

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34-80659; File No. SR-PEARL-2017-21)

May 11, 2017

Self-Regulatory Organizations; MIAX PEARL, LLC; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend Rule 519C

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 5, 2017, MIAX PEARL, LLC (“MIAX PEARL” or “Exchange”) filed with the Securities and Exchange Commission (“Commission”) a 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 is filing a proposal to amend Exchange Rule 519C.

The text of the proposed rule change is available on the Exchange’s website at <http://www.miaxoptions.com/rule-filings/pearl> at MIAX PEARL’s principal office, 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 the places specified in Item IV below. The Exchange has prepared summaries, set forth in sections A, B, and C below,

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

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

of the most significant aspects of such statements.

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

1. Purpose

The Exchange proposes to amend Rule 519C, Mass Cancellation of Trading Interest, to adopt new section (c) entitled “Detection of Loss of Communication,” to codify the use of current functionality in the Exchange’s System<sup>3</sup> which is designed to assist Members<sup>4</sup> in the event of a loss of communication with either their assigned MIAX Express Orders Interface (“MEO Interface” or “MEO”)<sup>5</sup> port or Financial Information eXchange Interface (“FIX Interface” or “FIX”)<sup>6</sup> port due to a loss of connectivity. This functionality is designed to protect Members from inadvertent exposure to excessive risk. The Exchange also proposes to adopt new Interpretations and Policies .01 and .02 as discussed below. Additionally, the Exchange proposes to make minor non substantive changes to Rule 100, Definitions, as described below. The Exchange notes that this filing is substantially similar in all material respects to a recent

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<sup>3</sup> The term “System” means the automated trading system used by the Exchange for the trading of securities. See Exchange Rule 100.

<sup>4</sup> The term “Member” means an individual or organization that is registered with the Exchange pursuant to Chapter II of MIAX PEARL Rules for the purpose of trading on the Exchange as an “Electronic Exchange Member” or “Market Maker.” Members are deemed “members” under the Exchange Act. See Exchange Rule 100.

<sup>5</sup> As proposed, the term “MEO Interface” means a binary order interface used for submitting certain order types (as set forth in MIAX PEARL Rule 516) to the MIAX PEARL System. See proposed Exchange Rule 100.

<sup>6</sup> As proposed, the term “FIX Interface” means the Financial Information Exchange interface used for submitting certain order types (as set forth in MIAX PEARL Rule 516) to the MIAX PEARL System. See proposed Exchange Rule 100.

filing by the Exchange’s affiliate, Miami International Securities Exchange, LLC (“MIAX Options”).<sup>7</sup>

MIAX PEARL Members may connect to the System using the MEO Interface and/or the FIX Interface. These two connection protocols are not mutually exclusive and Members, specifically Market Makers (“MMs”)<sup>8</sup> on the Exchange, primarily use the MEO Interface for providing liquidity to the Exchange via their Market Making activities, while Electronic Exchange Members (“EEMs”)<sup>9</sup> primarily use the FIX Interface for submitting orders.<sup>10</sup>

These Interface ports provide the mechanism by which Members maintain a connection to the Exchange and through which a Member communicates its quotes and/or orders to the System. Market Makers may submit quotes<sup>11</sup> to the Exchange from one or more MEO ports. Similarly, Members may submit orders to the Exchange from one or more FIX ports. When the System detects a loss of communication with a Member, the System has the capability to remove the Member’s quotes and/or orders, if so elected and configured by the Member. The Exchange

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<sup>7</sup> See Securities Exchange Act Release No. 80151 (March 3, 2017), 82 FR 13146 (March 9, 2017) (SR-MIAX-2017-08).

<sup>8</sup> The term “Market Maker” or “MM” means a Member registered with the Exchange for the purpose of making markets in options contracts traded on the Exchange and that is vested with the rights and responsibilities specified in Chapter VI of MIAX PEARL Rules. See Exchange Rule 100.

<sup>9</sup> The term “Electronic Exchange Member” or “EEM” means the holder of a Trading Permit who is a Member representing as agent Public Customer Orders or Non-Customer Orders on the Exchange and those non-Market Maker Members conducting proprietary trading. Electronic Exchange Members are deemed “members” under the Exchange Act. See Exchange Rule 100.

