

EXHIBIT E

Exhibit Request:

Describe the manner of operation of the System. This description should include the following:

1. The means of access to the System.
2. Procedures governing entry and display of quotations and orders in the System.
3. Procedures governing the execution, reporting, clearance and settlement of transactions in connection with the System.
4. Proposed fees.
5. Procedures for ensuring compliance with System usage guidelines.
6. The hours of operation of the System, and the date on which applicant intends to commence operation of the System.
7. Attach a copy of the users' manual.
8. If applicant proposes to hold funds or securities on a regular basis, describe the controls that will be implemented to ensure safety of those funds or securities.

Response:

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A. Introduction

(1) General

MIAX Emerald, LLC (the “Exchange” or “MIAX Emerald”) proposes to register as a national securities exchange under Section 6 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). The Exchange will be owned by its parent company, Miami International Holdings, Inc. (“Miami Holdings”) which will elect all directors of the Board of Directors of the Exchange. However, Article II, Sections 2.4 and 2.5 of the By-Laws of the Exchange provide a process by which Exchange Members may nominate representatives to the Board that complies with the requirement for fair representation of members in the selection of directors. See Exhibit J to this Application. The members of the Exchange (the “Members”) will consist of those broker-dealers admitted to transact business on the Exchange. Members will be subject to the Rules of the Exchange and will have representation on the Exchange’s Board of Directors and certain committees. Members who are not also stockholders of Miami Holdings will not have any ownership interest in the Exchange.

Once registered, the Exchange will operate a fully automated electronic options trading platform to buy or sell securities with a continuous, automated matching function. Liquidity will be derived from quotes as well as orders to buy and orders to sell submitted to the Exchange electronically by Members from remote locations. There will be no physical Exchange trading floor. There will be three types of Members on the Exchange – Lead Market Makers, Registered Market Makers and all other Members, known as Electronic Exchange Members. Lead Market Makers, who meet certain additional criteria and are willing to take on additional obligations, will be appointed as the Primary Lead Market Maker in each option class. The Primary Lead Market Makers, Lead Market Makers and Registered Market Makers (together “Market Makers”) will have affirmative and negative market making obligations. Access to the Exchange will be through the use of Trading Permits issued to the Members.

Access to the Exchange will be open to broker-dealers registered under Section 15(b) of the Exchange Act that meet the standards for membership set forth in Chapter II of the proposed Exchange Rules. Further, through the submission and approval of an Exchange Waive-In Membership Application a member of Miami International Securities Exchange, LLC (“MIAX”) or MIAX PEARL, LLC (“MIAX PEARL”) in good standing will be eligible to become a MIAX Emerald Member of the same category (i.e., a MIAX Primary Lead Market Maker Member is eligible to become a MIAX Emerald Primary Lead Market Maker Member, a MIAX Lead Market Maker Member is eligible to become a MIAX Emerald Lead Market Maker Member, a MIAX Registered Market Maker Member is eligible to become a MIAX Emerald Registered Market Maker Member, a MIAX Electronic Exchange Member is eligible to become a MIAX Emerald Electronic Exchange Member, a MIAX PEARL Market Maker is eligible to become a MIAX Emerald Registered Market Maker and a MIAX PEARL Electronic Exchange Member is eligible to become a MIAX Emerald Electronic Exchange Member). Members will be subject to fees for executions on the Exchange as set forth in the proposed Rules of the Exchange or as may otherwise be determined by the Exchange from time-to-time pursuant to a fee schedule. Trading Permits will not be transferable except in the event of a change in control of a Member subject to meeting certain criteria. A more detailed description of the Membership criteria is set forth in Chapter II of the Exchange’s proposed Rules. See Exhibit B to this Application.

(2) Regulation SCI

Regulation Systems Compliance and Integrity ("Regulation SCI") requires self-regulatory organizations (defined as SCI entities) to have, among other things, robust and resilient technological systems that ensure the SRO's own operational capability, including the ability to maintain effective operations, minimize or eliminate the effect of performance degradations, and have sufficient backup and recovery capabilities. Specifically, Regulation SCI Rule 1001(a) requires each SCI entity to establish, maintain and enforce written policies and procedures reasonably designed to ensure that its SCI systems have levels of capacity, integrity, resiliency, availability, and security, adequate to maintain the SCI entity's operational capability and promote the maintenance of fair and orderly markets.

Regulation SCI Rule 1001(a)(2)(v) further requires business continuity and disaster recovery plans that include maintaining backup and recovery capabilities that are both sufficiently resilient and geographically diverse and that are reasonably designed to achieve next business day resumption of trading and two-hour resumption of critical SCI systems following a wide-scale disruption. To be deemed sufficiently resilient, Regulation SCI has established a goal for SCI entities of next business day resumption of trading and two-hour resumption of critical SCI systems following a wide-scale disruption. To be considered geographically diverse, Regulation SCI provides a reasonable degree of flexibility to an SCI entity to determine the precise nature and location of its backup site. Regulation SCI does not specify a minimum distance for an SCI entity's backup and recovery facilities. However, the backup site should not rely upon the same infrastructure components nor be subject to the same vulnerabilities or risks as its primary site.

MIAX Emerald will be compliant with all aspects of Regulation SCI including the requirements for its backup and recovery capabilities. The Exchange's disaster recovery plans in general and its backup data center in particular will be robust and resilient. It should be noted that the Exchange does not plan to initially operate any critical SCI systems and therefore will not be required to meet the two-hour resumption of service goal set forth in the Regulation.

MIAX Emerald will be primarily operated out of New Jersey (the "Primary Data Center"). The MIAX Emerald Disaster Recovery ("Disaster Recovery") site is located in Illinois.

The topology of the system includes complete redundancy of software level components such that a failure of a single software component, due to server hardware or network device failures, will recover to a backup instance running in a Hot/Hot or a Hot/Warm configuration. Depending on the specific failed component, redundancy can exist within the primary system or within an independent secondary hardware system. In the event of a widespread Primary Data Center site failure, the Disaster Recovery Data Center will be available for the site failover. The systems deployed in the Disaster Recovery Data Center will be designed, deployed and tested to be sufficiently resilient and comply with the Regulation SCI requirement to be operational the next business day after declaring a disaster in the Primary Data Center.

The Disaster Recovery Data Center is sized with servers and networking equipment such that it provides identical functional services as the Primary Data Center site. The Disaster Recovery site selected for MIAX Emerald is in accordance with the Regulation SCI requirements for maintaining backup and recovery capabilities that are both sufficiently resilient and geographically diverse. The Disaster Recovery site is more than 500 miles away from the Primary Data Center with reasonable geographical and supporting infrastructure diversity.

As part of normal business operations, MIAX and MIAX PEARL have successfully deployed and validated a model to allow and facilitate shared support of trading systems, trading operations, systems operations and regulatory operations from the National Operations & Control Center (NOCC) and diverse off-site locations (home based). To ensure business continuity on a day to day basis a rotation schedule is in place for key operational staff to offer off-site support on an ongoing basis to ensure that there is a continuous assessment and validation of remote support capabilities. This will ensure that remote connectivity capabilities and operational procedures are continuously assessed irrespective of any business continuity situations. MIAX Emerald will follow the same model.

In accordance with Regulation SCI requirements, the supporting framework is designed and implemented to operate and maintain robust and resilient technological systems that ensure MIAX Emerald's own operational capability. This includes the ability to maintain effective operations, minimize or eliminate the effect of performance degradations, and provide sufficient backup and recovery capabilities. The supporting framework also facilitates maintaining and enforcing written policies and procedures reasonably designed to ensure that its SCI systems have levels of capacity, integrity, resiliency, availability, and security adequate to maintain the SCI entity's operational capability and promote the maintenance of fair and orderly markets.

In addition, with respect to personnel necessary to operate the Exchange's market in the event of a wide-scale disruption that forces the Exchange to activate its back-up recovery sites, the Exchange's staff will work remotely using facilities set-up in their homes throughout the tri-state region. Should the Exchange need to operate in a Disaster Recovery mode, all MIAX Emerald market and technology operations staff have the full set of tools necessary to operate the market from their at home facilities. Additionally, staff members of each of these departments work from home on a rotating schedule to ensure that their home configuration is fully functioning and that there are no issues interacting remotely with the Exchange or any of its supporting systems. MIAX Emerald will regularly test the use of the at-home facilities on an individual basis.

In accordance with Rule 1001(a) of Regulation SCI, the Exchange will have written policies and procedures in place that reflect its operational capabilities, including the ability to maintain effective operations, minimize or eliminate the effect of performance degradations, and have sufficient backup and recovery capabilities.

Proposed Rule 321, Business Continuity and Disaster Recovery Plans Testing Requirements for Designated Members (which will be incorporated by reference to Rule 321 of MIAX), provides that pursuant to Regulation SCI and with respect to the Exchange's business continuity and disaster recovery plans, including its disaster recovery systems, the Exchange is required to establish standards for the designation of Members that the Exchange reasonably determines are, taken as a whole, the minimum necessary for the maintenance of fair and orderly markets in the event of the activation of such plans. The Exchange has established standards and will publish such standards in a Regulatory Circular prior to launch of the Exchange and designate Members according to those standards as set forth below. All Members are permitted to connect to the Exchange's disaster recovery systems and to participate in testing of such systems.

Proposed Rule 321 further provides that certain Members will be required to connect to the Exchange's disaster recovery systems and participate in functional and performance testing as announced by the Exchange, which will occur at least once every 12 months. The following Members, as provided in proposed Rule 321, must participate in mandatory testing of the

Exchange's disaster recovery systems: Members that have been determined by the Exchange to contribute a meaningful percentage of the Exchange's overall volume.

For purposes of identifying Members that contribute a meaningful percentage of the Exchange's overall volume ("meaningful percentage"), proposed Rule 321, Interpretation and Policy ("I&P") .01, provides that the Exchange will measure volume executed on the Exchange during a calendar quarter determined by the Exchange (the "measurement quarter") and published in a circular distributed to Members. The meaningful percentage will be determined by the Exchange and will be published in a circular distributed to Members. Proposed Rule 321 further provides that the meaningful percentage applicable in any measurement quarter will be published in advance of such measurement quarter and will not apply retroactively to any measurement quarter completed or in progress and that the Exchange will also individually notify all Members that will be subject to mandatory testing based on the meaningful percentage following the completion of the measurement quarter.

Any changes to the Designation Standards will be published by MIAX Emerald in a Regulatory Circular in advance of the start of any measurement quarter and will not be applied retroactively to any measurement quarter then completed or in progress.

MIAX Emerald will individually notify Designated BCP Members of their designation as such (including the Exchange volume percentage(s) such designation is based upon) promptly following completion of the applicable measurement quarter. Members designated for the first time will become subject to the requirements of proposed Rule 321 in the next calendar quarter following their receipt of notice of designation from MIAX Emerald.

This exhibit describes, in summary form, the proposed operation of the Exchange. A more detailed description of the proposed Exchange is set forth in the proposed By-Laws and proposed Rules of the Exchange. See Exhibit A and Exhibit B to this Application.

B. Access to the Exchange (#1)

(1) Member Access

Members will access the Exchange electronically through the use of a variety of systems. The Exchange will not accept telephone orders.

The Exchange has designed its systems to allow its Members to individually determine the best method for accessing the Exchange. Thus, Members may develop their own customized front-end software using protocols determined by the Exchange, or may use third-party vendors to route orders to the Exchange through a front-end or service bureau configuration. Members will be able to access the Exchange remotely through a variety of methods and connections that support a minimum data exchange rate, as may be determined by the Exchange from time-to-time.

Direct access to the Exchange is available to Members at an Internet Protocol ("IP") address by one or more of the following methods: (i) electronic access at the Exchange's IP network address by the Member's own software, via communications that are compliant with the Financial Information Exchange ("FIX") protocol application programmer interface ("API") provided by the Exchange; (ii) electronic access at the IP network address maintained by the Exchange by the Member's own software that is compliant with the MIAX Emerald Express

Interface (“MEI”) protocol API provided by the Exchange; or (iii) other means of access provided from time-to-time by the Exchange. The MEI will be available for delivery of quotes and the FIX interface will be available for all delivery of quotes and orders.

Members provide a unique IP address to the Exchange for each requested connection, and the Exchange then configures its routers to only allow access from the Member’s IP address to a dedicated IP address on the Exchange’s network. By requiring the use of a registered IP address, the Exchange assures that only authorized Members will have access.

Members will be responsible for having procedures reasonably designed for safeguarding access to the Exchange and for notifying the Exchange upon learning that such safeguards have been compromised. Connectivity to the Exchange will occur through secure telecommunications “ports” or points of entry. Each Member will be assigned a specific port or multiple ports, each of which has a set of unique Exchange-provided login credentials assigned to that Member’s registered IP address.

(2) Non-Member Access

The Exchange plans to become a participant in the Options Order Protection and Locked/Crossed Market Plan or any successor plan (the “Linkage Plan”). If admitted as a participant to the Linkage Plan, other plan participants would be able to send orders to the Exchange in accordance with the terms of the Linkage Plan.

Non-Members may also access the Exchange pursuant to Rules governing “sponsored access” to the Exchange. The Exchange plans to permit access by entities (“Sponsored Users”) whose access is authorized in advance by entering into an arrangement with a Member (“Sponsoring Member”) in accordance with Exchange Rules. The Sponsoring Member must agree to be responsible for all trading conducted pursuant to that arrangement to the same extent as trading conducted by the Member for customers. The Sponsoring Member is responsible for implementing policies and procedures for supervising and monitoring the trading effected pursuant to the arrangement to ensure that it is in compliance with all applicable federal securities laws and rules and Exchange Rules. In addition, Sponsored Users must agree to comply with all applicable Rules of the Exchange governing the entry, execution, reporting, clearing and settling of orders in securities eligible for trading on the Exchange.

C. Entry and Display of Quotations and Orders in the System (#2)

(1) Entry of Orders on the Exchange

Orders entered on the Exchange must be priced and must have a designated size (limit orders) or must be orders to buy or sell a stated amount of a security at the best obtainable bid or offer when the order reaches the Exchange (market orders). A limit order designated as an Intermarket Sweep Order (“ISO”) will ignore prices on other markets. Orders will be accepted for any security traded on the Exchange, whether submitted by a Member on a proprietary or agency basis.

The following are the order types described in the Exchange Rules that will be available for use on the Exchange: market orders, limit orders, marketable limit orders, Fill-or-Kill (“FOK”) Orders, Auction-or-Cancel (“AOC”) Orders, Immediate-or-Cancel (“IOC”) Orders, Attributable Orders, Intermarket Sweep Orders (“ISOs”), Do Not Route (“DNR”) Orders, Opening (“OPG”)

Orders, Customer Cross Orders, Qualified Contingent Cross (“QCC”) Orders, Day Limit Orders, Good ‘til Cancelled (“GTC”) Orders, and Post-Only Orders. Each of these Exchange order types are described in detail in proposed Rule 516. Complex orders, as described in proposed Rule 518(a)(5), and derived orders, as described in proposed Rule 518(a)(9), will also be available on the Exchange. The types of complex orders that will be available on the Exchange are described in proposed Rule 518(b). The Exchange will maintain a full audit trail of every order submitted to the Exchange. Members may receive status reports regarding orders submitted to the Exchange or change or cancel an order at any time before that order is fully executed on the Exchange.

