 701(j)(2),<sup>38</sup> pursuant to proposed Rule 701(j)(3) the system will send a second Imbalance Message

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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.

<sup>37</sup> For example, see COOP and COLA descriptions in Phlx Rule 1098.

<sup>38</sup> The Exchange notes that the system would not open pursuant to proposed Rule 701(j)(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.

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.<sup>39</sup> 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 at the Opening Price, the system will open with a trade at the Opening Price and the Route Timer will simultaneously end. The system will monitor quotes received during the Route Timer period and make ongoing corresponding changes to the permitted OQR and Potential Opening Price to reflect them.<sup>40</sup> 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.

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<sup>39</sup> 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. The MRX 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.

<sup>40</sup> See proposed Rule 701(j)(3)(ii).

Proposed Rule 701(j)(3)(iii) provides, if no trade occurred pursuant to proposed Rule 701(j)(3)(ii), 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 that 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. The Exchange will open the option series by routing and/or trading on the Exchange, pursuant to proposed Rule 701(j)(3)(iii) paragraphs (A) through (C).

Proposed Rule 701(j)(3)(iii)(A) 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") designated as Immediate-or-Cancel ("IOC") order(s), and determine an opening 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 Rule 701(j)(3)(iii)(B) or (C) described hereinafter. 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 Rule 701(j)(3)(iii)(B) 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 Rule 701(j)(vi)(C)(3)(ii). This continues with the theme of maximum possible execution of the interest on the Exchange or away markets.

Proposed Rule 701(j)(3)(iii)(C) 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 other 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 available at the time the order is received by the away market.

Proposed Rule 701(j)(4) provides that the system may send up to two additional Imbalance Messages<sup>41</sup> (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 Rule 701(j)(3) will repeat (except no new Route Timer will be initiated). No new Route Timer is initiated because the Exchange believes that after the Route Timer has been initiated and subsequently expired, no further delay is needed before routing contracts 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 Rule 701(j)(5), 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 Rule 701(j)(4), the system will open the series executing as many contracts as possible by

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<sup>41</sup> 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.



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 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, otherwise orders will remain in the Order Book.

The boundaries of OQR and limit prices within the OQR are intended to ensure a quality Opening Price as well as protect the unexecutable interest entered with a limit price which may not be able to be fully executed. There is some language in the Phlx rule that is not applicable to the MRX opening because MRX does not have automatic re-pricing of orders resting in the Rulebook. Phlx's rule permits members to provide instructions to re-enter the remaining size of an unexecuted order for automatic submission as a new order, the MRX rule will not permit this submission.

Proposed Rule 701(j)(6) provides the system will execute orders at the Opening Price that have contingencies (such as without limitation, All-or-None and Reserve Orders) and non-routable orders such as "Do-Not-Route" or "DNR" Orders,<sup>42</sup> to the

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<sup>42</sup> A Do-Not-Route order is a market or limit order that is to be executed in whole or in part on the Exchange only. Due to prices available on another options exchange (as provided in Chapter 19 (Order Protection; Locked and Crossed Markets)), any balance of a do-not-route order that cannot be executed upon entry, or placed on

extent possible. The system will only route non-contingency Public Customer orders, except that the full volume of Public Customer Reserve Orders may route. The Exchange is adding this detail to memorialize the manner in which the system will execute 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.

Proposed Rule (j)(6)(i) provides the system will cancel (1) any portion of a Do-Not-Route order that would otherwise have to be routed to the exchange(s) disseminating the ABBO for an opening to occur, or (2) any order that is priced through the Opening Price. All other interest will remain in the system and be eligible for trading after opening. The Exchange cancels these orders 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 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.

Proposed Rule 701(k) provides during the opening of the option series, where there is an execution possible, the system will give priority to Market Orders<sup>43</sup> first, then

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the Exchange's limit order book, will be automatically cancelled. See Rule 715(m).