<sup>10</sup> The term “order” means a firm commitment to buy or sell option contracts. See Exchange Rule 100.

<sup>11</sup> The term “quote” or “quotation” means a bid or offer entered by a Market Maker as a firm order that updates the Market Maker’s previous bid or offer, if any. When the term order is used in these Rules and a bid or offer is entered by the Market Maker in the option series to which such Market Maker is registered, such order shall, as applicable, constitute a quote or quotation for purposes of these Rules. See Exchange Rule 100.

notes that this functionality is mandatory for Members using MEO and optional for Members using FIX, as discussed in more detail below.

### MEO Connections

Members connect to their assigned MEO port using the MIAX Session Management Protocol (“SesM”). The SesM protocol uses Heartbeat<sup>12</sup> packets to detect link failures between the Member and the Exchange. The SesM protocol requires that the Exchange must send a Heartbeat packet anytime more than one (1) second has passed since the Exchange last sent any data. Further, the SesM protocol requires that the Member must send a Heartbeat packet anytime more than one (1) second has passed since the Member last sent any data. If a certain number of consecutive Heartbeats are missed,<sup>13</sup> or if the Member fails to send data or Heartbeats within “xx” period of time (“Heartbeat Interval”), the System will automatically close the connection and listen for the Member to establish a new connection. The default Heartbeat Interval setting is determined by the Exchange and configured directly into the System.<sup>14</sup> Any change to these settings will be communicated to Members accordingly.

The Exchange offers Members three different types of MEO port connections. A Full Service Port Bulk (“FSP<sub>B</sub>”) which supports all message types and binary bulk order entry, a Full Service Port Single (“FSP<sub>S</sub>”) which supports all MEO input message types and binary order entry on a single order by order basis (no bulk orders), and a Limited Service Port (“LSP”), which supports all MEO input message types, but does not support bulk order entry and only

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<sup>12</sup> A Heartbeat message is a communication which acts as a virtual pulse between the Exchange System and the Member’s system. The Heartbeat message sent by the Member and received by the Exchange allows the Exchange to continually monitor its connection with the Member.

<sup>13</sup> The Exchange notes that the current setting is three (3) Heartbeats.

<sup>14</sup> The Exchange notes that the current setting is three (3) seconds.

supports IOC/ISO order types. The Exchange limits Members to two (2) Full Service Ports and allows up to eight (8) Limited Service Ports per MIAX PEARL matching engine.<sup>15</sup> All Ports can have “Cancel on Disconnect” enabled. By default, Cancel on Disconnect functionality will be triggered upon establishing a loss of communication to the Member’s last MEO Full Service Port connection to a matching engine. When Cancel on Disconnect is triggered, the System will close the session and remove the Member’s quotes and orders from the Exchange, for the impacted matching engine only.

Members have the ability to group MEO ports together by port and/or Market Participant ID (“MPID”) for the purpose of establishing groups of connections to tailor Cancel on Disconnect functionality to the Member’s business needs.

Examples for illustration purposes are provided below.

Example 1: Default Behavior

Group 1: MEO Full Service Ports: MEO Port 1 & MEO Port 2

Scenario 1: MEO Port 1 disconnects, (MEO Port 2 connected) no quotes removed.

Scenario 2: MEO Port 2 disconnects, (MEO Port 1 connected) no quotes removed.

Scenario 3: MEO Port 1 disconnects, MEO Port 2 disconnects, Cancel on Disconnect triggered

Scenario 4: MEO Port 2 disconnects, MEO Port 1 disconnects, Cancel on Disconnect triggered

Example 2: A Member requiring a configuration which separates their orders, Mass-Cancel or Notifications to a separate port.

Group 1: MEO Full Service Ports: MEO Port 1 & MEO Port 2

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<sup>15</sup> A “matching engine” is a part of the MIAX PEARL electronic system that processes options quotes and trades on a symbol-by-symbol basis.

Group 2: MEO Limited Service Port: MEO Port 3

Group 1 is configured for Cancel on Disconnect; Group 2 is not.

Assuming that the Firm is connected on all ports:

Scenario 1: MEO Port 1 disconnects, no quotes removed.

Scenario 2: MEO Port 1 and Port 2 disconnect, Cancel on Disconnect triggered, quotes removed.

Scenario 3: MEO Port 3 disconnects, no quotes removed.