Post-Only Orders as described in proposed Rule 516(m) are orders that will not remove liquidity from the Book. Post-Only Orders are to be ranked and executed on the Exchange pursuant to proposed Rule 514(b) (Priority on the Exchange), or handled pursuant to proposed Rule 515, as appropriate, and will never route away to another trading center. Post-Only Orders are evaluated with respect to locking or crossing other orders or quotes as set forth in proposed Rule 515(a). A Post-Only Order is valid during the Opening Process and will be processed in accordance with proposed Rule 503. The Post-Only instruction will be ignored (i) for Post-Only Orders that participate in the Opening Process, and (ii) for Post-Only Orders subject to the Away Best Bid or Offer (“ABBO”) transition from a crossed state to an uncrossed state pursuant to proposed Rule 515, I&P .02. A Post-Only Order may not be a Market Order, Auction-or-Cancel Order, Immediate-or-Cancel Order, an Intermarket Sweep Order or a Good ‘til Cancelled Order. Post-Only Orders received before the Opening Process or during a trading halt may participate in the next Opening Process. Post-Only Orders received after the market close will be rejected. Post-Only Orders may not participate in a PRIME Auction as set forth in proposed Rule 515A(a) and if received during a PRIME Auction will be rejected. Post-Only Orders may not participate in a Solicitation Auction as set forth in proposed Rule 515A(b) and if received during a Solicitation Auction will be rejected. Post-Only Orders may not be a component of a complex order set forth in proposed Rule 518(a)(5).

A Member may submit written instructions to the Exchange designating orders the Member submits as eligible for automatic resubmission when the order or any remaining part of the order has been automatically cancelled by the Exchange’s System. The resubmitted order will be automatically submitted as a new order. This automatic resubmission functionality of the Exchange’s System will not apply to IOC Orders, FOK Orders, or ISOs.

In order to avoid the occurrence of potential obvious or catastrophic errors on the Exchange, the MIAX Emerald System includes the MIAX Emerald Order Monitor, as described in the Exchange’s proposed Rule 519 which will prevent certain orders from executing or being placed on the MIAX Emerald Book at prices outside pre-set standard limits. The MIAX Emerald Order Monitor will also prevent certain orders from executing or being placed on the Book if the size of the order exceeds the order size protection designated by the Member submitting the order. Additionally, the System will reject any orders that exceed the maximum number of open orders held in the System on behalf of a particular Member, as designated by the Member, and any orders that exceed the maximum number of open contracts represented by orders held in the System on behalf of a particular Member, as designated by the Member.

The Exchange System also includes a Risk Protection Monitor (“RPM”) in proposed Rule 519A. RPM provides risk protections for orders entered by a Member on the Exchange. Pursuant to proposed Rule 519A(a), the System maintains a counting program (“counting program”) for each participating Member that will count the number of orders entered and the number of

contracts traded via an order entered by a Member on the Exchange within a specified time period that has been established by the Member (“specified time period”). The maximum duration of the specified time period will be established by the Exchange and announced via a Regulatory Circular. The Exchange expects that initially the specified time period will be set at 24,300 seconds. The RPM maintains one or more Member-configurable Allowable Order Rate settings and Allowable Contract Execution Rate settings. When a Member’s order is entered or when an execution of a Member’s order occurs, the System will look back over the specified time period to determine if the Member has: (i) entered during the specified time period a number of orders exceeding their Allowable Order Rate setting(s), or (ii) executed during the specified time period a number of contracts exceeding their Allowable Contract Execution Rate setting(s). Once engaged, the RPM will then, as determined by the Member: automatically either (A) prevent the System from receiving any new orders in all series in all classes from the Member; (B) prevent the System from receiving any new orders in all series in all classes from the Member and cancel all existing orders with a time-in-force of Day in all series in all classes from the Member; or (C) send a notification to the Member without any further preventative or cancellation action by the System. When engaged, the RPM will still allow the Member to interact with existing orders entered prior to exceeding the Allowable Order Rate setting or the Allowable Contract Execution Rate setting, including sending cancel order messages and receiving trade executions from those orders. The RPM will remain engaged until the Member communicates with the Help Desk to enable the acceptance of new orders.

Pursuant to proposed Rule 519A(b), Members must establish at least one Allowable Order Rate setting, with a corresponding specified time period of not less than one second, and not to exceed ten seconds, as established by the Exchange and communicated to Members via Regulatory Circular (a “Corresponding Specified Time Period”) and at least one Allowable Contract Execution Rate setting (with a Corresponding Specified Time Period), both of which must be configured to perform the step set forth in either (A) or (B) of proposed Rule 519A(a) as set forth above, upon engagement of the RPM. Members may establish additional Allowable Order Rate settings and additional Allowable Contract Execution Rate settings, and any such additional settings may be configured to perform the step set forth in either (A), (B), or (C) of proposed Rule 519A(a) as set forth above, upon engagement of the RPM.

The Exchange System also includes certain risk protections in proposed Rule 519C, Mass Cancellation of Trading Interest including cancellation of orders, cancel and block functionality and automatic cancellation of orders where there is a detection of the loss of communication with a Member. Risk Protections for complex orders are described below in Section D(1)(iii) below.

All options will be traded in decimals on the Exchange and consistent with the Penny Pilot Program.

(2) Entry of Quotations on the Exchange

Proposed Rule 517 provides for the use of different types of quotes, including Standard quotes and eQuotes. Standard quotes and eQuotes may only be entered by Market Makers, must be priced and must have a designated size. Initially, the standard minimum quote size will be at least one contract. Similar to order types, eQuotes provide time in force and other contingencies to quotes and will allow Market Makers to use their quoting systems for submission of such eQuote types to MIAX Emerald. All of the bids and offers in the quote and eQuote types described below shall be firm in accordance with the Market Maker’s obligations under

proposed Exchange Rules and Rule 602 of Regulation NMS. However, bids and offers in eQuotes will not be disseminated by the Exchange to quotation vendors in accordance with Rule 602 of Regulation NMS given their limited time in force or other contingencies (i.e., Auction-or-Cancel (“AOC”) eQuotes, Opening Only (“OPG”) eQuotes, Immediate-or-Cancel (“IOC”) eQuotes, Fill-or-Kill (“FOK”) eQuotes and Intermarket Sweep eQuotes).

Pursuant to proposed Rule 517(a) Market Makers may submit Standard quotes and multiple types of eQuotes. An eQuote is a quote with a specific time in force that does not automatically cancel and replace a previous Standard quote or eQuote. An eQuote can be cancelled by the Market Maker at any time, or can be replaced by another eQuote that contains specific instructions to cancel an existing eQuote. Market Makers may have multiple types of eQuotes active in a single series at any time. Market Makers may submit any of the following quote types: Standard quote, Post-Only Quotes (which are Standard quotes), AOC eQuote, OPG eQuote, IOC eQuote, FOK eQuote and Intermarket Sweep eQuote.

Post-Only Quotes as described in proposed Rule 517(a)(1)(i) are Standard quotes that will not remove liquidity from the Book. Post-Only Quotes are to be ranked and executed on the Exchange pursuant to proposed Rule 514(b) (Priority on the Exchange), or handled pursuant to proposed Rule 515, as appropriate, and will never route away to another trading center. Post-Only Quotes are evaluated with respect to locking or crossing other orders or quotes as set forth in proposed Rule 515(a) and described below. A Post-Only Quote is valid during the Opening Process and will be processed in accordance with proposed Rule 503. The Post-Only instruction will be ignored for (i) Post-Only Quotes that participate in the Opening Process, and (ii) Post-Only Quotes subject to the ABBO transition from a crossed state to an uncrossed state pursuant to proposed Rule 515, I&P .02. Post-Only Quotes received before the Opening Process or during a trading halt may participate in the next Opening Process. Post-Only Quotes received after the market close will be rejected. Post-Only Quotes may not participate in a PRIME Auction as set forth in proposed Rule 515A(a) and if received during a PRIME Auction will be rejected. Post-Only Quotes may not participate in a Solicitation Auction as set forth in proposed Rule 515A(b) and if received during a Solicitation Auction will be rejected. A Post-Only Quote may not be a component of a complex order set forth in proposed Rule 518(a)(5).

Proposed Rule 517(b) provides for the categorization of certain Market Maker quotes as priority quotes and non-priority quotes. Use of priority quotes, which need to meet certain bid/ask differential and other requirements, will entitle Market Makers to precedence over all same priced Professional Interest (i.e., an order for the account of a person that is not a Priority Customer (as defined in proposed Rule 100) and Market Maker orders and non-priority quotes) on the Exchange. Use of priority quotes will also entitle Primary Lead Market Makers and Directed Lead Market Markets to participation entitlements described below in connection with the discussion of MIAX Emerald’s allocation process. Conversely, Market Makers using non-priority quotes will not be entitled to precedence over Professional Interest, and Primary Lead Market Makers and Directed Lead Market Markets will not be entitled to the participation entitlements on the Exchange. The categorization of Market Maker quotes as priority and non-priority allows the Exchange to provide incentives to its Market Makers to provide tighter markets. If the priority quote width standard is established by the Exchange it will be filed with the Commission in accordance with Section 19 of the Exchange Act. The priority quote width standard established by the Exchange can have bid/ask differentials as narrow as one Minimum Price Variation, as wide but never wider than the bid/ask differentials outlined in proposed Rule 603(b)(4), or somewhere in between. Notwithstanding the foregoing, until such time as the Exchange has submitted and received approval of a rule change establishing narrower bid/ask

differentials, the priority quote width standard will be the bid/ask differentials outlined in proposed Rule 603(b)(4).

The Exchange System includes an Aggregate Risk Manager (“ARM”), as described in proposed Rule 612 pursuant to which the System will maintain a counting program (the “Counting Program”) for each Market Maker who has submitted a quote in their appointed option class. Using the Counting Program, ARM protects Market Makers by limiting the number of contracts they execute in an appointed option class on the Exchange within a specified time period that has been established by the Market Maker (a “Specified Time Period”) or a default time period, neither of which can exceed 15 seconds. Market Makers establish for each option class a percentage of their order’s size (the “Allowable Engagement Percentage”) or a default setting is established, which may not be less than 100%. When an execution of a Market Maker’s Standard quote occurs, the System looks back over the Specified Time Period to determine whether the execution triggers the ARM. The System activates the ARM when it has determined that a Market Maker has traded a number of contracts equal to or above their Allowable Engagement Percentage during the Specified Time Period. The ARM then automatically removes the standard quotes in all series of that particular option class until the Market Maker sends a notification to the System of the intent to reengage and submits a new quote in the affected class. The System does not include contracts traded through the use of an eQuote in the counting program of ARM. eQuotes will remain in the System available for trading and may continue to be submitted to the Exchange when the ARM is engaged. A Market Maker may configure enhanced Aggregate Risk Manager protections for one option class (the “ARM Class Protection”), or more than one class (the “ARM Firm Protection”) under proposed Rule 612, I&P .02. In addition, a Market Maker may determine to engage the Market Maker Single Side Protection (“SSP”) feature by Market Participant Identifier (“MPID”).

(3) Display of Orders and Quotations

All orders and quotes submitted to the Exchange will be displayed unless (i) the order is an IOC Order; or (ii) the quote is an AOC eQuote or an IOC eQuote. Non-displayed orders and quotes will not be displayed to any market participants. Such non-displayed orders will not be displayed to any Members and such non-displayed orders will not have time priority over displayed orders. In addition, the Exchange intends to become a participant in the Options Price Reporting Authority (“OPRA”) Plan (the “OPRA Plan”) and will collect and submit to OPRA the best buy and sell interest displayed on the Exchange in accordance with the terms of the OPRA Plan.

Certain orders and quotes available on the Exchange will be displayed at one price and executable at another price. The handling by the trading System of certain orders and quotes that lock or cross the opposite side NBBO can result in the display of orders and quotes at one price and the execution at another price.

Based on Exchange System functionality, a locked or crossed market will not be displayed by the Exchange with respect to orders and quotes to buy and orders and quotes to sell submitted to the Exchange unless allowed pursuant to the Exchange Rules or a national market system plan governing locked and crossed markets.

Non-Market Maker orders that lock or cross the ABBO where the EBBO is inferior to the ABBO or the order cannot be executed in full will be handled pursuant to the managed interest process for orders under proposed Rule 515(c)(1)(ii) (the “Managed Interest Process”) which provides for the display of such orders one Minimum Price Variation (“MPV”) away from the current

opposite side ABBO and provides for the booking of the order at a price that will lock the current opposite side ABBO. The Managed Interest Process for orders is described further in Section D(1)(i)(e) below. Market Maker orders or quotes that lock or cross the ABBO where the EBBO is inferior to the ABBO or the order or quote cannot be executed in full will be handled under proposed Rule 515(d) which provides for the display of such orders and quotes one MPV away from the current opposite side ABBO and provides for the booking of such order or quote at a price that will lock the current opposite side ABBO. The handling of Market Marker orders or quotes is described further in Section D(1)(i)(f) below. It should be noted that in those situations where the execution price differs from the displayed price, the execution price will always provide price improvement over the price displayed to the incoming order.

The Post-Only Price Process set forth in proposed Rule 515(i) (the “POP Process”) provides for the display of interest as follows. If the limit price of a Post-Only Order or Quote (“Post-Only OQ”) locks or crosses the current opposite side Emerald Best Bid or Offer (“EBBO”) where the EBBO is the NBBO, the System will display and book the Post-Only OQ one MPV away from the current opposite side EBBO. The POP Process is described further in Section D(1)(i)(i) below.

Orders and quotes submitted to the Exchange shall be displayed on an anonymous basis (except for Attributable Orders which allow voluntary disclosure of firm identification information) at the price specified by the submitting Member.

D. Execution, Reporting, Clearance and Settlement Procedures (#3)

(1) Execution and Trade Reporting

(i) Orders and Quotes on the Simple Order Book – the Exchange’s Regular Electronic Book of Orders and Quotes

(a) Opening Process

The Exchange will employ an opening process pursuant to proposed Rule 503 (the “Opening Process”) structured to match and execute the greatest number of pending buy and sell orders. Pre-Opening orders and quotes will be accepted. Post-Only OQs may participate in the Opening Process and the Post-Only instruction will be ignored for such Post-Only OQs. The Exchange may begin the Opening Process following the dissemination of a quote or trade in the market for the underlying security. The market for the underlying security shall in most cases be the primary listing market. Once the Opening Process begins under proposed Rule 503(f)(1), if there are no quotes or orders that lock or cross each other, the System will open by disseminating the Exchange’s best bid and offer among quotes and orders that exist in the System at that time. In such a circumstance, non-routable orders then in the System that cross the ABBO will be cancelled and are not included in the Managed Interest Process, as described in proposed Rule 515(c)(1)(ii). If there are quotes or orders that lock or cross each other, the System will establish an Expanded Quote Range (“EQR”) as set forth in proposed Rule 503(f)(2)(i), which will represent the limits of the range in which transactions may occur during the Opening Process.

When two or more prices for an affected series would satisfy the Opening Process as detailed below and the maximum quantity criterion would satisfy all interest at that level, under proposed Rule 503(f)(2)(ii) the System uses the highest and lowest of those prices to determine the mid-

point for the opening price. If such midpoint is not expressed as a permitted minimum trading increment, it will be rounded up to determine the opening price. In a situation where a limit order to buy (sell) crosses more than one offer (bid), the System will treat the limit order to buy (sell) like a market order up to and including its limit price for purposes of opening price selection.

In situations where there is matched interest that does not represent an imbalance and there is no valid width NBBO, under proposed Rule 503(f)(2)(iii) the System will calculate a “quality opening market range” (as defined in a table to be determined by the Exchange and published in a Regulatory Circular) in such option series. If the matched interest would trade at a price outside of the quality opening market range, the imbalance process will be used.

If there are quotes or orders that lock or cross under proposed Rule 503(f)(2)(iv), the System will use the EQR to determine the highest and lowest price of the opening price range. To calculate the opening price, the System will take into consideration all valid Exchange quotes and all valid orders, together with other exchanges' markets for the series and identify the price at which the maximum number of contracts can trade. If that price is within the EQR and leaves no imbalance, the Exchange will open at that price, executing marketable trading interest, as long as the opening price includes only Exchange interest.