<sup>43</sup> A Market Orders is defined as an order to buy or sell a stated number of options contracts that is to be executed at the best price obtainable when the order reaches the Exchange. See MRX Rule 715(a).

to resting Limit Orders<sup>44</sup> and quotes. The allocation provisions of MRX Rule 713 and the Supplementary Material to that rule apply with respect to other orders and quotes with the same price. 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.

Finally, proposed Rule 701(l) provides upon opening of the option series, regardless of an execution, the system disseminates the price and size of the Exchange's best bid and offer (BBO).<sup>45</sup> This provision simply makes known the manner in which the Exchange establishes the BBO for purposes of reference upon opening.

There are some differences between the Phlx and MRX rules. MRX has a Reserve Order and Phlx does not have this order type. With Reserve Orders, the displayed and non-displayed portions of Reserve Orders are considered for execution and in determining the Opening Price throughout the Opening Process. Today, MRX permits orders to route during regular trading, however, the Exchange does not perform away market routing during the opening rotation. With this proposal, routing is considered during the Opening Process.

With respect to the Opening Sweep, the Exchange proposes to adopt an order type at new Rule 715(t) entitled "Opening Sweep." This order type is proposed to be a Market Maker order submitted for execution against eligible interest in the system during the

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<sup>44</sup> A Limit Order is an order to buy or sell a stated number of options contracts at a specified price or better. See MRX Rule 715(b).

<sup>45</sup> See proposed Rule 701(j)(F).

Opening Process pursuant to Rule 701(b)(i). The Exchange believes that describing this order type within Rule 715 will provide clarity to the introduction of Opening Sweeps.

**Opening Process Examples:**

The following examples are intended to demonstrate the Opening Process.

**Example 1. Proposed Rule 701(e) Opening with an Exchange BBO (No Trade).**

Suppose the PMM 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 an ABBO and no Zero Bid Market, the System does not conduct the PDM and the option opens without delay.

**Example 2a. Proposed Rule 701(h) Opening with Trade.** Suppose the PMM 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 Rule 701(h)(i), the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO.

**Example 2b. Proposed Rule 701(h) Opening with Trade.** Similarly, suppose the PMM 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 Rule 701(h)(i), as the Potential Opening Price is outside the Pre-Market BBO. The System thereafter calculates the OQR and initiates the PDM, as discussed in proposed Rule 701(j), to facilitate the Opening Process for the option.

**Example 3. Proposed Rule 701(j)(2) Price Discovery Mechanism and first iteration.** Assume the set up described in Example 2b and an allowable OQR of 0.04. When the PDM is initiated, the System broadcasts an Imbalance Message. At the end of the Imbalance Timer, the option opens with an Opening Price of 2.11 because it is within OQR and the ABBO. The maximum value for OQR is the lowest quote offer of 2.10 plus 0.04.

**Example 4. Proposed Rule 701(j)(3) Price Discovery Mechanism and second iteration with routing.** Suppose the PMM 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 PMM quote. Customer A enters a routable buy order at 2.10 for 150 contracts. The PDM 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 PDM 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 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.

**Example 5. Proposed Rule 701(j)(5) Forced Opening.** Suppose the PMM enters a quote, 2.00 (100) bid and 2.10 (100) offer and the defined allowable OQR is 0.04. A Market Maker enters a quote for 2.05 (100) x 2.14 (100). Firm A enters a buy order of 250 contracts for 2.15 which is more aggressive than the expected OQR of 2.14. The PDM initiates because the Potential Opening Price of 2.15 is outside the Pre-Market BBO (2.05 x 2.10). Assume no additional interest is received during the PDM. After the final Imbalance Timer, the System opens the option for trading with an execution of 200 contracts at an Opening Price of 2.14, which is the boundary of OQR. The residual 50 contracts from Firm A are cancelled back to the participant because the limit order price of 2.15 is priced through the Opening Price of 2.14.

#### **After-hours trading rotations**

The Exchange notes that no after-hours trading rotation will be offered with the proposed Opening Process. The current MRX rule describes a manual process related to after-hours trading rotations that does not exist in the automated Opening Process described in the proposed rule. Today, MRX Rule 701(c)(2) - (4) permits the Exchange to employ a manual trading rotation if the conditions specified in MRX Rule 701(c)(1) permit such a trading rotation and notice was provided prior to such rotation for a non-expiring options contract. MRX has not employed after-hours trading rotations for several years. With the proposed opening rule, there will be no after-hours trading.