Scenario 4: MEO Port 1 and Port 3 disconnect, no quotes removed.

Example 3: A Member requiring a configuration to divide the ports to separate computers or traders.

Group 1: MEO Full Service Port: MEO Port 1; MEO Limited Service Port: MEO Port 2

Group 2: MEO Full Service Port: MEO Port 3; MEO Limited Service Port: MEO Port 4

Group 1 MPIDs: MPID\_1, MPID\_2, MPID\_3

Group 2 MPIDs: MPID\_3, MPID\_4, MPID\_5

Both groups are configured for Cancel on Disconnect, and MPID\_3 is in both groups.

Assuming the Member is connected on all ports:

Scenario 1: MEO Port 1 disconnects, no quotes removed.

Scenario 2: MEO Port 1 and Port 2 disconnect, Cancel on Disconnect triggered for MPID\_1, MPID\_2, and MPID\_3.

Scenario 3: MEO Port 3 disconnects, no quotes removed.

Scenario 4: MEO Port 1 and MEO Port 3 disconnect, Cancel on Disconnect triggered for all MPIDs.

## FIX Connections

Members connect to their assigned FIX port using the MIA X PEARL FIX Orders Interface (“FOI”) which is a flexible interface that uses the FIX protocol for both application and session level messages. As per the FIX protocol, a connection is established by the Member submitting a logon message to the Exchange. This logon message establishes the Heartbeat interval that will be used by the session. This value must be greater than zero seconds and the same value must be used by both the Member and the Exchange.

Within the logon message a Member can enable “Auto Cancel on Disconnect” for all orders sent through a session by setting a flag in the logon message. This would result in all eligible orders<sup>16</sup> submitted through the FIX connection to be canceled upon a loss of communication. Alternatively, a Member can identify individual orders on a per order basis that are to be considered for Auto Cancel on Disconnect treatment.

Upon missing a single Heartbeat, FOI will send a Test Request message<sup>17</sup> to the Member to check the status of the connection. Upon missing a certain number of Heartbeats,<sup>18</sup> FOI will send a logout message and terminate the connection. When FOI detects a disconnection for any reason it will trigger the Auto Cancel on Disconnect process, whereby, if enabled, FOI will

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<sup>16</sup> Good ‘Til Cancelled (“GTC”) orders are not eligible for Auto Cancel on Disconnect. A GTC Order is an order to buy or sell which remains in effect until it is either executed, cancelled or the underlying option expires. See Exchange Rule 516(i).

<sup>17</sup> The test request message is a FIX Protocol message that forces a heartbeat from the opposing application. The test request message checks sequence numbers or verifies communication line status. The opposite application responds to the Test Request with a Heartbeat containing the Test Request ID. Financial Information Exchange Protocol (FIX), Version 4.2 with errata. May 1, 2001.

<sup>18</sup> The Exchange notes that the current setting is two (2) Heartbeats.

cancel all eligible orders. If Auto Cancel on Disconnect is not enabled for the session or for any orders, FOI will simply disconnect the FIX session and not cancel any orders. Once disconnected, a FIX user would have to commence a new session to add, modify, or cancel its orders. After a disconnect FOI will not accept connections from the Member for a pre-configured period of time.<sup>19</sup> This allows the Exchange to cancel orders without the Member being able to reconnect and attempt to interact with an order in the process of being canceled. Any change to this setting will be communicated to Members accordingly.

The Auto Cancel on Disconnect functionality is designed to react to external connection loss scenarios only. Therefore, it does not cancel orders in the event of a MIAX PEARL system failure. The execution reports resulting from cancels or trades during the period a Member is disconnected can be received upon a subsequent reconnection by the Member on the same trading day.

The Exchange also proposes to adopt new Interpretations and Policies .01 to enumerate order types that are not eligible for removal by the Auto Cancel on Disconnect functionality. Proposed Interpretation and Policies .01 will state that Good 'Til Cancelled (“GTC”)<sup>20</sup> orders are not eligible for automatic cancellation.

The Exchange also proposes to adopt new Interpretations and Policies .02 to define (i) what a “Heartbeat” message is and how it used by the Exchange, and (ii) the requirements for establishing a “Loss of Communication” on the Exchange.