Under proposed Rule 503(f)(2)(iv)(A), if the calculated opening price included interest other than solely Exchange interest, the System will broadcast a System Imbalance Message (which includes the symbol, side of the market, quantity of matched contracts, the imbalance quantity, “must fill” quantity (i.e., the number of contracts that must be filled in order for that option to open on the Exchange at the indicated price), quantity of routable contracts, and price of the affected series) to Exchange Members and initiate a “Route Timer,” not to exceed one second. If no new interest is received during the Route Timer, the System will route to other markets disseminating prices better than the Exchange's opening price, execute marketable interest at the opening price on the Exchange, and route to other markets disseminating prices equal to the Exchange opening price if necessary. Orders that are routed and executed may receive executions at multiple prices. Any order that is routed pursuant to this proposed Rule will be marked as an ISO, as defined in proposed Rule 1400(h), with a limit price equal to the Exchange's opening price.

If interest is received during the Route Timer, under proposed Rule 503(f)(2)(iv)(B) the System will recalculate the opening price taking such new interest into account. Then, if there is no imbalance, the System will execute marketable interest at the opening price on the Exchange and route the remainder to other markets. A different opening price will not require the System to repeat the entire process.

An “imbalance” is defined to occur under proposed Rule 503(f)(2)(v) when there is insufficient liquidity to satisfy all trading interest due an execution at a certain price. Under proposed Rule 503(f)(2)(vi), if there is sufficient size on the Exchange and on away markets on the opposite side of the market from the imbalance to execute all opening marketable interest at a price that is within the established EQR and the ABBO without leaving an imbalance, the System will open the affected series for trading at that price by executing opening marketable interest on the System, as long as the System does not trade at a price inferior to the ABBO. If it would trade at a price inferior to the ABBO, the System will initiate a “Route Timer,” not to exceed one second. If no new interest is received during the Route Timer, the System will then route to other markets disseminating prices better than Exchange's opening price, execute marketable interest

at the opening price on the Exchange, and route to other markets disseminating prices equal to the Exchange opening price if necessary. If there is still an imbalance after the Route Timer expires, the System will begin the imbalance process as described below.

The imbalance process is described in proposed Rule 503(f)(2)(vii) which provides if all opening marketable size cannot be completely executed at or within the EQR without trading at a price inferior to the ABBO, or cannot trade at or within the quality opening market range in the absence of a valid width NBBO, the System will automatically institute the following imbalance process. The System will broadcast a System Imbalance Message (which includes the symbol, side of the market, quantity of matched contracts, the imbalance quantity, "must fill" quantity, quantity of routable contracts, and price of the affected series) to subscribers of the Exchange's data feeds, and begin an "Imbalance Timer," not to exceed three seconds. Market Makers may enter OPG eQuotes, AOC eQuotes, Standard quotes, Post-Only Quotes, OPG Orders, AOC Orders, Post-Only Orders, and limit orders during the Imbalance Timer. Other Exchange Members may enter OPG Orders, AOC Orders and other order types (except those order types not valid during the Opening Process as described in proposed Rule 516) during the Imbalance Timer. If at the conclusion of the Timer, quotes and orders submitted during the Imbalance Timer, or other changes to the ABBO, would not allow the entire imbalance amount to trade at the Exchange at or within the EQR without trading at a price inferior to the ABBO, the System will send a new System Imbalance Message to Exchange Members and initiate a Route Timer for routable Public Customer Orders not to exceed one second. If during the Route Timer, interest is received by the System which would allow all interest to trade on the System (i.e., there is no longer an imbalance) at the opening price without trading at a price inferior to other markets, the System will trade and the Route Timer will end. The System may repeat the imbalance process up to three times (as established by the Exchange).

Pursuant to proposed Rule 503(f)(2)(vii)(B)5, if after that number of times the System still cannot route and/or trade the entire imbalance amount, the System will open as many contracts as possible by routing to other markets with prices better than the Exchange opening price for their disseminated size, trade available contracts on the Exchange at the opening price and route to other markets at prices equal to the Exchange opening price for their disseminated size. In this situation, the System will price any contracts routed to other markets at the away market price. If there is an opening transaction, any unexecuted contracts from the imbalance not traded or routed will be cancelled back to the entering Member if the price for those contracts crosses the opening price, unless the Member that submitted the original order has instructed the Exchange in writing to re-enter the remaining size, in which case the remaining size will be automatically submitted as a new order. However, in a series where the EQR has been calculated to be zero on the bid side and market order sell interest has a quantity greater than all of the buy interest, the System will treat the market order(s) like a limit order(s) to sell at the lowest minimum trading increment and the Opening Process will be satisfied with an opening price at the lowest minimum trading increment with any remaining balance of the sell order(s) being placed on the Book in time priority and made available for execution following the Opening Process.

Permitted responses to an imbalance message are set forth in proposed Rule 503(f)(2)(vii)(C).

If at any point during the Opening Process the ABBO becomes crossed (e.g., the bid is greater than the offer), pursuant to proposed Rule 503(f)(2)(x) the Opening Process will be terminated and the Exchange will not open the affected series. A new Opening Process for the affected series will commence at the time the ABBO is no longer crossed.

Any Route Timer or Imbalance Timer in process shall terminate with respect to an option if at any time during the Opening Process there is a trading halt or trading pause in such option on the Exchange. The option may be subject to any new subsequent Route Timer or Imbalance Timer during the Opening Process upon the termination of the trading halt or trading pause for such option.

(b) Execution After the Opening

After the Opening Process, executions on the Exchange will occur when a buy order/quote and a sell order/quote match on the Exchange's order book. Pursuant to proposed Rule 514(c), such executions are allocated according to either the price-time allocation methodology or the pro-rata allocation methodology. The Exchange will determine on a class-by-class basis which allocation methodology will be used and applied to all option contracts within an option class and inform Members in a Regulatory Circular.

The price-time allocation methodology provides when there are two or more quotes or orders resting on the Book at the best price, the trade is allocated among those resting quotes and orders in the order in which they were received by the trading System. None of the priority overlays described below will be used in conjunction with the price-time allocation methodology.

The pro-rata allocation methodology matches an initiating order against resting interest on the Exchange's electronic book using a methodology that ensures that the best price has priority, but also allocates in a method that rewards continuous tight and liquid two-sided markets. When multiple participants with resting interest are at the same price, the Exchange uses a base pro-rata methodology, which pursuant to proposed Rule 514(e) allocates based on participation type as follows: (1) Priority Customer orders; (2) Market Maker priority quotes (allocations to Market Maker priority quotes will only occur after all Priority Customer Orders at the same price have been allocated in full), and (3) Professional Interest (allocations to Professional Interest will only occur after all Priority Customer Orders and Market Maker priority quotes have been allocated in full). The Exchange may add the following allocation priority overlays to modify the base pro-rata allocation; Priority Customer, Market Turner, Primary Lead Market Maker and/or Directed Lead Market Maker. These are available at the Exchange's discretion on a class-by-class basis pursuant to proposed Rule 514(d). For example, (1) the Priority Customer overlay provides Priority Customers with priority over all Market Maker interest and Professional Interest at the same price; (2) the Market Turner overlay (which may only be in place when none of the other priority overlays are in place) provides market turners (the first to enter an order or quote at a better disseminated price) with priority over all other participants at the highest disseminated bid or lowest disseminated offer price the market turner established; (3) the Primary Lead Market Maker overlay (which may only be in effect if the Priority Customer overlay is also in effect) provides Primary Lead Market Makers using priority quotes with priority over other Market Makers for a certain percentage of contracts allocated at the same price (60% or 40% depending upon the number of other Market Makers at the NBBO) and for small size orders (defined as 5 contracts or less); and (4) the Directed Lead Market Maker overlay (which may only be in effect if the Priority Customer overlay is also in effect) provides the Directed Lead Market Maker using priority quotes with priority over other Market Makers for a certain percentage of contracts allocated at the same price (60% or 40% depending upon the number of other Market Makers at the NBBO).

(c) Execution of Orders and Quotes

The Exchange's System will, when appropriate, immediately execute incoming orders or quotes against orders and quotes in the System, provided such incoming orders and quotes will not be executed at prices inferior to the NBBO. When an incoming order or quote is not executable or cannot be fully executed because the executions would be at prices inferior to the NBBO, the System will manage a non-Market Maker order in accordance with the Managed Interest Process for orders set forth in proposed Rule 515(c)(1)(ii) or manage a Market Maker order or quote in accordance with proposed Rule 515(d) each as described below.

Post-Only OQs are evaluated with respect to locking or crossing other orders or quotes under proposed Rule 515(a) as follows: (i) if a Post-Only OQ would lock or cross the current opposite side EBBO where the EBBO is the NBBO (the Post-Only OQ locks or crosses an order or quote on the System), the Post-Only OQ will be handled pursuant to the Post-Only Price Process under proposed Rule 515(i); or (ii) if a non-Market Maker Post-Only Order would not lock or cross an order or quote on the System but would lock or cross the current opposite side ABBO where the EBBO is inferior to the ABBO, the Post-Only Order will be handled pursuant to the Managed Interest Process under proposed Rule 515(c)(1)(ii) or (iii) if a Market Maker Post-Only OQ would not lock or cross an order or quote on the System but would lock or cross the current opposite side ABBO where the EBBO is inferior to the ABBO, the Market Maker Post-Only OQ will be handled in accordance with proposed Rule 515(d). The handling of a Post-Only OQ may move from one process to the other (e.g., a Post-Only Order initially handled under the Post-Only Price Process may upon reevaluation be handled under the Managed Interest Process under proposed Rule 515(c)(1)(ii) if the EBBO changes and the Post-Only Order no longer locks or crosses an order on the System but locks or crosses the ABBO).

The System provides price protection for non-Market Maker orders as set forth in proposed Rule 515(c)(1). Price protection prevents a non-Market Maker order from being executed beyond the price designated in the order's price protection instructions (the "price protection limit"). The price protection instructions will be expressed in units of MPV away from the NBBO at the time of the order's receipt, or the EBBO if the ABBO is crossing the EBBO. Market participants may designate price protection instructions on an order by order basis within a minimum and maximum number of MPVs away from the NBBO at the time of receipt, or the EBBO if the ABBO is crossing the EBBO, as determined by the Exchange and announced to Members through a Regulatory Circular provided that the minimum may not be less than zero (0) MPVs and the maximum may not be more than twenty (20) MPVs. The default price protection will be within 1 to 5 MPVs away from the NBBO at the time of receipt, or the EBBO if the ABBO is crossing the EBBO as determined by the Exchange and announced to Members through a Regulatory Circular. When triggered, price protection will cancel an order or the remaining contracts of an order. The price protection process will not apply to certain orders as set forth in proposed Rule 515(c)(1).

(d) Orders Eligible for Routing

Pursuant to proposed Rule 515(c)(1)(i), the System will seek to trade the initiating order to the extent possible at MIAX Emerald and route an Eligible Order (as defined in proposed Rule 529) to the ABBO until the first of: the order is fully executed; the order has traded or routed to and including its price protection limit, at which any remaining contracts will be canceled; or the order has traded or routed to and including its limit price, at which the System will display and book the initiating order at its limit price and will reevaluate the order for execution pursuant to

proposed Rule 515. The System will not execute such orders at prices inferior to the current NBBO. The System will handle any routing of the order in accordance with the order routing provisions set forth in proposed Rule 529.

(e) Managed Interest Process for Non-Routable Orders for Non-Market Makers

The Managed Interest Process set forth in proposed Rule 515(c)(1)(ii) applies to non-Market Maker orders not routable (for example, the Public Customer Order was marked “Do Not Route” or the order was a Post-Only Order being handled under the Managed Interest Process) that would either lock or cross the ABBO where the EBBO is inferior to the ABBO.

Managed orders will be displayed at one MPV away from the current opposite side ABBO to avoid a lock or cross, but will be available for execution on the Book at a price equal to the opposite side ABBO. The Managed Interest Process will take into account any changes to the ABBO. If the ABBO changes to an inferior price, the managed order's displayed price will continuously re-price to one MPV away from the opposite side of the new ABBO and the price at which the managed order is available for execution on the Book will continuously re-price to be equal to the opposite side of the new ABBO. Such re-pricing will continue until the managed order reaches its limit price, is fully executed, or is cancelled. Any incoming order executable against a managed order will be executed at the price at which the managed order is “resting” on the Book, provided that the execution price does not violate the current NBBO.

If the Exchange receives a new order or quote on the opposite side of the market from the managed order that can be executed, the System will immediately execute the remaining contracts from the initiating order to the extent possible at the order's current Book price, provided that the execution price does not violate the current NBBO.

If the Exchange receives a new Post-Only OQ on the opposite side of the market from an order being managed under proposed Rule 515(c)(1)(ii) which is not a Post-Only OQ and the new Post-Only OQ locks or crosses the Book price of the resting order, the Exchange will reject the new Post-Only OQ.

If the Exchange receives a new Post-Only Order on the opposite side of the market from a Post-Only Order being managed under the Managed Interest Process set forth in proposed Rule 515(c)(1)(ii) and the new Post-Only Order locks or crosses the Book price of the resting Post-Only Order, the Exchange will re-book the resting Post-Only Order at the same price as its displayed price and manage the resting Post-Only Order and the new Post-Only Order under the POP Process of proposed Rule 515(i).

An order subject to the Managed Interest Process under proposed Rule 515(c)(1)(ii) will retain its original limit price irrespective of the prices at which such order is booked and displayed and will maintain its original timestamp, provided however each time the order is booked and displayed at a more aggressive Book price, the order will receive a new timestamp. All orders that are re-booked and re-displayed pursuant to the Managed Interest Process will retain their priority as compared to other orders subject to the Managed Interest Process, based upon the time such order was initially received by the Exchange. Following the initial booking and display of an order subject to the Managed Interest Process, an order will only be re-booked and re-displayed to the extent it achieves a more aggressive price, provided, however, that the Exchange will re-book an order at the same price as the displayed price in the event such order's displayed price is locked or crossed by the ABBO. Such event will not result in a change

in priority for the order at its displayed price. The Booked and displayed prices of an order subject to the Managed Interest Process may be adjusted once or multiple times depending on changes to the prevailing ABBO.

When the System opens without an opening transaction, and instead opens by disseminating the Exchange's best bid and offer among quotes and orders that exist in the System at that time as described in proposed Rule 503(f)(1), non-routable orders then in the System that cross the opposite side ABBO will be cancelled and are not included in the Managed Interest Process.

(f) Handling of Market Maker Orders and Quotes

Market Maker orders or quotes that could not be executed or could not be executed in full upon receipt will be handled under proposed Rule 515(d). The System will continue to execute the Market Maker's order or quote at multiple prices until: the Market Maker's quote has been exhausted or its order has been completely filled; the executions have reached the Market Maker's limit price; or further executions will trade at a price inferior to the ABBO, whichever occurs first.

For a Market Maker order or quote that locks or crosses the opposite side ABBO and the EBBO is inferior to the ABBO, the System will manage such order or quote (including a Market Maker Post-Only OQ being handled under proposed Rule 515(d)) in accordance with the following. Once the System can no longer execute the Market Maker's order or quote, the System will display the order or quote one MPV away from the current opposite side ABBO and book the order or quote at a price that will internally lock the current opposite side ABBO. Should the ABBO price change to an inferior price level, the Market Maker order or quote's Book price will continuously re-price to lock the new ABBO and the Market Maker order or quote's displayed price will continuously re-price one MPV away from the new ABBO, until the Market Maker order or quote reaches its original limit price, is fully executed or cancelled.

If the Exchange receives a new order or quote on the opposite side of the market from the Market Maker order or quote that can be executed, the System will immediately execute the remaining contracts from the Market Maker order or quote to the extent possible at the Market Maker order or quote's current Book bid or offer price, provided that the execution price does not violate the current NBBO.

If the Exchange receives a new Post-Only OQ on the opposite side of the market from a Market Maker order or quote being managed under proposed Rule 515(d) which is not a Post-Only OQ and the new Post-Only OQ locks or crosses the Book price of the resting Market Maker order or quote, the Exchange will reject the new Post-Only OQ.

If the Exchange receives a new Post-Only OQ on the opposite side of the market from a Post-Only OQ being managed under proposed Rule 515(d) and the new Post-Only OQ locks or crosses the Book price of the resting Post-Only OQ, the Exchange will re-book the resting Post-Only OQ at the same price as its displayed price and manage the resting Post-Only OQ and the new Post-Only OQ under the POP Process of proposed Rule 515(i).