## 2. Statutory Basis

The Exchange believes that its proposal is consistent with Section 6(b) of the Act,<sup>46</sup> in general, and furthers the objectives of Section 6(b)(5) of the Act,<sup>47</sup> in particular, in that it is designed to promote just and equitable principles of trade, to remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general to protect investors and the public interest for the reasons stated below.

The Exchange's proposal to adopt the Phlx Opening Process is consistent with the Act because the new rule seeks to find the best price. The proposal permits 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

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<sup>46</sup> 15 U.S.C. 78f(b).

<sup>47</sup> 15 U.S.C. 78f(b)(5).

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 to adopt a "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. The Exchange added the definitions to provide clarity and consistency throughout the proposed rule.

### **Eligible Interest**

The first part of the Opening Process determines what constitutes eligible interest. The Exchange's proposal seeks to make clear what type of eligible opening interest is included. The Exchange notes that 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. Finally, All-or-None Orders that can be satisfied, and the displayed and non-displayed portions of Reserve Orders are considered for execution and in determining the Opening Price throughout 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.

The system will only route Public Customer orders during the Opening Process. Other non-Public Customer orders will not route. Unlike the regular session where



orders route if they cannot execute on MRX, the Opening Process is a price discovery process which considers interest, both on MRX 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 only routes Public Customer interest at this time rather than all interest because this type of interest always receives priority on MRX and this process ensures that Public Customer interest will be executed with priority during the Opening Process. Other interest is not routable until after the Exchange has completed the Opening Process.

### **Opening Sweep**

The Exchange believes that it is consistent with the Act to introduce the concept of an Opening Sweep and memorialize this order type within Rule 715(t). While the Opening Sweep is similar to an Opening Only Order,<sup>48</sup> it can be entered for the Opening Process only and any portion of the order that is not executed during the Opening Process is cancelled. An Opening Sweep may only be submitted by a Market Maker when he/she has a Valid Width Quote in the affected series<sup>49</sup> whereas, there is no such restriction on Opening Only Orders. The Exchange believes the addition of this order type is consistent with the Act because it provides for a specific type of order that may be entered during the Opening Process similar to Phlx for proposes of qualifying as eligible interest. The Exchange notes that this order type would be not valid outside of the opening in other

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<sup>48</sup> See MRX Rule 715(o).

<sup>49</sup> 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.

trading sessions. The Exchange is providing definitive rules that concern the manner in which Opening Sweeps may be entered into the system. For example, 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.<sup>50</sup> 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 Rule 701(b)(2) that the system will aggregate the size of all eligible interest for a particular participant category<sup>51</sup> at a particular price level for trade allocation purposes pursuant to MRX Rule 713. The Exchange believes that this allocation is consistent with the Act because it mirrors the current allocation process on MRX in other trading sessions.

The proposed rule notes the specific times that eligible interest may be submitted into MRX's system. The Exchange's proposed time for entering Market Maker Valid Width Quotes and Opening Sweeps (9:25 AM Eastern Time) eligible to participate in the Opening Process, are consistent with the Act because the times are intended to tie the

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<sup>50</sup> See proposed MRX Rule 701(b)(1)(ii). See also proposed MRX Rule 715(t).

<sup>51</sup> MRX allocates first to Priority Customers and then to all other Members by pro-rata. This is different from Phlx which allocates to Customers first, then to market makers pro-rata and then to all others pro-rata. See MRX Rule 713 and Phlx Rule 1014(g)(vii).

option Opening Process to quoting in certain underlying securities<sup>52</sup>; 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. With respect to foreign currency options, the Exchange notes that those markets open prior to 9:30 AM Eastern Time. The Exchange proposes to open the foreign currency options at the same time as other options. The Exchange believes that conforming the Opening Process and trading hours for foreign currency options to that of other options will conform the trading rules so all products would trade during the same session. Also, this proposed language adds specificity to the rule regarding the submission of orders.