Additionally, the Exchange proposes amending the definition of “MEO Interface” and “FIX Interface,” in Rule 100, to clarify the function and capability of each interface.

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<sup>19</sup> The Exchange notes that the current setting is five (5) seconds.

<sup>20</sup> See Exchange Rule 516.



The functionality discussed above is designed to mitigate potential risks associated with a loss of communication to the Exchange. In today's market, Market Makers' quotes are rapidly changing and can have a lifespan of only milliseconds. Therefore, if a Member is disconnected for any period of time, and its quotes remained in the System, it is very possible that the quotes would be stale by the time the Member was able to reestablish connectivity. Consequently, any resulting execution of such quotes is more likely to be erroneous or unintended. Conversely, the Exchange notes that orders tend to be static in nature and often rest on the Book. Certain orders, such as GTC orders are intended to rest on the Book for an extended period of time. As such, there is a lower risk of erroneous or unintended executions resulting from orders that remained in the System after a Member experienced a loss of communication.

The Exchange believes that while information relating to connectivity and loss of communication is already available to Members via technical specifications, codifying this information in the rule text will provide additional transparency and further reduce the potential for confusion.

## 2. Statutory Basis

MIAX PEARL believes that its proposed rule change is consistent with Section 6(b) of the Act<sup>21</sup> in general, and furthers the objectives of Section 6(b)(5) of the Act<sup>22</sup> in particular, in that it is designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitating transactions in securities, to remove impediments to and perfect the mechanisms of a free and open market and a national market system and, in general, to protect investors and the public interest.

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<sup>21</sup> 15 U.S.C. 78f(b).

<sup>22</sup> 15 U.S.C. 78f(b)(5).

The proposed rule will remove impediments to and perfect the mechanism of a free and open market and a national market system and protect investors and the public interest by providing Market Makers with a mechanism by which quotes may be removed in the event of a loss of connectivity with the System. Market Makers provide liquidity to the market place and have obligations unlike other Members.<sup>23</sup>

This risk protection feature is important because it will enable Market Makers to avoid risks associated with inadvertent executions in the event of a loss of communication with the Exchange. The proposed rule change is not unfairly discriminatory among Members, as it is available equally to all Members utilizing MEO. The obligation of Market Makers on the Exchange to provide continuous two-sided quotes in their assigned series on a daily basis<sup>24</sup> is not diminished by the removal of such quotes triggered by the disconnect. The Exchange will not be prohibited from taking disciplinary action against a Market Maker for failing to meet its continuous quoting obligation each trading day as a result of disconnections.

The disconnect feature of FIX connections is mandatory, however Members have the option to enable the cancellation of all orders for an entire session or select orders for cancellation on an order-by-order basis, which would result in the cancellation of orders submitted over a FIX port when such port disconnects. It is appropriate to offer two different removal features to all Members utilizing FIX, as these Members may desire that their orders remain on the order book despite a technical disconnection, so as not to miss any opportunities for execution of such orders while the FIX session is disconnected. Offering to cancel all orders, specifically selected orders, or no orders, upon disconnect allows the Member to customize the functionality to align to its business needs. Offering this type of order cancellation functionality

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<sup>23</sup> See Exchange Rule 604.

<sup>24</sup> See Exchange Rule 604(a)(1).

to Members is consistent with the Act because it enables Members to avoid risks associated with inadvertent executions in the event of a loss of communication with the Exchange. The order cancellation functionality is designed to mitigate the risk of missed and/or unintended executions associated with a loss in communication with the Exchange. The proposed rule change is not unfairly discriminatory among Members, as it is available equally to all Members utilizing FIX.

The disconnect feature is mandatory under the FIX protocol. The Exchange will disconnect Members from the Exchange and not cancel orders if the Auto Cancel on Disconnect functionality is not enabled. This feature is consistent with the Act because it provides FIX users the ability to disconnect from the Exchange and assess the current market conditions to make a determination concerning their risk exposure. The Exchange notes that in the event Auto Cancel on Disconnect functionality is not enabled and such orders need to be cancelled after a disconnection occurs, an Exchange participant can contact Exchange staff to have its orders cancelled from the System.<sup>25</sup> The Exchange believes requiring a disconnect when a loss of communication is detected to be a rational course of action for the Exchange to alert the Member of the technical connectivity issue.