If unexecuted contracts remain from the Market Maker's order or quote, the order or quote size will be revised and the EBBO disseminated to reflect the order or quote's remaining contracts.

(g) ABBO Transitioning from Crossed to Uncrossed State

Pursuant to proposed Rule 515, I&P .02, in the course of the Managed Interest Process for Non-Routable Orders as provided in proposed Rule 515(c)(1)(ii) or the management of a Market Maker order or quote as provided in proposed Rule 515(d) (such Non-Routable Orders and Market Maker orders and quotes, “Handled Interest”), if Handled Interest becomes tradable at multiple price points on the Exchange due to the ABBO transitioning from a crossed state to an uncrossed state, the midpoint of the EBBO, rounded up to the nearest MPV if necessary, will be used for the initial trade price for the Handled Interest. If locking or crossing interest remains, the next trade occurs at the Book price of the interest with lesser size. The Post-Only instruction on any Post-Only OQ included in the Handled Interest will be ignored for Post-Only OQs subject to the ABBO transition from a crossed state to an uncrossed state pursuant to proposed Rule 515, I&P .02.

Trades for non-Post-Only OQs included in the Handled Interest will continue to occur until: all locking or crossing interest has been satisfied; the ABBO is reached at which time the interest will be managed according to proposed Rule 515(c)(1)(ii) or proposed Rule 515(d), as applicable; the Handled Interest’s limit price is reached at which time any remaining contracts will be booked; or the Handled Interest’s price protection limit is reached at which time any remaining contracts will be canceled.

Trades for Post-Only OQs included in the Handled Interest will then be handled as follows: (i) if the Post-Only OQ would lock or cross the current opposite side EBBO where the EBBO is the NBBO, the Post-Only OQ will be handled pursuant to the POP Process under proposed Rule 515(i); (ii) if a non-Market Maker Post-Only Order would not lock or cross an order or quote on the System but would lock or cross the current opposite side ABBO where the EBBO is inferior to the ABBO, the Post-Only Order will be handled pursuant to the Managed Interest Process under proposed Rule 515(c)(1)(ii); and (iii) if a Market Maker Post-Only OQ would not lock or cross an order or quote on the System but would lock or cross the current opposite side ABBO where the EBBO is inferior to the ABBO, the Market Maker Post-Only OQ will be handled in accordance with proposed Rule 515(d).

(h) Crossing Orders

Crossing Orders are handled pursuant to proposed Rule 515(h). Crossing Orders include Customer Cross Orders, Qualified Contingent Cross Orders, Complex Customer Cross Orders and Complex Qualified Contingent Cross Orders.

A Customer Cross Order as defined in proposed Rule 516(i) is comprised of a Priority Customer Order to buy and a Priority Customer Order to sell at the same price and for the same quantity. A Customer Cross Order is not valid during the Opening Process described in proposed Rule 503. Pursuant to proposed Rule 515(h)(1), Customer Cross Orders are automatically executed upon entry provided that the execution (i) is at or between the best bid and offer on the Exchange; (ii) is not at the same price as a Priority Customer Order on the Exchange’s Book; and (iii) will not trade at a price inferior to the NBBO. If trading interest exists on the MIAX Emerald Book that is subject to the Managed Interest Process pursuant to proposed Rule 515(c)(1)(ii) when the Exchange receives a Customer Cross Order, the System will reject the Customer Cross Order. If trading interest exists that is subject to a PRIME Auction or PRIME Solicitation Auction pursuant to proposed Rule 515A when the Exchange receives a Customer Cross Order, the System will reject the Customer Cross Order.

A Qualified Contingent Cross (“QCC”) Order as defined in proposed Rule 516(j) is comprised of an originating order to buy or sell at least 1,000 contracts, or 10,000 mini-option contracts, that is identified as being part of a qualified contingent trade, as that term is defined in proposed Rule 516 I&P .01, coupled with a contra-side order or orders totaling an equal number of contracts. A Qualified Contingent Cross Order is not valid during the Opening Process described in Rule 503. Pursuant to proposed Rule 515(h)(2), QCC Orders are automatically executed upon entry provided that the execution (i) is not at the same price as a Priority Customer Order on the Exchange’s Book; and (ii) is at or between the NBBO. If trading interest exists on the MIAX Emerald Book that is subject to the Managed Interest Process pursuant to proposed Rule 515(c)(1)(ii) when the Exchange receives a QCC Order, the System will reject the QCC Order. If trading interest exists that is subject to a PRIME Auction or PRIME Solicitation Auction pursuant to proposed Rule 515A when the Exchange receives a QCC Order, the System will reject the QCC Order. QCC Orders will be automatically canceled if they cannot be executed.

A Complex Customer Cross (“cC2C”) Order as defined in proposed Rule 518(b)(5) is comprised of one Priority Customer complex order to buy and one Priority Customer complex order to sell at the same price and for the same quantity. Trading of cC2C Orders is governed by proposed Rule 515(h)(3) which provides that cC2C Orders are automatically executed upon entry provided that the execution is at least \$0.01 better than (inside) the icEBBO (as defined in proposed Rule 518(a)(11) and described below) price or the best net price of a complex order (as defined in proposed Rule 518(a)(5) and described below) on the Strategy Book (as defined in proposed Rule 518(a)(17) and described below), whichever is more aggressive. The System will reject a cC2C Order if, at the time of receipt of the cC2C Order: (i) the strategy is subject to a cPRIME Auction pursuant to proposed Rule 515A, I&P .12 or to a Complex Auction pursuant to proposed Rule 518(d) and described below; or (ii) any component of the strategy is subject to a SMAT Event as described in proposed Rule 518(a)(16) and described below. cC2C Orders will be automatically canceled if they cannot be executed. Proposed Rule 520, I&P .01, applies to the entry and execution of cC2C Orders. The Exchange will determine, on a class-by-class basis, the option classes in which cC2C Orders are available for trading on the Exchange, and will announce such classes to Members via Regulatory Circular.

A Complex Qualified Contingent Cross (“cQCC”) Order as defined in proposed Rule 518(b)(6) is comprised of an originating complex order to buy or sell where each component is at least 1,000 contracts that is identified as being part of a qualified contingent trade, as defined in proposed Rule 516, I&P .01, coupled with a contra-side complex order or orders totaling an equal number of contracts. Trading of cQCC Orders is governed by proposed Rule 515(h)(4) which provides that cQCC Orders are automatically executed upon entry provided that, with respect to each option leg of the cQCC Order, the execution (i) is not at the same price as a Priority Customer Order on the Exchange’s Book; and (ii) is at or between the NBBO. The System will reject a cQCC Order if, at the time of receipt of the cQCC Order: (i) the strategy is subject to a cPRIME Auction pursuant to proposed Rule 515A, I&P .12 or to a Complex Auction pursuant to proposed Rule 518(d) and described below; or (ii) any component of the strategy is subject to a SMAT Event as described in proposed Rule 518(a)(16) and described below.

cQCC Orders will be automatically canceled if they cannot be executed. The Exchange will determine, on a class-by-class basis, the option classes in which cQCC Orders are available for trading on the Exchange, and will announce such classes to Members via Regulatory Circular.

(i) Post-Only Price Process

The Post-Only Price Process (the “POP Process”) as set forth in proposed Rule 515(i) applies to Post-Only Orders and Post-Only Quotes (together, “Post-Only OQs”) where the limit price of the Post-Only OQ locks or crosses the current opposite side EBBO where the EBBO is the NBBO (the Post-Only OQ locks or crosses a quote on the System). The System will apply price protection to all non-Market Maker Post-Only Orders being handled under the POP Process.

A Post-Only OQ subject to the POP Process may execute on the Exchange at a price equal to or better than, but not inferior to, the ABBO. The System will not execute a Post-Only OQ at prices inferior to the current NBBO. Pursuant to proposed Rule 515(i)(3)(i), the System will seek to trade the resting Post-Only OQ until the first of: (a) the Post-Only OQ is fully executed; (b) the Post-Only OQ has traded to and including its price protection limit at which time any remaining contracts are canceled; or (c) the Post-Only OQ has traded to and including its limit price at which time the System will attempt to display and book the initiating order or quote at its limit price and will reevaluate the order or quote for execution pursuant to proposed Rule 515.

Pursuant to proposed Rule 515(i)(3)(ii), if the limit price of a Post-Only OQ locks or crosses the current opposite side EBBO where the EBBO is the NBBO (the Post-Only OQ locks or crosses an order or quote on the System), the System will display and book the Post-Only OQ one MPV away from the current opposite side EBBO. Should the EBBO price change to an inferior price level, the Post-Only OQ’s Book price and displayed price will continuously re-price to one MPV away from new EBBO until: the Post-Only OQ has traded to and including its limit price; the Post-Only OQ has traded to and including its price protection limit at which time any remaining contracts are cancelled; the Post-Only OQ is fully executed; or the Post-Only OQ is cancelled.

If the Exchange receives a new order or quote on the opposite side of the market from the Post-Only OQ that can be executed, the System will, pursuant to proposed Rule 515(i)(3)(iii)(A), immediately execute the remaining contracts from the resting Post-Only OQ to the extent possible at the Post-Only OQ’s current Book price, provided that the execution price does not violate the current NBBO. If the Exchange receives a new Post-Only OQ on the opposite side of the market from a Post-Only OQ being managed under proposed Rule 515(i) which locks or crosses the Book price of the resting Post-Only OQ, the Exchange will book and display the new Post-Only OQ one MPV away from the current opposite side EBBO, pursuant to proposed Rule 515(i)(3)(iii)(B). If unexecuted contracts remain from the resting Post-Only OQ, the size of the Post-Only OQ will be revised and the EBBO disseminated to reflect the remaining contracts of the Post-Only OQ, pursuant to proposed Rule 515(i)(3)(iii)(C).

As set forth in proposed Rule 515(i)(3)(iv), a Post-Only OQ subject to the POP Process under proposed Rule 515(i)(3) will retain its original limit price irrespective of the prices at which such Post-Only OQ is booked and displayed and will maintain its original timestamp, provided however each time the order is booked and displayed at a more aggressive Book price, the order will receive a new timestamp. In the event the EBBO changes such that a Post-Only OQ subject to the POP Process would be able to be booked and displayed at its actual limit price, the Post-Only OQ will receive a new timestamp. All Post-Only OQs that are re-ranked and re-displayed pursuant to the POP Process will retain their priority as compared to other orders subject to the POP Process based upon the time such Post-Only OQ was initially received by the Exchange. Following the initial ranking and display of a Post-Only Order subject to the POP Process, a Post-Only Order will only be re-ranked and re-displayed to the extent it achieves a more aggressive price, provided, however, that the Exchange will re-book a Post-Only OQ at

the same price as the displayed price in the event such order's displayed price is locked or crossed by the EBBO. Such event will not result in a change in priority for the Post-Only OQ at its displayed price.

The Booked and displayed prices of a Post-Only OQ subject to the POP Process may be adjusted once or multiple times depending on changes to the prevailing EBBO.

Post-Only and Managed Interest Examples are attached as Annex E-1.

(ii) Orders Submitted to the Price Improvement Mechanism (PRIME) and PRIME Solicitation Mechanism – Rule 515A

(a) PRIME

Proposed Rule 515A and each associated I&P provide for a price improvement auction on the Exchange known as the MIAX Emerald Price Improvement Mechanism (“PRIME”). PRIME is a process by which a Member may electronically submit for execution (“Auction”) an order it represents as agent (“Agency Order”) against principal interest, and/or an Agency Order against solicited interest. A Member (the “Initiating Member”) may initiate an Auction under proposed Rule 515A(a)(1) provided all of the following are met: (i) the Agency Order is in a class designated as eligible for PRIME as determined by the Exchange and within the designated Auction order eligibility size parameters as such size parameters are determined by the Exchange; (ii) the Initiating Member must stop the entire Agency Order as principal or with a solicited order at the better of the NBBO or the Agency Order's limit price (if the order is a limit order); (iii) with respect to Agency Orders that have a size of less than 50 contracts, if at the time of receipt of the Agency Order, the NBBO has a bid/ask differential of \$0.01, the System will reject the Agency Order; and (iv) Post-Only OQs may not participate in PRIME as an Agency Order, principal interest or solicited interest. Post-Only OQs received during a PRIME Auction will be rejected.

Pursuant to proposed Rule 515A(a)(2), only one Auction may be ongoing at any given time in an option and Auctions in the same option may not queue or overlap in any manner. The System will reject an Agency Order if, at the time of receipt of the Agency Order, the option is in an Auction or is a component of a complex strategy that is the subject of a cPRIME Auction, as defined below, or a Complex Auction pursuant to proposed Rule 518(d). The Auction may not be cancelled and will proceed as set forth in proposed Rule 515A(a)(2)(i). To initiate the Auction, the Initiating Member must mark the Agency Order for Auction processing, and specify (i) a single price at which it seeks to cross the Agency Order (with principal interest and/or a solicited order) (a “single-price submission”), including whether the Initiating Member elects to have last priority in allocation, or (ii) that it is willing to automatically match (“auto-match”) as principal the price and size of all Auction responses up to an optional designated limit price in which case the Agency Order will be stopped at the better of the NBBO or the Agency Order's limit price. For both single price submissions and auto-match, if the EBBO on the same side of the market as the Agency Order represents a limit order on the Book, the stop price must be at least \$0.01 increment better than the booked order's limit price. Once the Initiating Member has submitted an Agency Order for processing, such submission may not be modified or cancelled. For both a single price submission and auto-match, the stopped price specified by the Initiating Member on the Agency Order will be the “initiating price” for the Auction.

When the Exchange receives a properly designated Agency Order for Auction processing, a Request for Responses ("RFR") detailing the option, side, size, and initiating price will be sent to all subscribers of the Exchange's data feeds. The RFR will last for a period of time, as determined by the Exchange and announced through a Regulatory Circular. The RFR will be no less than 100 milliseconds and no more than 1 second. Members may submit responses to the RFR (specifying prices and sizes). RFR responses may be an AOC Order or an AOC eQuote. The System will reject RFR responses submitted with a price that is not equal to or better than the initiating price. RFR responses will not be visible to other Auction participants, and will not be disseminated to OPRA. The minimum price increment for RFR responses and for the Initiating Member's submission will be \$0.01 increment, regardless if the class trades in another price increment. An RFR response with a size greater than the size of the Agency Order will be capped at the size of the Agency Order for allocation purposes. RFR responses may be cancelled.

Pursuant to proposed Rule 515A(a)(2)(ii), the Auction will conclude at the sooner of the following: (A) the end of the RFR period; (B) upon receipt by the System of an unrelated order (in the same option as the Agency Order) on the opposite side of the market from the RFR responses, that is marketable against the NBBO, the initiating price, or the RFR responses; (C) upon receipt by the System of an unrelated order (in the same option as the Agency Order) on the same side of the market as the RFR responses that is marketable against the NBBO; (D) upon receipt by the System of an unrelated limit order (in the same option as the Agency Order) on the opposite side of the market from the Agency Order that improves any RFR response; (E) any time an RFR response matches the NBBO on the opposite side of the market from the RFR responses; (F) any time there is a quote lock in the subject option on the Exchange pursuant to proposed Rule 1402; or (G) any time there is a trading halt in the option on the Exchange.