The Exchange's proposal at Rule 701(c)(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 Eastern Time provided the ABBO, if any, is not crossed and the system has received within specified time periods certain specified interest,<sup>53</sup> is consistent with the Act because this requirement is intended to tie the option Opening Process to receipt of liquidity. If one of the above three conditions specified in proposed Rule 701(c)(1)(i) – (iii) is not met, the Exchange will not initiate the Opening Process or continue an ongoing Opening Process. The Exchange's proposed rule considers the liquidity present on its market before initiating other processes to obtain additional pricing information. The Exchange's

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<sup>52</sup> For purposes of this rule, the underlying security can also be an index.

<sup>53</sup> See proposed Rule 701(c)(1)(i) – (iii).

proposal to adopt the Phlx Opening Process is consistent with the Act because the new rule seeks to find the best price.

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.

The Exchange's proposal at Rule 701(c)(3) requires the PMM assigned in a particular equity or index option to enter a Valid Width Quote, in 90% of their assigned series, not later than one minute following the dissemination of a quote or trade by the market for the underlying security or, in the case of index options, following the receipt of the opening price in the underlying index. The PMM assigned in a particular U.S. dollar-settled foreign currency option must enter a Valid Width Quote, in 90% of their assigned series, also not later than one minute after the announced market opening. The

Exchange's proposal to set a PMM's quoting obligations to 90% of their assigned series, not later than one minute following the dissemination of a quote or trade by the market for the underlying security or, in the case of index options, following the receipt of the opening price in the underlying index or not later than one minute for a U.S. dollar-settled foreign currency option is consistent with the Act. The 90% continuous quoting obligation provides an equivalent quoting obligation during the entirety of the trading day,<sup>54</sup> with this proposed standard. The Exchange notes that the quoting obligations for the Opening Process, will be separately calculated from the remainder of the trading day so that a PMM would be required to independently comply with the quoting obligations during the Opening Process as compared to the remainder of the trading day. The Exchange believes that the 90% quoting obligation will ensure liquidity on MRX during the Opening Process. The Exchange also believes that a higher quoting requirement during the Opening Process compared to the remainder of the trading day would place a burden on PMMs with respect to quoting at the Opening which would in turn make them less inclined to make markets on MRX. The Exchange believes that the 90% proposed quoting requirements should enhance the market making functions for PMMs and serve to maintain a fair and orderly market thereby promoting the protection of investors and the public interest. The Exchange notes the 90% quoting obligation is higher than other markets today.<sup>55</sup>

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<sup>54</sup> See Supplementary Material to MRX Rule 804.

<sup>55</sup> The Miami International Securities Exchange LLC ("MIAX") has no quoting obligations for Primary Lead Market Makers during the opening but has a 90% continuous quoting standard for the remainder of the trading day. See MIAX Rules 503 and 604(e)(1)(i). MIAX revised market maker quoting obligations prior to and during the opening process. Specifically, MIAX Rule 503(e)(5) provides that, "[t]he Primary Lead Market Maker assigned in a particular equity

The Exchange notes that the obligations placed on market makers, as described above to continuously quote both during the Opening Process and throughout the remainder of the trading day, afford these market participants certain benefits on MRX. Specifically, pursuant to MRX Rule 713, the PMM shall be granted certain allocations.<sup>56</sup> The Exchange notes that PMMs have certain required certain quoting obligations and as a result they reap certain benefits for their participation on MRX.

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option class must enter valid width quotes not later than one minute following the dissemination of a quote or trade by the market for the underlying security.” See Securities Exchange Act Release No. 68954 (February 20, 2013), 78 FR 13107 (February 26, 2017) (SR-MIAX-2013-04).