The Exchange believes that the proposed rule change will assist with the maintenance of a fair and orderly market by codifying risk protections for orders and quotes. The Exchange's proposal is consistent with the Act because it adds another risk protection tool for Members that may mitigate the risk of potential erroneous or unintended executions associated with a loss in communication which protects investors and the public interest. Further, the Exchange believes clarifying the definition of each interface type provides clarity and transparency in the Exchange's Rules. The Exchange believes codifying existing functionality by rule will remove

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<sup>25</sup> See Exchange Rule 519C.

impediments to and perfect the mechanisms of a free and open market by adding precision and ease of reference to the Exchange's Rules, thus promoting transparency and clarity for Members.

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

The Exchange does not believe that the proposed rule change will impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange believes the proposed rule change will not impose any burden on intra-market competition because every Member of the Exchange has the opportunity to benefit from the functionality described in the proposed rule.

The Exchange provides two separate and distinct mechanisms for communicating with the Exchange, MEO and FIX. MEO Ports support the submission of quotes to the Exchange and are used primarily by Market Makers who have heightened quoting obligations because of their role. Members are provided the ability to configure their MEO Ports to leverage the functionality provided by the Exchange to remove quotes and orders to align to their risk tolerance. Because of the volume of series that a Market Maker is obligated to quote, the Exchange believes that removing all quotes for an affected matching engine on behalf of a Market Maker who has lost its last MEO connection to that engine to be in the best interest of both the Market Maker, to mitigate risk; and the Exchange, to ensure a fair and orderly market.

FIX users may set a timeframe for disconnection that is appropriate for their risk tolerance. Offering functionality to cancel all, some, or none, of the orders in the System upon establishing a loss of communication does not create an undue burden on intra-market competition as Members do not equally bear the same risks of potential erroneous or unintended executions. Further, FIX users have greater control over their orders and may designate a number of different Time in Force instructions which can be used to determine the duration an

order rests on the Book, from Immediate-or-Cancel, which is executed in whole or part upon receipt, with any unexecuted portion being cancelled; to a Good 'Til Cancelled order, which may rest on the Book until it is executed, cancelled by the user, or until the underlying option expires.

The Exchange does not believe the proposed rule change will impose any burden on inter-market competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange notes that other option exchanges offer similar functionality.<sup>26</sup> For all the reasons stated, 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.

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

Written comments were neither solicited nor received.

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

Because the foregoing proposed rule change does not: (i) Significantly affect the protection of investors or the public interest; (ii) impose any significant burden on competition; and (iii) become operative for 30 days after the date of the filing, or such shorter time as the Commission may designate, it has become effective pursuant to 19(b)(3)(A) of the Act<sup>27</sup> and Rule 19b-4(f)(6)<sup>28</sup> thereunder.

At any time within 60 days of the filing of the proposed rule change, the Commission summarily may temporarily suspend such rule change if it appears to the Commission that such

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<sup>26</sup> See BOX Rule 8140; CBOE Rule 6.23C; NASDAQ BX Chapter VI, Section 6; NASDAQ PHLX Rule 1019; and MIAX Options Rule 519C.

<sup>27</sup> 15 U.S.C. 78s(b)(3)(A).

<sup>28</sup> 17 CFR 240.19b-4(f)(6). In addition, Rule 19b-4(f)(6) requires a self-regulatory organization to give the Commission written notice of its intent to file the proposed rule change at least five business days prior to the date of filing of the proposed rule change, or such shorter time as designated by the Commission. The Exchange has satisfied this requirement.

action is necessary or appropriate in the public interest, for the protection of investors, or otherwise in furtherance of the purposes of the Act. If the Commission takes such action, the Commission shall institute proceedings to determine whether the proposed rule should be approved or disapproved.

#### IV. Solicitation of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

##### Electronic comments:

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>); or
- Send an e-mail to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number SR-PEARL-2017-21 on the subject line.

##### Paper comments:

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

All submissions should refer to File Number SR-PEARL-2017-21. 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 website (<http://www.sec.gov/rules/sro.shtml>).

Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be

available for website viewing and printing in the Commission's Public Reference 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-PEARL-2017-21 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>29</sup>

Eduardo A. Aleman  
Assistant Secretary

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<sup>29</sup> 17 CFR 200.30-3(a)(12).