At the conclusion of the PRIME Auction pursuant to proposed Rule 515A(a)(2)(iii), the Agency Order will be allocated at the best price(s), subject to the following: (A) such best prices include non-Auction quotes and orders; (B) Priority Customer Orders resting on the Book before, or that are received during, the Response Time Interval and Priority Customer RFR responses will, collectively have first priority to trade against the Agency Order. The allocation of an Agency Order against the Priority Customer Orders resting in the Book, Priority Customer Orders received during the Response Time Interval, and Priority Customer RFR responses will be in the sequence in which they are received by the System; (C) Market Maker priority quotes and RFR responses from Market Makers with priority quotes will collectively have second priority. The allocation of Agency Orders against these contra sided quotes and RFR responses will be on a size pro rata basis; (D) Professional Interest orders resting in the Book, Professional Interest orders placed in the Book during the Response Time Interval, Professional Interest quotes, and Professional Interest RFR responses will collectively have third priority. The allocation of Agency Orders against these contra sided orders and RFR Responses will be on a size pro rata basis; (E) no participation entitlement will apply to orders executed pursuant to this proposed Rule; (F) if an unrelated market or marketable limit order on the opposite side of the market as the Agency Order was received during the Auction and ended the Auction, such unrelated order will trade against the Agency Order at the midpoint of the best RFR response (or in the absence of a RFR response, the initiating price) and the NBBO on the other side of the market from the RFR responses (rounded towards the disseminated quote when necessary); or (G) if an unrelated non-marketable limit order on the opposite side of the market as the Agency Order was received during the Auction and ended the Auction, such unrelated order will trade against the Agency Order at the midpoint of the best RFR response and the unrelated order's limit price (rounded towards the unrelated order's limit price when necessary).

Notwithstanding proposed Rule 515A(2)(iii)(C) or (D) described above, under proposed Rule 515A(a)(2)(iii)(H) if the best price equals the Initiating Member's single-price submission, the Initiating Member's single-price submission will be allocated the greater of one contract or a certain percentage of the order, which percentage will be determined by the Exchange and may not be larger than 40% of the Agency Order (subject to I&P.10 described below). However, if only one Member's response (subject to proposed Rule 515A I&P.11 described below) matches the Initiating Member's single price submission, then the Initiating Member may be allocated up to 50% of the Agency Order (subject to proposed Rule 515A I&P.10 described below). Thereafter, contracts will be allocated among remaining quotes, orders and auction responses (i.e., interests other than the Initiating Member) at the single price submission price in accordance with the matching algorithm in effect for the affected class as described in proposed Rule 515A(a)(2)(iii) above. If all Member responses are filled (i.e., no other interest remains at the single-price submission price), any remaining contracts will be allocated to the Initiating Member at the single-price submission price. Similarly, proposed Rule 515A(a)(2)(iii)(I) provides that, notwithstanding proposed Rule 515A(2)(iii)(C) or (D) described above, if the Initiating Member selected the auto-match option of the Auction, the Initiating Member will be allocated its full size of RFR responses at each price point until the final auto-match price point is reached where the balance of the Agency Order can be fully executed (the "final auto-match price point"). At the final auto-match price point, the Initiating Member will be allocated the greater of one contract or a certain percentage of the remainder of the Agency Order, which percentage will be determined by the Exchange and may not be larger than 40% (subject to I&P.10 described below). However, if only one Member's response matches the Initiating Member's submission at the final auto-match price point, then the Initiating Member may be allocated up to 50% of the remainder of the Agency Order at the final auto-match price point (subject to I&P.10 described below). Thereafter, contracts will be allocated among remaining quotes, orders and auction responses (i.e., interest other than the Initiating Member) at the final auto-match price point in accordance with the matching algorithm in effect for the affected class as described in proposed Rule 515A(a)(2)(iii). If all Member responses are filled (i.e., no other interest remains), any remaining contracts will be allocated to the Initiating Member at the designated limit price described in proposed Rule 515A(a)(2)(i)(A) above.

Pursuant to proposed Rule 515A(a)(2)(iii)(J), notwithstanding proposed Rule 515A(a)(2)(iii)(C) and (D) described above, if the Auction does not result in price improvement over the Exchange's disseminated price at the time the Auction began, resting unchanged quotes or orders that were disseminated at the best price before the Auction began will have priority after any Priority Customer Order priority and the Initiating Member's priority (40%) have been satisfied. Any unexecuted balance on the Agency Order will be allocated to RFR responses provided that those RFR responses will be capped to the size of the original order and that the Initiating Member may not participate on any such balance unless the Agency Order would otherwise go unfilled.

Pursuant to proposed Rule 515A(2)(iii)(K), if the final Auction price locks a Priority Customer Order on the Book on the same side of the market as the Agency Order, then unless there is sufficient size in the Auction responses to execute both the Agency Order and the booked Priority Customer Order (in which case they will both execute at the final Auction price), the Agency Order will execute against the RFR responses at \$0.01 increment worse than the final Auction price (towards the opposite side of the Agency Order) against the Auction participants that submitted the final Auction price and any balance will trade against the Priority Customer Order in the Book at such order's limit price. Pursuant to proposed Rule 515A(2)(iii)(L) if the

Initiating Member elected to have last priority in allocation when submitting an Agency Order to initiate an Auction against a single-price submission, the Initiating Member will be allocated only the amount of contracts remaining, if any, after the Agency Order is allocated to all other responses at the single price specified by the Initiating Member. If an unexecuted balance remains on the Auction responses after the Agency Order has been executed and such balance could trade against any unrelated order(s) that caused the Auction to conclude, then pursuant to proposed Rule 515A(a)(2)(iii)(M) the RFR balance will trade against the unrelated order(s) on a size pro rata basis.

(b) PRIME Solicitation Mechanism

Proposed Rule 515A(b) provides for a price improvement mechanism to handle solicited orders, which will not be initially available on the Exchange. Under the PRIME Solicitation Mechanism, once operational a Member that represents Agency Orders may electronically execute orders it represents as agent (“Agency Order”) against solicited orders provided it submits both the Agency Order and solicited orders for electronic execution into the PRIME Solicitation Mechanism (“Solicitation Auction”). A Member (the “Initiating Member”) may initiate a Solicitation Auction under proposed Rule 515A(b)(1) provided all of the following are met: (i) the Agency Order is in a class designated as eligible for Solicitation Auctions as determined by the Exchange and within the designated Solicitation Auction order eligibility size parameters as such size parameters are determined by the Exchange (however, the eligible order size may not be less than 500 standard option contracts or 5,000 mini-option contracts); (ii) each order entered into the Solicitation Auction will be designated as all-or-none; (iii) the minimum price increment for an Initiating Member’s single price submission will be \$0.01; and (iv) Post-Only OQs may not participate in the Solicitation Auction as an Agency Order or solicited interest. Post-Only OQs received during a Solicitation Auction will be rejected.

The PRIME Solicitation Auction will proceed as follows under proposed Rule 515A(b)(2)(i). To initiate the Solicitation Auction, the Initiating Member must mark the Agency Order for Solicitation Auction processing, and specify a single price at which it seeks to cross the Agency Order with a solicited order which will be the “initiating price” for the Solicitation Auction. When the Exchange receives a properly designated Agency Order for Solicitation Auction processing, a RFR message indicating the option, side, size, and initiating price will be sent to all subscribers of the Exchange’s data feeds. Members may submit responses to the Request for Responses (specifying prices and sizes) during the response period. RFR responses will be an AOC Order or an AOC eQuote. The RFR will last for a period of time, as determined by the Exchange and announced through a Regulatory Circular. The RFR will be no less than 100 milliseconds and no more than 1 second. Responses will not be visible to other Solicitation Auction participants, and will not be disseminated to OPRA. The minimum price increment for responses will be \$0.01 increment. A response with a size greater than the size of the Agency Order will be capped at the size of the Agency Order. RFR responses may be cancelled.

The Solicitation Auction will conclude under proposed Rule 515A(b)(2)(ii) at the sooner of the following: (a) the end of the RFR period; (b) upon receipt by the System of an unrelated order (in the same option as the Agency Order) on the opposite side of the market from the RFR responses, that is marketable against either the NBBO, the initiating price or the RFR responses; (c) upon receipt by the System of an unrelated order (in the same option as the Agency Order) on the same side of the market as the RFR response that is marketable against the NBBO; (d) upon receipt by the System of an unrelated limit order (in the same option as the Agency Order) on the opposite side of the market as the Agency Order that improves any RFR

response; (e) any time an RFR response matches the NBBO on the opposite side of the market from the RFR responses; (f) any time there is a quote lock on the Exchange pursuant to proposed Rule 1402; or (g) any time there is a trading halt in the option on the Exchange.

At the conclusion of the Solicitation Auction, the Agency Order will be automatically executed in full and allocated subject to the following provisions, or cancelled. Pursuant to proposed Rule 515A(b)(iii), the Agency Order will be executed against the solicited order at the proposed execution price, provided that: (A) The execution price must be equal to or better than the NBBO. If the execution would take place outside the NBBO, the Agency Order and solicited order will be cancelled; (B) There are no Priority Customer Orders resting in the Book on the opposite side of the Agency Order at the proposed execution price. (i) If there are Priority Customer Orders and there is sufficient size (considering all resting orders, quotes and responses) to execute the Agency Order, the Agency Order will be executed against these interests and the solicited order will be cancelled. The Agency Order will be allocated at the best price(s) pursuant to the matching algorithm in effect for the class. (ii) If there are Priority Customer Orders and there is not sufficient size (considering all resting orders, quotes and responses), both the Agency Order and the solicited order will be cancelled. (C) There is insufficient size to execute the Agency Order at an improved price(s). If there is sufficient size (considering all resting orders, quotes and responses) to execute the Agency Order at an improved price(s) that is equal or better than the NBBO, the Agency Order will execute at the improved price(s) and the solicited order will be cancelled. The Agency Order will be allocated at the best price(s) pursuant to the matching algorithm in effect for the class.

(c) Interpretations and Policies to Rule 515A

Proposed I&P .01, .02, .03 and .04 to Rule 515A set forth provisions regarding conduct related to the handling of orders submitted under Rule 515. Proposed I&P .06 and .07 to Rule 515A relate to the Managed Interest Process and route timers on the same and opposite sides of the Agency Order in PRIME Auctions. Proposed I&P .09 to Rule 515A provides that if the market is locked or crossed for the option, the Agency Order will be rejected by the System prior to initiating an Auction or a Solicitation Auction. Proposed I&P .10 to Rule 515A provides for rounding of contracts in certain circumstances. Proposed I&P .11 to Rule 515A provides that when calculating the number of Member's responses that match the Initiating Member's single price submission and final auto-match price point under proposed Rule515A(a)(2)(iii)(H) and (I) respectively, described above, the System will not include in such calculation: (i) any Priority Customer Auction Response and/or unrelated Priority Customer interest that has been executed, or (ii) any Member's response (including unrelated orders and quotes) executed at a better price.

(d) PRIME for Complex Orders

Proposed I&P .12 to Rule 515A provides for PRIME for complex orders ("cPRIME"). The manner in which cPRIME Orders will be processed and executed will be the same as the manner in which simple PRIME Orders will be processed and executed, except as otherwise provided in proposed I&P .12 to Rule 515A. The Exchange will determine, on a class-by-class basis, the option classes in which complex orders will be available for trading on PRIME on the Exchange, and will announce such classes to Members via Regulatory Circular.

Proposed I&P .12(a) to Rule 515A includes general rules applicable to cPRIME Orders and cPRIME Auctions. Under the proposed Rule, Members may use PRIME to execute complex

orders at a net price. cPRIME is the process by which a Member may electronically submit a “cPRIME Order” it represents as agent (a “cPRIME Agency Order”) against principal or solicited interest for execution (a “cPRIME Auction”) subject to the following: (i) the initiating price for a cPRIME Agency Order must be better than (inside) the icEBBO for the strategy and any other complex orders on the Strategy Book. The System will reject cPRIME Agency Orders submitted with an initiating price that is equal to or worse than (outside) the icEBBO or any other complex orders on the Strategy Book; (ii) Members may enter RFR responses on the opposite side of the market from the cPRIME Agency Order at net prices, and bids and offers for complex orders may participate in the execution of an order as provided in proposed Rule 515A; (iii) except as provided in proposed I&P .12(c) to Rule 515A (described below), with respect to bids and offers for the individual legs of a complex strategy entered into cPRIME, the order allocation rules contained in proposed Rule 514 will apply; (iv) if an improved net price for the complex order being executed can be achieved from bids and offers for the individual legs of the complex order in the simple market, and the complex order is otherwise eligible for Legging pursuant to proposed Rule 518(c)(2)(iii) described below, the Strategy being matched will receive an execution at the better net price; and (v) all references to the NBBO in proposed Rule 515A are inapplicable.

Proposed I&P .12(b) describes the specific circumstances that are unique to cPRIME Orders, where the System will reject the cPRIME Order.

Proposed I&P .12(c) to Rule 515A provides that, notwithstanding the provisions of proposed Rule 515A with respect to PRIME, the following will apply to cPRIME Orders only: (i) the RFR period for cPRIME Auctions will be independent from the RFR for PRIME Auctions and will last for a period of time set forth in proposed Rule 515A(a)(2)(i)(C); (ii) Participants that submit simple orders that are executed as individual legs of complex orders at the execution price point will be allocated contracts only after all complex interest at such price point have received allocations; (iii) the size and bid/ask differential provisions contained in proposed Rule 515A(a)(1)(iii) described above will not apply to cPRIME Orders; (iv) the conclusion of auction provisions contained in proposed Rule 515A(a)(2)(ii) described above will not apply to cPRIME Auctions; (v) the order allocation provisions contained in proposed Rule 515A(a)(2)(iii) described above will apply to cPRIME Auctions, provided that: (A) all references to contracts will be deemed to be references to complex strategies; and (B) the last priority allocation option described in proposed Rule 515A(a)(2)(iii)(L) described above is not available for Initiating Members that submit cPRIME Agency Orders; and (vi) the provisions contained in I&P .06 and I&P .07 of proposed Rule 515A described above will not apply to cPRIME Auctions.

Proposed I&P .12(d) to Rule 515A describes the circumstances that will cause the cPRIME Auction to conclude.

(iii) Complex Orders

(a) General

The trading of complex orders is covered in proposed Rule 518. Proposed Rule 518(a) provides definitions of terms that apply to the trading of complex orders, including the following:

The Complex National Best Bid or Offer (“cNBBO”) is calculated using the NBBO for each component of a complex strategy to establish the best net bid and offer for a complex strategy.

A “Complex Auction” is an auction of a complex order as set forth in proposed Rule 518(d), described below.

A “Complex Auction-eligible order” is an order that meets the requirements of proposed Rule 518(d)(1), as described below.

A “complex order” is any order involving the concurrent purchase and/or sale of two or more different options in the same underlying security (the “legs” or “components” of the complex order), for the same account, in a ratio that is equal to or greater than one-to-three (.333) and less than or equal to three-to-one (3.00) and for the purposes of executing a particular investment strategy. Only those complex orders in the classes designated by the Exchange and communicated to Members via Regulatory Circular with no more than the applicable number of legs, as determined by the Exchange on a class-by-class basis and communicated to Members via Regulatory Circular, are eligible for processing. A Post-Only order may not be a component of a complex order and will be rejected by the System.

The term “complex strategy” means a particular combination of components and their ratios to one another. New complex strategies can be created as the result of the receipt of a complex order, or by the Exchange for a complex strategy that is not in the System. The Exchange may limit the number of new complex strategies that may be in the System at a particular time and will communicate this limitation to Members via Regulatory Circular.

A “complex quote” is a Market Maker complex Standard quote or complex eQuote for a complex strategy as set forth in proposed Rule 518, I&P .02, described below. A Post-Only Quote may not be a component of a complex order and will be rejected by the Systems. The Displayed Complex MIAX Emerald Best Bid or Offer (“dcEBBO”) is calculated using the best displayed price for each component of a complex strategy from the Simple Order Book.

A “derived order” is an Exchange-generated limit order on the Simple Order Book that represents either the bid or offer of one component of a complex order resting on the Strategy Book that is comprised of orders to buy or sell two option components where one component has a base ratio of “one” relative to the other component (1:1, 1:2, or 1:3). Derived orders will not be routed outside of the Exchange regardless of the price(s) disseminated by away markets. The Exchange will determine on a class-by-class basis to make available derived orders and communicate such determination to Members via a Regulatory Circular. Derived orders are firm orders (i.e., if executed, firm for the disseminated price and size) that are included in the EBBO (as defined below). Derived orders are subject to the Managed Interest Process for complex orders set forth in proposed Rule 518(c)(4) described below.