<sup>56</sup> Pursuant to MRX Rule 713(e), if there are two (2) or more Professional Orders or market maker quotes at the Exchange's best bid or offer, after all Priority Customer Orders (if any) at that price have been filled, executions at that price will be allocated between the Professional Orders and market maker quotes pursuant to an allocation procedure to be determined by the Exchange from time to time; provided, however, that if the PMM is quoting at the Exchange's best bid or offer, it shall have precedence over Professional Orders and CMM quotes for execution of orders that are for a specified number of contracts or fewer, which number shall be determined by the Exchange from time to time.

In addition, Supplementary Material to MRX Rule 713 provides that: (b) If the Primary Market Maker is quoting at the best price, it has participation rights equal to the greater of (i) the proportion of the total size at the best price represented by the size of its quote, or (ii) sixty percent (60%) of the contracts to be allocated if there is only one (1) other Professional Order or market maker quotation at the best price, forty percent (40%) if there are two (2) other Professional Orders and/or market maker quotes at the best price, and thirty percent (30%) if there are more than two (2) other Professional Orders and/or market maker quotes at the best price; and (c) Orders for five (5) contracts or fewer will be executed first by the Primary Market Maker; provided however, that on a quarterly basis the Exchange will evaluate what percentage of the volume executed on the Exchange (excluding volume resulting from the execution of orders in the Facilitation Mechanism (see Rule 716(d))) is comprised of orders for five (5) contracts or fewer executed by Primary Market Makers, and will reduce the size of the orders included in this provision if such percentage is over forty percent (40%). The PMM participation rights and the small order preference allocations are not guarantees; the PMM (i) must be quoting at the execution price to receive an allocation of any size, and (ii) cannot execute a greater number of contracts than the size that is associated with its quote.

Furthermore, the Exchange proposes that a CMM that submits a quote pursuant to proposed Rule 701 in any option series when the PMM's quote has not been submitted shall be required to submit continuous, two-sided quotes in such option series until such time as the PMM submits his/her quote, after which the Market Maker that submitted such quote shall be obligated to submit quotations pursuant to Rule 804(e). This proposal is consistent with the Act because the Exchange will not open if the ABBO becomes crossed or a Valid Width Quote(s) pursuant to proposed Rule 701(c)(1) is no longer present. Instead the process would restart and all eligible opening interest will continue to be considered during the Opening Process when the process is re-started. The Exchange's proposal is consistent with the Act and promotes just and equitable principles of trade because the rule reflects that the ABBO cannot be crossed because it is indicative of uncertainty in the marketplace of where the option series should be valued. 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.

#### **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 Rule 701(d) 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 Rule 701(c)(1). 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.

### **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, unless all three of the following conditions exist: (i) a Zero Bid Market; (ii) no ABBO; and (iii) no Quality Opening Market.<sup>57</sup> The Exchange utilizes the quotes to assist in determining a fair and reasonable Opening Price, which is consistent with the Act because Members are obligated to provide both a bid and sell price. The Exchange believes that this measure provides a reasonable baseline of where the marketplace views fair value.

If all three of these conditions exist, the Exchange will calculate an OQR pursuant to paragraph (i) and conduct the PDM pursuant to paragraph (j). This approach is consistent with the Act because when all three of these conditions exist, further price discovery is warranted to validate or perhaps update the Exchange's BBO and to attract additional interest to perhaps render an opening trade possible. The Exchange notes that a Zero Bid Market reflects a lack of buying interest to assist in validating a reasonable opening BBO, the lack of an ABBO means there is no external check on the Exchange's market for that options series; and the lack of a Quality Opening Market indicates that the Exchange's market is wide. For these reasons, the Exchange believes that when these conditions exist, it is difficult to determine if the Exchange BBO is reasonable and

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<sup>57</sup> The Exchange notes herein that a Quality Opening Market is determined by reviewing all Valid Width Quotes and determining if the difference of the best bid of those Valid Width Quotes and the best offer of those Valid Width Quotes are of no more than a certain width.



therefore an OQR is calculated pursuant to proposed Rule 701(i) and thereafter, the PDM in proposed Rule 701(j) will initiate.