A derived order may be automatically generated for one or more legs of a complex order at a price that matches or improves upon the best displayed bid or offer in the affected series on the Simple Order Book and at a price at which the net price of the complex order on the Strategy Book can be achieved when the other component(s) of the complex order is (are) executed against the best displayed bid or offer on the Simple Order Book. A derived order will not be displayed at a price that locks or crosses the best bid or offer of another exchange. In such a circumstance, the System will display the derived order on the Simple Order Book at a price that is one MPV away from the current opposite side best bid or offer of such other exchange, and rank the derived order on the Simple Order Book according to its actual price.

A derived order will be handled in the same manner as other orders on the Simple Order Book except as otherwise provided in proposed Rule 518, and will be executed only after all other executable orders (including orders subject to the Managed Interest Process for complex orders as described below) and quotes at the same price are executed in full. When a derived order is executed, the other component of the complex order on the Strategy Book will be automatically executed against the best bid or offer on the Exchange.

A derived order is automatically removed from the Simple Order Book if: the displayed price of the derived order is no longer at the displayed best bid or offer on the Simple Order Book; execution of the derived order would no longer achieve the net price of the complex order on the Strategy Book when the other component of the complex order is executed against the best bid or offer on the Simple Order Book; the complex order is executed, cancelled or modified in any way; a strategy that has, as a component, an option that is of the same type as a derived order, enters a cPRIME Auction (pursuant to proposed Rule 515A, I&P .12) or a Complex Auction (pursuant to proposed Rule 518(d)); or any component of the complex order resting on the Strategy Book that is used to generate the derived order is subject to a Simple Market Auction or Timer (“SMAT”) Event, a wide market condition, or a halt. A SMAT Event is defined as: an Emerald PRIME Auction (pursuant to proposed Rule 515A). A “wide-market condition” is defined as any individual component of a complex strategy having, at the time of evaluation, an EBBO quote width that is wider than the permissible valid quote width as defined in proposed Rule 603(b)(4) under proposed Rule 518, I&P .05(e). A derived order that is locked (i.e., if the opposite side EBBO locks the derived order) will be executed if the execution price is at the NBBO.

The term “free trading” means trading that occurs during a trading session other than: (i) at the opening or re-opening for trading following a halt, or (ii) during the Complex Auction Process (as described below and in proposed Rule 518(d)).

The Implied Complex Best Bid or Offer (“icEBBO”) is a calculation that uses the best price from the Simple Order Book for each component of a complex strategy including displayed and non-displayed trading interest.

Certain Market Maker complex Standard quotes and complex eQuotes (as defined below) will qualify as “Market Maker Priority Interest for Complex” on the Strategy Book (as defined below) if the criteria described herein have been met. For purposes of the proposed Rule, Market Maker Priority Interest for Complex is established at the beginning of a Complex Auction, or at the time of execution in free trading. If complex Standard quoting is engaged for a complex strategy, a Market Maker complex Standard quote or complex eQuote will qualify as Market Maker Priority Interest for Complex if the Market Maker has a complex Standard quote in the complex strategy that equals or improves the dcEBBO on the opposite side from the incoming complex order or quote at the time of evaluation (a “Complex priority quote”).

The “Simple Order Book” is the Exchange’s regular electronic book of orders and quotes.

A Simple Market Auction or Timer (“SMAT”) Event is defined as an Emerald PRIME Auction (pursuant to proposed Rule 515A as described above).

The “Strategy Book” is the Exchange’s electronic book of complex orders and complex quotes.

(b) Types of Complex Orders

Proposed Rule 518(b) describes the various types and specific times-in-force for complex orders handled by the System. The complex order types that may be submitted for use on the Exchange are limit orders, market orders, GTC Orders, or Day Limit Orders as each such term is defined in proposed Rule 516, or Complex Auction-on-Arrival (“cAOA”) Orders, Complex Auction-or-Cancel (“cAOC”) Orders, Complex Immediate-or-Cancel (“cIOC”) Orders, Complex Customer Cross (“cC2C”) Orders, Complex Qualified Contingent Cross (“cQCC”) Orders, or Complex PRIME (“cPRIME”) Orders.

The trading of a complex order submitted as a cC2C Order is governed by proposed Rule 515(h)(3) described above. The trading of a complex order submitted as a cQCC Order is governed by proposed Rule 515(h)(4) described above. The trading of a complex order submitted as a cPRIME Order is governed by proposed Rule 515A, I&P .12 described above.

Post-Only Orders may not be part of a component of a complex order.

(c) Trading of Complex Orders and Quotes

Proposed Rule 518(c) describes the manner in which complex orders will be handled and traded on the Exchange. The Exchange will determine and communicate to Members via Regulatory Circular which complex order origin types (i.e., non-broker-dealer customers, broker-dealers that are not Market Makers on an options exchange, and/or Market Makers on an options exchange) are eligible for entry onto the Strategy Book. The proposed Rule also states that complex orders will be subject to all other Exchange proposed Rules that pertain to orders generally, unless otherwise provided in proposed Rule 518.

Proposed Rule 518(c)(1) provides that bids and offers on complex orders and quotes may be expressed in \$0.01 increments, and the component(s) of a complex order may be executed in \$0.01 increments, regardless of the minimum increments otherwise applicable to individual components of the complex order, and that if any component of a complex strategy would be executed at a price that is equal to a Priority Customer bid or offer on the Simple Order Book, at least one other component of the complex strategy must trade at a price that is better than the corresponding EBBO.

Additionally, proposed Rule 518(c)(1)(iii) provides that a complex order will not be executed at a net price that would cause any component of the complex strategy to be executed: at a price of zero; or ahead of a Priority Customer order on the Simple Order Book without improving the EBBO of at least one component of the complex strategy.

Pursuant to proposed Rule 518(c)(1)(iv), a complex order or eQuote (as defined in I&P .02 of proposed Rule 518) will not be executed at a price that is outside of its MPC Price (as defined in I&P .05(f) of proposed Rule 518) or its limit price.

(d) Execution of Complex Orders and Quotes

Proposed Rule 518(c)(2) describes the process of the opening of the Strategy Book (and reopening after a halt) for trading, prices at which executions may occur on the Exchange for complex strategies, execution of complex orders against the individual components or “legs” on

the Simple Order Book, the automatic generation of derived orders, and the process of evaluation that is conducted by the System on an ongoing basis respecting complex orders.

Pursuant to proposed Rule 518(c)(2)(i), complex orders and quotes do not participate in the Opening Process for the individual option legs conducted pursuant to proposed Rule 503. At the beginning of each trading session, and upon reopening after a halt, once all components of a complex strategy are open, an initial evaluation will be conducted in order to determine whether a complex order is a Complex Auction-eligible order, using the process and criteria set forth in I&P .03(a) of proposed Rule 518 regarding the Initial Improvement Percentage ("IIP") described below.

The System will also evaluate the eligibility of complex orders and quotes (as applicable) to participate in the Managed Interest Process for complex orders as set forth in proposed Rule 518(c)(4) and described below; if they are eligible for full or partial execution against a complex order or quote resting on the Strategy Book or through Legging with the Simple Order Book as set forth in proposed Rule 518(c)(2)(iii) and described below; whether the complex order or quote should be cancelled; and whether all or any remaining portion of the complex order or quote should be placed on the Strategy Book.

The Strategy Book will open for trading, or reopen for trading after a halt, with a Complex Auction if it is determined that one of the following conditions is present: a complex order with no matching interest on the Strategy Book equals or improves the IIP; matching interest exists at a price that is equal to or through the IIP; or a size imbalance exists where the price at which the maximum quantity that can trade is equal to or through the IIP. If the Strategy Book contains matched interest or a size imbalance exists where the price at which the maximum quantity can trade is not equal to or through the IIP, the Strategy Book will open for trading with a trade and a Complex Auction will not be initiated. The remaining portion of any complex order for which there is a size imbalance will be placed on the Strategy Book. If the Strategy Book contains no matching interest or interest equal to or through the IIP, the complex strategy will open without a trade and a Complex Auction will not be initiated.

Proposed Rule 518(c)(2)(ii) describes the manner in which the System determines the price of execution of complex orders and quotes. Incoming complex orders and quotes will be executed by the System in accordance with the provisions below, and will not be executed at prices inferior to the icEBBO or at a price that is equal to the icEBBO when there is a Priority Customer Order at the best icEBBO price. Complex orders will never be executed at a price that is outside of the individual component prices on the Simple Order Book. The net price of a complex order executed against another complex order on the Strategy Book will never be inferior to the price that would be available if the complex order legged into the Simple Order Book. Incoming complex orders that could not be executed because the executions would be priced outside of the icEBBO, or equal to or through the icEBBO due to a Priority Customer Order at the best icEBBO price, will be cancelled if such complex orders are not eligible to be placed on the Strategy Book. Complex orders and quotes will be executed without consideration of any prices for the complex strategy that might be available on other exchanges trading the same options contracts provided, however, that such complex order price may be subject to the Implied Exchange Away Best Bid or Offer ("ixABBO") Protection set forth in I&P .05(d) of proposed Rule 518 described below and are subject to the MPC price protection feature in I&P .05(f) of proposed Rule 518 described below.

Proposed Rule 518(c)(2)(iii) describes the Legging process through which complex orders, under certain circumstances, are executed against the individual components of a complex strategy on the Simple Order Book. Complex orders up to a maximum number of legs (determined by the Exchange on a class-by-class basis as either two or three legs and communicated to Members via Regulatory Circular) may be automatically executed against bids and offers on the Simple Order Book for the individual legs of the complex order (“Legging”), provided the complex order can be executed in full or in a permissible ratio by such bids and offers, and provided that the execution price of each component is not executed at a price that is outside of the NBBO. Legging is not available for cAOC Orders, complex Standard quotes or complex eQuotes. Notwithstanding the foregoing, complex orders with two option legs where both legs are buying or both legs are selling and both legs are calls or both legs are puts may only trade against other complex orders on the Strategy Book and will not be permitted to leg into the Simple Order Book. Complex orders with three option legs where all legs are buying or all legs are selling may only trade against other complex orders on the Strategy Book, regardless of whether the option leg is a call or a put. The System will not generate derived orders for these complex orders.

Pursuant to proposed Rule 518(c)(2)(iv), derived orders may be automatically generated on behalf of complex orders so that they are represented at the best bid or offer on the Exchange for the individual legs, and shall be executed as described above.

Proposed Rule 518(c)(2)(v) sets forth the process for evaluation of complex orders and quotes, and the Strategy Book, on a regular basis and for various conditions and events that result in the System’s particular handling and execution of complex orders and quotes in response to such regular evaluation, conditions and events.

(e) Complex Order Priority

Proposed Rule 518(c)(3) describes how the System will establish priority for complex orders. The proposed complex order priority structure is based generally on the same approach and structure on the proposed MIAx Emerald Simple Book. Proposed Rule 518(c)(3)(i) provides that notwithstanding the provisions of proposed Rule 514, a complex order may be executed at a net credit or debit price with one other Member without giving priority to bids or offers established in the marketplace that are no better than the bids or offers comprising such net credit or debit; provided, however, that if any of the bids or offers established in the marketplace consist of a Priority Customer Order, at least one leg of the complex order must trade at a price that is better than the corresponding bid or offer in the marketplace by at least a \$0.01 increment.

Regarding execution and allocation of complex orders, proposed Rule 518(c)(3)(ii) establishes that complex orders will be automatically executed against bids and offers on the Strategy Book in price priority. Bids and offers at the same price on the Strategy Book will be executed pursuant to the following priority rules: Priority Customer complex orders resting on the Strategy Book will have first priority to trade against a complex order and will be allocated in price time priority; Market Maker Priority Interest for Complex will collectively have second priority and will be allocated on a pro-rata basis as defined in proposed Rule 514(c)(2); Market Maker non-Priority Interest for Complex will collectively have third priority and will be allocated on a pro-rata basis as defined in proposed Rule 514(c)(2); and non-Market Maker Professional Interest orders resting on the Strategy Book will collectively have fourth priority and will be allocated on a pro-rata basis as defined in proposed Rule 514(c)(2).

(f) Managed Interest Process for Complex Orders

In order to ensure that complex orders (which are non-routable) receive the best executions on the Exchange, proposed Rule 518(c)(4), sets forth the price(s) at which complex orders will be placed on the Strategy Book. The Managed Interest Process for complex orders will be based upon the icEBBO. The Managed Interest Process for complex orders is initiated when a complex order that is eligible to be placed on the Strategy Book cannot be executed against either the Strategy Book or the Simple Order Book (with the individual legs) at the complex order's net price, and is intended to ensure that a complex order to be managed does not result in a locked or crossed market on the Exchange. Once initiated, the Managed Interest Process for complex orders will be based upon the icEBBO.

Under the Managed Interest Process for complex orders, a complex order that is resting on the Strategy Book and is either a complex market order as described in proposed Rule 518(c)(6) and described below, or has a limit price that locks or crosses the current opposite side icEBBO when the icEBBO is the best price, may be subject to the Managed Interest Process for complex orders as described herein. Complex Standard quotes are not eligible for inclusion in the Managed Interest Process for complex orders. An unexecuted complex Standard quote with a limit price that would otherwise be managed to the icEBBO will be cancelled. If the order is not a Complex Auction-eligible order as defined in proposed Rule 518(d)(1) and described below, the System will first determine if the inbound complex order can be matched against other complex orders and/or quotes resting on the Strategy Book at a price that is at or inside the icEBBO (provided there are no Priority Customer orders on the Simple Order Book at that price). Second, the System will determine if the inbound complex order can be executed by Legging against individual orders and quotes resting on the Simple Order Book at the icEBBO. A complex order subject to the Managed Interest Process for complex orders will never be executed at a price that is through the individual component prices on the Simple Order Book. Furthermore, the net price of a complex order subject to the Managed Interest Process for complex orders that is executed against another complex order on the Strategy Book will never be inferior to the price that would be available if the complex order legged into the Simple Order Book. When the opposite side icEBBO includes a Priority Customer Order, the System will book and display such booked complex order on the Strategy Book at a price (the "book and display price") that is \$0.01 away from the current opposite side icEBBO. When the opposite side icEBBO does not include a Priority Customer Order and is not available for execution in the ratio of such complex order, or cannot be executed through Legging with the Simple Order Book (as described above), the System will place such complex order on the Strategy Book and display such booked complex order at a book and display price that will lock the current opposite side icEBBO.

Should the icEBBO change, the complex order's book and display price will continuously re-price to the new icEBBO until: the complex order has been executed in its entirety; if not executed, the complex order has been placed on the Strategy Book at prices up to and including its limit price or, in the case of a complex market order, at the new icEBBO; the complex order has been partially executed and remaining unexecuted contracts have been placed on the Strategy Book at prices up to and including their limit price or, in the case of a complex market order, at the new icEBBO; or the complex order or any remaining portion of the complex order is cancelled. If the Exchange receives a new complex order or quote for the complex strategy on the opposite side of the market from the managed complex order that can be executed, the System will immediately execute the remaining contracts from the managed

complex order to the extent possible at the complex order's current book and display price, provided that the execution price is not outside of the current icEBBO. If unexecuted contracts remain from the complex order on the Strategy Book, the complex order's size will be revised and disseminated to reflect the complex order's remaining contracts at its current managed book and display price.

(g) Evaluation Process for Complex Orders

Proposed Rule 518(c)(5) describes how and when the System determines to execute or otherwise handle complex orders in the System.

Proposed Rule 518(c)(5)(i) describes the evaluation process that occurs upon receipt of complex orders and quotes once a complex strategy is open for trading. After a complex strategy is open for trading, all new complex orders and quotes that are received for the complex strategy are evaluated upon arrival. The System will determine if such complex orders are Complex Auction-eligible orders, using the process and criteria regarding the Upon Receipt Improvement Percentage ("URIP") in proposed Rule 518, I&P .03(b) as described below. The System will also evaluate (A) whether such complex orders or quotes are eligible for full or partial execution against a complex order or quote resting on the Strategy Book; (B) whether such complex orders or quotes are eligible for full or partial execution through Legging with the Simple Order Book (as described above); (C) whether all or any remaining portion of a complex order or quote should be placed on the Strategy Book; (D) whether a derived order should be generated or cancelled; (E) the eligibility of such complex orders and quotes (as applicable) to participate in the Managed Interest Process for complex orders set forth in proposed Rule 518(c)(4) as described above; (F) whether such complex orders should be cancelled; and (G) the MPC Price (as described below).