The Exchange believes that proposed rule promotes just and equitable principles of trade, because the proposed conditions involving Zero Bid Markets, no ABBO and no Quality Opening Market trigger the PDM rather than an immediate opening in order to validate the Opening Price against away markets or by attracting additional interest to address the specific condition. This is consistent with the Act because 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 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 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 MRX'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 PDM 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 Rule 701. The Exchange

believes the process presented in the PDM 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 PDM 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.

It is consistent with the Act to not consider away market liquidity, i.e. away market volume, until the PDM 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. 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 sends an Imbalance Message as proposed within Rule 701(j)(1), 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 Rule 701(j)(3)(iii)(C) 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 Rule 701(j)(5), entitled "Forced Opening," provides for the situation where, 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 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 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 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, 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 MRX 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.<sup>58</sup> 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.

Finally, proposed Rule 701(l) 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.

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. The proposal does not change the intense competition that exists among the options markets for options business including on the opening. Nor does the Exchange believe that the proposal will impose any burden on intra-market competition; the Opening Process involves many types of participants and interest.

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<sup>58</sup> See proposed Rule 701(j)(6)(i) and (k).

The Exchange's proposal to set a PMM's quoting obligations to 90% of their assigned series, not later than one minute following the dissemination of a quote or trade by the market for the underlying security or, in the case of index options, following the receipt of the opening price in the underlying index or not later than one minute for a U.S. dollar-settled foreign currency option does not create an undue burden on competition. The 90% quoting requirement would conform the quoting percentage for a PMM throughout the trading day.<sup>59</sup> The Exchange believes that providing an equivalent quoting obligation for the Opening Process, which will be separately calculated from the remainder of the trading day, will provide consistency.

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 (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.

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<sup>59</sup> See Supplementary Material to MRX Rule 804.

#### 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](mailto:rule-comments@sec.gov). Please include File Number SR-MRX-2017-01 on the subject line.

Paper comments:

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

All submissions should refer to File Number SR-MRX-2017-01. 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-MRX-2017-01 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.<sup>60</sup>

Robert W. Errett  
Deputy Secretary

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<sup>60</sup> 17 CFR 200.30-3(a)(12).

**EXHIBIT 5****Nasdaq MRX, LLC  
RULES**

New text is underlined; deleted text is in brackets.

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**CHAPTER 7  
Doing Business On The Exchange**

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**Rule 701. OpeningTrading Rotations**

(a) *General Rules.* A “trading rotation” is a process by which the Primary Market Maker initiates trading in a specified options class.

- (1) The Exchange may direct that one or more trading rotations be employed on any business day to aid in producing a fair and orderly market.
- (2) For each rotation so employed, except as the Exchange may direct, rotations shall be conducted in the order and manner the Primary Market Maker determines to be appropriate under the circumstances.
- (3) The Primary Market Maker, with the approval of the Exchange, shall have the authority to determine the rotation order and manner or deviate from the rotation procedures. Such authority may be exercised before and during a trading rotation.
- (4) Two (2) or more trading rotations may be employed simultaneously, if the Primary Market Maker, with the approval of the Exchange, so determines.

(b) *Opening Rotations.* Trading rotations shall be employed at the opening of the Exchange each business day.

- (1) For each class of options contracts that has been approved for trading, the opening rotation shall be conducted by the Primary Market Maker appointed to such class of options.
- (2) The opening rotation in each class of options shall be held promptly following the opening of the market for the underlying security. For purposes of this Rule, “market for the underlying security” shall be 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.

(3) In the event the underlying security has not opened within a reasonable time after 9:30 a.m. Eastern time, the Primary Market Maker shall report the delay to the Exchange and an inquiry shall be made to determine the cause of the delay. The opening rotation for options contracts in such security shall be delayed until the market for the underlying security has opened unless the Exchange determines that the interests of a fair and orderly market are best served by opening trading in the options contracts.

(4) The Exchange may delay the commencement of the opening rotation in any class of options in the interests of a fair and orderly market.

(c) *Rotations After Trading Hours.* As provided below transactions may be effected in a class of options after the end of normal trading hours in connection with a trading rotation.

(1) A trading rotation may be employed whenever the Exchange concludes that such action is appropriate in the interests of a fair and orderly market. The factors that may be considered include, but are not limited to, whether there has been a recent opening or reopening of trading in the underlying security, a declaration of a “fast market” pursuant to Rule 704, or a need for a rotation in connection with expiring individual stock options or index options, an end of the year rotation, or the restart of a rotation which is already in progress.

(2) The decisions to employ a trading rotation in non-expiring options shall be disseminated prior to the commencement of such rotation. In general, no more than one trading rotation will be commenced after the normal close of trading.

(3) If a trading rotation is in progress and the Exchange determines that a final trading rotation is needed to assure a fair and orderly market close, the rotation in progress shall be halted and a final rotation begun as promptly as possible.

(4) Any trading rotation in non-expiring options conducted after the normal close of trading may not begin until five (5) minutes after news of such rotation is disseminated by the Exchange.]

(a) Definitions. The Exchange conducts an electronic opening for all option series traded on the Exchange using its trading system (“system”).

(1) The “**ABBO**” is the Away Best Bid or Offer.

(2) The “**market for the underlying security**” is either the primary listing market or the primary volume market (defined as the market with the most liquidity in that underlying security for the previous two calendar months), as determined by the

Exchange by underlying and announced to the membership on the Exchange's web site.

(3) The **Opening Price** is described herein in sections (h) and (j).

(4) The **Opening Process** is described herein in section (c).

(5) The **Potential Opening Price** is described herein in section (g).

(6) The **Pre-Market BBO** is the highest bid and the lowest offer among Valid Width Quotes.

(7) A "**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.

(8) A "**Valid Width Quote**" is a two-sided electronic quotation submitted by a Market Maker that consists of a bid/ask differential that is compliant with Rule 803(b)(4).

(9) 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. All-or-None Orders that can be satisfied, and the displayed and non-displayed portions of Reserve Orders, are considered for execution and in determining the Opening Price throughout the Opening Process. Only Public Customer interest is routable during the Opening Process.

(1) Opening Sweep.

(i) A Market Maker assigned in a particular option may only submit an Opening Sweep if, at the time of entry of the Opening Sweep, that Market Maker has already submitted and maintains 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.

(ii) 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 aggregate the size of all eligible interest for a particular participant category at a particular price level for trade allocation purposes pursuant to Rule 713.

(c) Market Maker Valid Width Quotes and Opening Sweeps received starting at 9:25 AM Eastern Time 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) – (j) below on or after 9:30 AM Eastern Time 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 security in the case of U.S. dollar-settled foreign currency options (or such shorter time as determined by the Exchange and disseminated to membership on the Exchange's web site) any of the following:

(i) the Primary Market Maker's ("PMM") Valid Width Quote;

(ii) the Valid Width Quotes of at least two Competitive Market Makers ("CMM"); or

(iii) if neither the PMM's Valid Width Quote nor the Valid Width Quotes of two CMMs have been submitted within such timeframe, one CMM has submitted a Valid Width Quote.

(2) For all options, the underlying security, including indexes, must be open on the primary market 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 PMM assigned in a particular equity or index option must enter a Valid Width Quote, in 90% of their assigned series, not later than one minute following the dissemination of a quote or trade by the market for the underlying security or,

in the case of index options, following the receipt of the opening price in the underlying index. The PMM assigned in a particular U.S. dollar-settled foreign currency option must enter a Valid Width Quote, in 90% of their assigned series, not later than one minute after the announced market opening.

(4) A CMM that submits a quote pursuant to this Rule 701 in any option series when the PMM's quote has not been submitted shall be required to submit continuous, two-sided quotes in such option series until such time as the PMM submits his/her quote, after which the Market Maker that submitted such quote shall be obligated to submit quotations pursuant to Rule 804(e).

(5) 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 Rule 701(c)(1) 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 (e) – (j) below.

(d) Reopening After a Trading Halt. The procedure described in Rule 701 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 (c)(1).