Proposed Rule 518(c)(5)(ii) describes the System's ongoing regular evaluation of the Strategy Book. The System will continue to evaluate complex orders and quotes on the Strategy Book to determine if such complex orders are Complex Auction-eligible orders, using the process and criteria described in proposed Rule 518, I&P .03(c) regarding the Reevaluation Improvement Percentage ("RIP") described below. The System will also continue, on a regular basis, to evaluate the factors listed in (A) - (E) above. The System will also continue to evaluate whether there is a SMAT Event, a wide market condition, a halt affecting any component of a complex strategy. Complex orders and quotes will be handled during such events in the manner set forth in proposed Rule 518, I&P .05(e), as described below.

Pursuant to proposed Rule 518(c)(iii), if the System determines that a complex order is a Complex Auction-eligible order, such complex order will be submitted into the Complex Auction process as described in proposed Rule 518(d) described below.

Proposed Rule 518(c)(5)(iv) describes the handling of orders that are determined not to be Complex Auction-eligible. If the System determines that a complex order is not a Complex Auction-eligible order, such complex order may be, as applicable: immediately matched and executed against a complex order or quote resting on the Strategy Book; executed against the individual components of the complex order on the Simple Order Book through Legging (as described above; placed on the Strategy Book and managed pursuant to the Managed Interest Process for complex orders as described above; or cancelled by the System if the time-in-force (i.e., IOC) of the complex order does not allow it to rest on the Strategy Book.

Pursuant to proposed Rule 518(c)(6) complex orders may be submitted as market orders and may be designated as cAOA. Complex market orders designated as cAOA may initiate a Complex Auction upon arrival or join a Complex Auction in progress. Complex market orders not designated as cAOA will trade immediately with any contra-side complex orders or quotes, or against the individual legs, up to and including the dcEBBO, and may be subject to the Managed Interest Process for complex orders, and the Evaluation Process, each as described above.

(h) Complex Auction Process and Pricing

Proposed Rule 518(d) describes the process for determining if a complex order is eligible to begin a Complex Auction, and to participate in a Complex Auction that is in progress. Certain option classes, as determined by the Exchange and communicated to Members via Regulatory Circular, will be eligible to participate in a Complex Auction. Upon evaluation as described above, the Exchange may determine to automatically submit a Complex Auction-eligible order (defined below) into a Complex Auction (as described below). Upon entry into the System or upon evaluation of a complex order resting at the top of the Strategy Book, Complex Auction-eligible orders may be subject to an automated request for responses ("RFR"), as described below.

Proposed Rule 518(d)(1) defines and describes the handling of a Complex Auction-eligible order. A "Complex Auction-eligible order" means a complex order that, as determined by the Exchange, is eligible to initiate or join a Complex Auction based upon the order's marketability (i.e., if the price of such order is equal to or within a specific range of the current dcEBBO) as established by the Exchange, number of components, and complex order origin types (i.e., non-broker-dealer customers, broker-dealers that are not market makers on an options exchange, and/or market makers on an options exchange as established by the Exchange and communicated to Members via Regulatory Circular). In order to initiate a Complex Auction upon receipt, a Complex Auction-eligible order must be designated as cAOA and must meet the criteria described in proposed Rule 518, I&P .03(b) regarding the URIP as described below. A complex order not designated as cAOA (i.e., a complex order considered by default to be "do not Auction-on-Arrival" by the System) may (i) join a Complex Auction in progress at the time of receipt; (ii) become a Complex Auction-eligible order after resting on the Strategy Book and may then automatically join a Complex Auction then in effect for the complex strategy; or (iii) initiate a Complex Auction if it meets the criteria described in proposed Rule 518, I&P .03(a) regarding the IIP or .03(c) regarding the RIP. Complex orders processed through a Complex Auction may be executed without consideration to prices of the same complex interest that might be available on other exchanges.

Upon receipt of a Complex Auction-eligible order or upon an evaluation by the System indicating that there is a Complex Auction-eligible order resting on the Strategy Book, the Exchange may begin the Complex Auction process under proposed Rule 518(d)(2) by sending an RFR message. The RFR message will be sent to all subscribers to the Exchange's data feeds that deliver RFR messages, which will be sent to all subscribers to the Exchange's data feeds that deliver RFR messages and contain the information set forth in proposed Rule 518(d)(2). The Exchange may determine the direction and frequency of Complex Auctions for a complex strategy as set forth in proposed Rule 518(d)(2).

Pursuant to proposed Rule 518(d)(4) Members may submit a response to the RFR message (an "RFR Response") during the Response Time Interval. The term "Response Time Interval"

means the period of time during which responses to the RFR may be entered. The Exchange will determine the duration of the Response Time Interval, which shall not exceed 500 milliseconds, and will communicate it to Members via Regulatory Circular. RFR Responses may be submitted in \$0.01 increments. RFR Responses must be a cAOC Order or a cAOC eQuote (described below), and may be submitted on either side of the market. RFR Responses represent non-firm interest that can be modified or withdrawn at any time prior to the end of the Response Time Interval. At the end of the Response Time Interval, RFR Responses are firm (i.e., guaranteed at the RFR price and size). All RFR Responses and other complex orders and quotes on the opposite side of the Complex Auction-eligible order are also firm with respect to other incoming Complex Auction-eligible orders that are received during the Response Time Interval. Any RFR Responses not executed in full will expire at the end of the Complex Auction. An RFR Response with a size greater than the aggregate size of interest at the same price on the same side of the market as the initiating Complex Auction-eligible order (the “aggregate auctioned size”) will be capped for allocation purposes at the aggregate auctioned size.

Proposed Rule 518(d)(5) describes how Complex Auction-eligible orders are handled following the Response Time Interval. At the end of the Response Time Interval, Complex Auction-eligible orders (and other complex orders and quotes) may be executed in whole or in part. Complex Auction-eligible orders will be executed against the best priced contra side interest, and any unexecuted portion of a Complex Auction-eligible order remaining at the end of the Response Time Interval will either be evaluated to determine if it may initiate another Complex Auction, or placed on the Strategy Book and ranked pursuant to proposed Rule 518(c)(3) as discussed above.

The Complex Auction will terminate at the end of the Response Time Interval at the end of the Response Time Interval without trading when any individual component of a complex strategy in the Complex Auction process is subject to a wide market condition, or to a SMAT Event, or immediately without trading if any individual component or underlying security of a complex strategy in the Complex Auction process is subject to a halt. Upon the conclusion of these condition(s) or process(es), an affected complex order will be evaluated and may initiate a new Complex Auction if such complex order is determined to be a Complex Auction-eligible order.

Proposed Rule 518(d)(6) describes the manner in which the System prices and executes complex orders and quotes at the conclusion of the Response Time Interval. The proposed Rule initially states the broader pricing policy and functionality of all trading of complex orders in the System (whether a trade is executed in the Complex Auction process or in free trading). Specifically, a complex strategy will not be executed at a net price that would cause any component of the complex strategy to be executed: at a price of zero; or ahead of a Priority Customer order on the Simple Order Book without improving the EBBO on at least one component of the complex strategy by at least \$.01. At the conclusion of the Response Time Interval, using \$.01 inside the current icEBBO as the boundary (the “boundary”), the System will calculate the price where the maximum quantity of contracts can trade and also determine whether there is an imbalance.

If there is no imbalance, and a single price satisfies the maximum quantity criteria, that single price is used as the Complex Auction price. If two or more prices satisfy the maximum quantity criteria, the System will calculate the midpoint of the lowest and highest price points that satisfy the maximum quantity criteria, such midpoint price is used as the Complex Auction price. For orders with ixABBO Price Protection, as described above, (“price protection”), the midpoint pricing will use the price protection range selected by the Member at the end of the Complex

Auction. If the midpoint price is not in a \$0.01 increment, the System will round toward the midpoint of the dcEBBO to the nearest \$0.01. If the midpoint of the highest and lowest prices is also the midpoint of the dcEBBO and is not in a \$0.01 increment, the System will round the price up to the next \$0.01 increment.

If there is a size imbalance, and if a single price satisfies the maximum quantity criteria, that single price is used as the Complex Auction price. If two or more prices satisfy the maximum quantity criteria, the System will price the execution at the price on the opposite side of the size imbalance that meets the maximum quantity criteria, while also respecting limit prices and the pricing boundaries which include the price protection boundary of \$0.01 inside of the icEBBO and the price protection range (if any) selected by the Members whose interest makes up the order imbalance.

If, after trading the maximum quantity at the execution price, Complex Auction interest remains with a managed price that locks or crosses the opposite side icEBBO, the System will execute the individual legs of eligible remaining Complex Auction eligible orders and quotes against orders and quotes resting on the Simple Order Book that were present prior to the beginning of the Complex Auction at the icEBBO if available in the proper ratio and at or within the NBBO of each component of the complex order.

After executing the imbalance side interest to the extent possible at the icEBBO, and if Priority Customer interest at the icEBBO that is not in the proper ratio remains, the System will place such remaining imbalance side interest on the Strategy Book and manage such interest pursuant to proposed Rule 518(c)(4). If no Priority Customer interest at the icEBBO remains, the System will execute Complex Auction interest with any available complex orders, complex Standard quotes or complex eQuotes priced at the icEBBO, and then with any orders or quotes on the Simple Order Book at the icEBBO that were received or modified after the beginning of the Response Time Interval.

If after trading the maximum quantity at the initial icEBBO all interest at the initial icEBBO has been executed, including through Legging with the Simple Order Book (as described above), and Complex Auction interest remains with a managed price that crosses the exhausted icEBBO or dcEBBO (if the next opposite side icEBBO is also the dcEBBO), or locks or crosses the next opposite side icEBBO or dcEBBO (if the next opposite side icEBBO is also the dcEBBO), the System will repeat the process for a size imbalance described above. At each icEBBO price level the System will repeat this process at the end of the Response Time Interval until reaching the dcEBBO price. If the Complex Auction price is equal to or crosses the dcEBBO and the dcEBBO is exhausted, the System will place any remaining Complex Auction interest on the Strategy Book and manage the interest that is eligible to rest on the Strategy Book pursuant to proposed Rule 518(c)(4) to the exhausted dcEBBO price, cancel Complex Auction interest, including remaining complex order cAOC interest, that is not eligible to rest on the Strategy Book, and cancel any complex Standard quotes that are locking or crossing the exhausted dcEBBO price. The System will then immediately initiate a re-evaluation of the remaining interest from the Complex Auction and may initiate a new Complex Auction without regard to the RIP.

If the trading described above was not at the dcEBBO, the System will follow the same procedure at the dcEBBO. If after trading the maximum quantity at the dcEBBO, interest at the dcEBBO remains, the System will place any remaining Complex Auction interest on the Strategy Book and manage the interest that is eligible to rest on the Strategy Book pursuant to

proposed Rule 518(c)(4), and cancel Complex Auction interest, including remaining complex order cAOC interest, that is not eligible to rest on the Strategy Book.

If all interest at the dcEBBO has been exhausted and Auction orders with a managed or limit price that locks or crosses the exhausted dcEBBO price remain, the System will place any remaining Complex Auction interest on the Strategy Book and manage the interest that is eligible to rest on the Strategy Book pursuant to proposed Rule 518(c)(4) to the exhausted dcEBBO price, cancel Complex Auction interest (including remaining complex order cAOC interest) that is not eligible to rest on the Strategy Book, and cancel any complex Standard quotes that are locking or crossing the exhausted dcEBBO price. The System will then immediately initiate a reevaluation of the remaining interest from the Complex Auction and may initiate a new Complex Auction without regard to the RIP.

The System will place any eligible remaining non-marketable Complex Auction orders and quotes on the Strategy Book, cancel any remaining Complex Auction interest that is not eligible to rest on the Strategy Book, and cancel complex Standard quotes that would otherwise require management because of their price as described in proposed Rule 518(c)(4) above if placed on the Strategy Book.

(i) Trade Allocation Following the Complex Auction

Proposed Rule 518(d)(7) describes the allocation of complex orders and quotes that are executed in a Complex Auction. Once the Complex Auction is complete (at the end of the Response Time Interval), such orders and quotes will be allocated first in price priority based on their original limit price, and thereafter as described below.

Individual orders and quotes in the leg markets resting on the Simple Order Book prior to the initiation of a Complex Auction and that have remained unchanged during the Auction have first priority, provided the complex order can be executed in full (or in a permissible ratio) against orders and quotes on the Simple Order Book, provided that the prices of the components on the Simple Order Book are at or within the NBBO for each component. Orders and/or quotes resting on the Simple Order Book that execute against a complex order will be allocated pursuant to proposed Rule 514(c) described above.

Priority Customer complex orders resting on the Strategy Book before, or that are received during, the Response Time Interval, and Priority Customer RFR Responses, collectively have second priority and will be allocated in price-time priority. Market Maker Priority Interest for Complex and RFR Responses from Market Makers with Priority Interest for Complex collectively have third priority and will be allocated on a pro-rata basis as defined in proposed Rule 514(c)(2). Market Maker non-Priority Interest for Complex and RFR Responses from Market Makers with non-Priority Interest for Complex collectively have fourth priority and will be allocated on a pro-rata basis as defined in proposed Rule 514(c)(2). Non-Market Maker Professional Interest complex orders resting on the Strategy Book, non-Market Maker Professional Interest complex orders placed on the Strategy Book during the Response Time Interval, and non-Market Maker Professional Interest RFR Responses will collectively have fifth priority and will be allocated on a pro-rata basis as defined in proposed Rule 514(c)(2). Individual orders and quotes in the leg markets that are received or changed during the Complex Auction will collectively have sixth priority and will be allocated pursuant to proposed Rule 514(c)(2).

(j) Processing of Unrelated Complex Orders

Proposed Rule 518(d)(8) describes the manner in which the System handles incoming unrelated complex orders and quotes that are eligible to join a Complex Auction and are received during the Response Time Interval for a Complex Auction-eligible order. Such incoming unrelated complex orders and quotes will simply join the Complex Auction, will be ranked by price, and will be allocated pursuant to proposed Rule 518(d)(7) described above.

Proposed Rule 518(d)(9) states that a complex order not designated as cAOA will either be (i) executed in full at a single price or at multiple prices up to its limit price, with remaining contracts placed on the Strategy Book; (ii) executed until the order exhausts the opposite side dcEBBO, at which time the order will be placed on the Strategy Book and evaluated for Complex Auction eligibility; or (iii) cancelled.

Proposed Rules 518(d)(10), (11) and (12) each describe the effect(s) of certain market conditions on the Complex Auction. Proposed Rule 518(10) provides that a change in the best bid or offer of the leg markets will not affect the processing of the Complex Auction. Any such changed bid or offer will be included in the evaluation at the end of the Response Time Interval. Proposed Rule 518(d)(11) states that if the underlying security of a Complex Auction-eligible order that is a market order enters a Limit State or Straddle State, as defined in proposed Rule 530 the Complex Auction will end upon such underlying security's entering of the Limit or Straddle State if such market order is the only trading interest remaining on that side of the Complex Auction, in which case the remaining portion of such market order will be cancelled. If there are orders and/or quotes other than such market order on that side of the Complex Auction, such market order will be cancelled and the Complex Auction will continue. Any remaining complex orders and/or quotes that joined the Complex Auction will continue to be processed according to proposed Rule 518(d) as described above. Proposed Rule 518(d)(12), states that if, during a Complex Auction, the underlying security and/or any component of a Complex Auction-eligible order is subject to a wide market condition, a SMAT Event or a trading halt, the Complex Auction will be handled as set forth in proposed Rule 518, I&P .05(e) as described below.