(e) 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, unless all three of the following conditions exist: (i) a Zero Bid Market; (ii) no ABBO; and (iii) no Quality Opening Market. If all three conditions exist, the Exchange will calculate an Opening Quote Range pursuant to paragraph (i) and conduct the Price Discovery Mechanism pursuant to paragraph (j) below.

(f) 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.

(g) Potential Opening Price. To calculate the Potential Opening Price, the system will take into consideration all Valid Width Quotes and orders (including Opening Sweeps and displayed and non-displayed portions of Reserve Orders), except All-or-None Orders that cannot be satisfied, for the option series and identify the price at which the maximum number of contracts can trade ("maximum quantity criterion"). In addition, paragraphs (h)(3)(i) and (i)(5) - (7) below contain additional provisions related to 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 Potential Opening Price calculation is bounded by the better away market price that may not be satisfied with the Exchange routable interest.

(h) Opening with Trade. 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:

(1) the Potential Opening Price is at or within the best of the Pre-Market BBO and the ABBO;

(2) the Potential Opening Price is at or within the non-zero bid ABBO if the Pre-Market BBO is crossed; or

(3) where there is no ABBO, the Potential Opening Price is at or within the Pre-Market BBO which is also a Quality Opening Market.

(i) If there is more than one Potential Opening Price which meets the conditions set forth in paragraphs (1) through (3) above where:

(A) no contracts would be left unexecuted and

(B) any value used for the mid-point calculation (which is described in paragraph (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, an Opening Quote Range will be calculated pursuant to paragraph (i) below and thereafter, the Price Discovery Mechanism in paragraph (j) below will commence.

(i) 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.

(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 option series will not open if the ABBO becomes crossed pursuant to (c)(5)) and there are Valid Width Quotes on the Exchange that are executable against each other or the ABBO:

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

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

(4) If there are Valid Width Quotes on the Exchange that are executable against each other, and there is no away market disseminating a BBO in the affected option series:

(i) The minimum value for the OQR will be the lowest quote bid among Valid Width Quotes on the Exchange.

(ii) The maximum value for the OQR will be the highest quote offer among Valid Width Quotes on the Exchange.

(5) 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 paragraph (g)(1) 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.

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



- (7) 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 (g) above. The system will route Public Customer interest in price/time priority to satisfy the away market.
- (j) Price Discovery Mechanism. If the Exchange has not opened pursuant to paragraphs (e) or (h) above, after the OQR calculation in paragraph (i), 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 (unmatched contracts), 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.
- (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 paragraph (j)(2) above, the system will:
- (i) 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
- (ii) 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 at the Opening Price, the system will open with trades at the Opening Price and the Route Timer will simultaneously end. The system will monitor quotes received during the Route Timer period and make ongoing corresponding changes to the permitted OQR and Potential Opening Price to reflect them.

(iii) If no trade occurred pursuant to (ii) above, 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 that 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 paragraphs (A)-(C) below.

(A) 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 ISO designated as an Immediate-or-Cancel ("IOC") order(s), and determine an opening 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

(B) 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 sub-paragraph; or

(C) 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.

(4) 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 (3) will repeat (except no new Route Timer will be initiated).

(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 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, otherwise orders will remain in the Order Book.

(6) The system will execute orders at the Opening Price that have contingencies (such as, without limitation, All-or-None and Reserve Orders) 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 orders, except that only the full volume of Public Customer Reserve Orders may route.

(i) The system will cancel (1) any portion of a Do-Not-Route order that would otherwise have to be routed to the exchange(s) disseminating the ABBO for an opening to occur, or (2) any order that is priced through the Opening Price will be cancelled. All other interest will be eligible for trading after opening.

(k) 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 Rule 713 and the Supplementary Material thereto apply with respect to other orders and quotes with the same price.

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

\* \* \* \* \*

**Rule 715. Types of Orders**

(a) – (s) No change.

(t) Opening Sweep. An Opening Sweep is a Market Maker order submitted for execution against eligible interest in the system during the Opening Process pursuant to Rule 701(b)(1).

***Supplementary Material to Rule 715***

.01 No change.

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