(k) Market Maker Complex Quotes

Proposed Rule 518, I&P .02 describes the manner in which the Exchange will determine to allow Market Maker quotes in complex strategies. Market Maker complex quotes may be entered as either complex Standard quotes or complex eQuotes. The Exchange will determine, on a class-by-class basis, the complex strategies in which Market Makers may submit complex Standard quotes, and will notify Members of such determination via Regulatory Circular. Market Makers may submit complex eQuotes in their appointed options classes. A complex eQuote may be either (1) a cAOC eQuote or (2) a cIOC eQuote. A cIOC eQuote is a complex eQuote with a time-in-force of IOC that may be matched with another complex quote or complex order for an execution to occur in whole or in part upon receipt into the System.

Market Maker complex quotes are executed in the same manner as complex orders but will not be executed against bids and offers on the Simple Order Book via Legging as described above). Market Maker complex Standard quotes may rest on the Strategy Book and are not subject to the Managed Interest Process for complex orders described in proposed Rule 518(c)(4). An unexecuted complex Standard quote with a limit price that would otherwise be managed to the icEBBO will be cancelled.

Market Makers are not required to enter complex quotes on the Strategy Book. Quotes for complex strategies are not subject to any quoting requirements that are applicable to Market Maker quotes in the simple market for individual options series or classes. Volume executed in complex strategies is not taken into consideration when determining whether Market Makers are meeting quotation obligations applicable to Market Maker quotes in the simple market for individual options.

(l) Improvement Percentages

Proposed Rule 518, I&P .03 establishes the method by which the Exchange will determine whether complex order interest is qualified to initiate a Complex Auction. Such qualification is contingent on three categories of “improvement percentages” that are used to determine the complex order’s marketability at the time of the System’s evaluation.

For complex orders received prior to the opening of all individual components of a complex strategy, the System will calculate an Initial Improvement Percentage (“IIP”) value, which is a defined percentage of the current dcEBBO bid/ask differential once all of the components of the complex strategy have opened. Such percentage will be defined by the Exchange and communicated to Members via Regulatory Circular. If a Complex Auction-eligible order is priced equal to or improves the IIP value and is also priced equal to, or improves, other complex orders and/or quotes resting at the top of the Strategy Book, the complex order will be eligible to initiate a Complex Auction.

Upon receipt of a complex order when the complex strategy is open, the System will calculate an Upon Receipt Improvement Percentage (“URIP”) value, which is a defined percentage of the current dcEBBO bid/ask differential. Such percentage will be defined by the Exchange and communicated to Members via Regulatory Circular. If a Complex Auction-eligible order is priced equal to or improves the URIP value and is also priced to improve other complex orders and/or quotes resting at the top of the Strategy Book, the complex order will be eligible to initiate a Complex Auction.

Upon evaluation of a complex order resting at the top of the Strategy Book, the System will calculate a Reevaluation Improvement Percentage (“RIP”) value, which is a defined percentage of the current dcEBBO bid/ask differential. Such percentage will be defined by the Exchange and communicated to Members via Regulatory Circular. If a complex order resting at the top of the Strategy Book is priced equal to, or improves, the RIP value, the complex order will be eligible to initiate a Complex Auction.

(m) Price and Other Protections

Proposed I&P .05 establishes Price Protection standards that are intended to ensure that certain types of complex strategies will not be executed outside of a preset standard minimum and/or maximum price limit.

Proposed I&P .05 states that unless otherwise specifically set forth therein, the price and other protections contained in proposed I&P .05 apply to all complex order types. Proposed I&P .05 establishes a price protection program for Vertical Spreads and Calendar Spreads by establishing a Vertical Spread Variance (“VSV”) and Calendar Spread Variance (“CSV”).

A “Vertical Spread” is a complex strategy consisting of the purchase of one call (put) option and the sale of another call (put) option overlying the same security that have the same expiration but different strike prices. The VSV establishes minimum and maximum trading price limits for Vertical Spreads. The maximum possible trading price limit of the VSV is the difference between the two component strike prices plus a pre-set value. For example, a Vertical Spread consisting of the purchase of one January 30 call and the sale of one January 35 call would have a maximum trading price limit of \$5.00 plus a pre-set value. The minimum possible trading price limit of a Vertical Spread is always zero minus a pre-set value. The pre-set value will be uniform for all option classes traded on the Exchange as determined by the Exchange and communicated to Members via Regulatory Circular.

A “Calendar Spread” is a complex strategy consisting of the purchase of one call (put) option and the sale of another call (put) option overlying the same security that have different expirations but the same strike price. The CSV establishes a minimum trading price limit for Calendar Spreads. The CSV establishes a minimum trading price limit for Calendar Spreads. The maximum possible value of a Calendar Spread is unlimited, thus there is no maximum price protection for Calendar Spreads. The minimum possible trading price limit of a Calendar Spread is zero minus a pre-set value. The pre-set value will be uniform for all option classes traded on the Exchange as determined by the Exchange and communicated to Members via Regulatory Circular.

If the execution price of a complex order would be outside of the limits established in the VSV or the CSV, such complex order will be placed on the Strategy Book and will be managed to the appropriate trading price limit as described in proposed Rule 518(c)(4) above. Orders to buy below the minimum trading price limit and orders to sell above the maximum trading price limit (in the case of Vertical Spreads) will be rejected by the System.

Another feature in the System that is designed to protect investors from executions that are outside of the price on any individual market is the ixABBO price protection feature. The ixABBO price protection feature is a price protection mechanism under which, when in operation as requested by the submitting Member, a buy order will not be executed at a price that is higher than each other single exchange’s best displayed offer for the complex strategy, and under which a sell order will not be executed at a price that is lower than each other single exchange’s best displayed bid for the complex strategy. The ixABBO is calculated using the best net bid and offer for a complex strategy using each other exchange’s displayed best bid or offer on their simple order book. The ixABBO price protection feature must be engaged on an order-by-order basis by the submitting Member and is not available for complex Standard quotes, complex eQuotes, cAOC Orders, cPRIME Orders, cC2C Orders, and cQCC Orders.

(n) Wide Market Conditions, SMAT Events, Halts and Obvious Errors

Proposed Rule 518, I&P .05(e) establishes rules for additional investor protections when external market events occur that affect complex orders and quotes on the Exchange including wide market conditions, SMAT Events and halts. Proposed Rule 518, I&P .05(f) describes the complex MIAX Emerald Price Collar (“MPC”) which the MPC price protection feature is an Exchange-wide price protection mechanism that will apply to all options listed on the Exchange for which complex orders are traded. Proposed Rule 518, I&P .05(g) describes Market Maker Single Side Protection. Another investor protection is described in proposed Rule 518, I&P .06, the MIAX Emerald Order Monitor for Complex Orders (“cMOM”). cMOM is substantially similar to the Exchange’s proposed MIAX Emerald Order Monitor (“MOM”) protection for the Simple

Order Book set forth in proposed Rule 519 described above. Proposed Rule 521, I&P .03 addresses the manner in which obvious errors in complex order transactions will be handled.

(iv) Index Options

Proposed Chapter XVIII to the Exchange's Rules, which will incorporate by reference Chapter XVIII of Rules of the Exchange's affiliate, MIAX, will allow the Exchange to list and trade options on indices. The proposed rules include listing and maintenance criteria for options on underlying indices, rules on dissemination of index values, position and exercise limits for index options, exemptions from the limits, and terms of index options contracts.

Because the rules related to trading options on indices are product specific in many areas, the Exchange will need to file additional proposed rule changes with the Commission when the Exchange identifies specific products.

(v) General

(a) Orders for Own or Customer Accounts

In executing orders submitted to the Exchange's Book, the Exchange will not distinguish between orders submitted by Members for their own accounts and orders submitted by Members for their customers (unless the Priority Customer overlay is activated for a class). All Exchange Members will submit orders to the Exchange from remote locations and have equal access to orders residing on the Exchange. Similarly, because orders on the Exchange will be executed automatically, no Member of the Exchange will have the ability to control the timing of execution (other than to change or cancel an order/quote prior to execution).

(b) ISOs

The Exchange will accept Intermarket Sweep Orders ("ISO") from other exchanges in accordance with the Linkage Plan. ISOs are executed by the trading System without respect to the protected quotations of other exchanges, that is, the Linkage Plan and proposed Exchange Rules provide an exemption to the prohibition on trading-through the NBBO for orders identified as ISOs, provided the Member submitting the ISO has complied with all aspects of the Linkage Plan and Exchange Rules. It should be noted, executions of ISOs on the Exchange will be handled in accordance with the Exchange Rules governing the allocation among participants to the execution. For example, a Market Maker complying with the priority quote standards will have precedence over all Professional Interest in the allocation of an ISO execution, including an ISO execution that has traded through the NBBO.

(c) Nullification and Adjustment of Options Transactions Including Obvious Errors

The Exchange will have a policy that will permit it to address those instances in which transactions occurring on the Exchange involve obvious or catastrophic errors. Proposed Rule 521 describes this error policy. The Exchange proposes to permit the Exchange to either bust a transaction or adjust the execution price of a transaction that results from an obvious error. Under the Obvious Error Procedure in proposed Rule 521(c), if a Member believes an executed order was the result of an Obvious Error it must notify the MIAX Emerald Regulatory Control. The Exchange will review the transaction to determine whether, in fact, the transaction was the

result of an Obvious Error, and either bust or adjust the trade based on the objective criteria set forth in the rule.

Under the Catastrophic Error Procedure in proposed Rule 521(d), if a Member believes it has participated in a transaction that qualifies as a Catastrophic Error as defined in proposed Rule 521(d)(1), the Member must notify the MIAX Emerald Regulatory Control. The Exchange will review the transaction to determine whether, in fact, the transaction qualifies as a Catastrophic Error, and either bust or adjust the trade based on the objective criteria set forth in the rule.

The Exchange will also coordinate with other options exchanges in cases involving Significant Market Events across multiple exchanges under proposed Rule 521(e). If it is determined that a Significant Market Event has occurred then the Exchange will determine whether any or all transactions under review qualify as Obvious Errors, and either bust or adjust the trades based on the objective criteria set forth in the rule. If adjustment is not feasible due to the extraordinary nature of the situation, the Exchange will bust some or all transactions arising out of the Significant Market Event during the review period. All determinations made pursuant to this provision will be final.

The Exchange will also have procedures to address erroneous trades due to disruptions and/or malfunctions of Exchange systems as described in proposed Rule 521(k).

(d) Routing to Other Market Centers

The Exchange intends to become a participant in the Linkage Plan. In accordance with the Linkage Plan, the Exchange will provide price protection in options as set forth in proposed Rule 529.

The Route Mechanism described in proposed Rule 529(b)(1) will be used after the Exchange's Opening Process under proposed Rule 503 has been completed. Routing will be used when an Eligible Order is received and/or reevaluated that is both routable and marketable against the opposite side ABBO upon receipt and the Exchange's disseminated market is not equal to the opposite side ABBO, or is equal to the opposite side ABBO and of insufficient size to satisfy the order. The term Eligible Order is used in proposed Rule 529 to refer to the Eligible Order being handled by the Route Mechanism. Eligible Orders are defined as: all Public Customer Orders received via the FIX Interface other than Intermarket Sweep Order ("ISO"), as defined in proposed Rule 516(f), Do Not Route ("DNR") Orders as defined in proposed Rule 516(g) and Post-Only Orders as defined in proposed Rule 516(i), all of which are not eligible to be routed. Eligible Orders resting on the Book may be routed with an incoming Eligible Order that has initiated a Route Mechanism.

Proposed Rule 529(b)(2) provides that an Eligible Order may be routed if the displayed NBBO was locked or crossed upon receipt of the Eligible Order. If at the time of receipt of the Eligible Order, the opposite side ABBO is also locking or crossing the same side EBBO, the System will immediately route the Eligible Order, together with any routable interest resting on the same side EBBO, to the opposite side ABBO. The Eligible Order and any routable resting interest will be processed in the order in which they were received. The System will route ISOs representing Eligible Orders to away markets disseminating prices better than the Exchange's disseminated market. The routed order will be priced at the ABBO with a size equal to each ABBO exchange's disseminated size. If there are still additional contracts to be executed from the Eligible Order after the order has been routed to all away markets disseminating the ABBO for

the away markets' full size, the System will handle remaining contracts from the Eligible Order in accordance with the provisions of proposed Rule 515.

As set forth in proposed Rule 529(a), the Exchange will route orders to the other options exchanges through unaffiliated brokers. The Exchange will determine the logic that provides when, how and where Intermarket Sweep Orders are routed away to other options exchanges. The routing broker will receive instructions from the Exchange to route orders to other options exchanges and report the executions back to the Exchange. The routing broker cannot change the terms of an order or the routing instructions, nor does the routing broker have any discretion about where to route an order.

(e) *Trade Reporting*

The Exchange intends to become a member in the OPRA Plan and will collect and submit to OPRA the best buy and sell interest displayed on the Exchange and report trades to OPRA in accordance with the terms of the OPRA Plan. The Exchange also proposes to provide to subscribers of its proprietary data feeds, top of the market information and data pertaining to options contracts traded on the Exchange.

(f) *Participation in Industry Programs*

Proposed Rule 510, I&P .01, sets out that the Exchange will operate a pilot program to permit certain options classes to be quoted and traded in increments as low as \$.01 through December 31, 2018 (the "Penny pilot Program"). The Exchange may replace, on a semi-annual basis, any Penny pilot Program classes that have been delisted. The replacement classes will be selected based on prior trading activity over a six month period. The Exchange will distribute an Information Circular notifying Members of replacement classes to be included in the Penny pilot Program.

Proposed Rule 521, I&P .01, establishes a pilot program to coincide with the pilot period for the Plan to Address Extraordinary Market Volatility Pursuant to Rule 608 of Regulation NMS under the Exchange Act (the "Limit Up-Limit Down Plan"), including any extensions to the Limit Up-Limit Down Plan, to exclude transactions executed during a Limit State or Straddle State from the obvious error provisions of proposed Rule 521. The Exchange agrees to submit monthly data regarding the program. In addition, the Exchange agrees to submit an overall analysis of the pilot in conjunction with the data submitted under the Limit Up-Limit Down Plan and any other data as requested by the Commission. Capitalized terms used herein, but not defined shall have the meanings set forth in the Exchange Rules.

In particular, each month, the Exchange will provide to the Commission, and the public, a dataset containing the data for each Straddle and Limit State in optionable stocks that had at least one trade on the Exchange. For each trade on the Exchange, the Exchange will provide the stock symbol, option symbol, time at the start of the Straddle or Limit State, an indicator for whether it is a Straddle or Limit State, and for the trades on the Exchange, the executed volume, time-weighted quoted bid-ask spread, time-weighted average quoted depth at the bid, time-weighted average quoted depth at the offer, high execution price, low execution price, number of trades for which a request for review for error was received during Straddle and Limit States, an indicator variable for whether those options outlined above have a price change exceeding 30% during the underlying stock's Limit or Straddle State compared to the last available option price as reported by OPRA before the start of the Limit or Straddle State (1 if

observe 30% and 0 otherwise), and another indicator variable for whether the option price within five minutes of the underlying stock leaving the Limit or Straddle State (or halt if applicable) is 30% away from the price before the start of the Limit or Straddle State.

MIAX Emerald represents that it will provide the Commission with the same data that MIAX has agreed to provide with respect to any pilot program conducted on the Exchange that is based on MIAX Emerald proposed Rules that will be incorporated by reference to the Rules of MIAX.

(g) *Consolidated Audit Trail Plan Compliance Rule*

The Exchange intends that MIAX Chapter XVII - Consolidated Audit Trail Plan Compliance Rules - will be incorporated by reference into the Exchange's proposed Chapter XVII, and will thus become the Exchange's Rules and thereby applicable to the Exchange's Members. Each Participant of the Consolidated Audit Trail Plan (the "CAT NMS Plan"), including MIAX Emerald, is required to enforce compliance by its Industry Members, as applicable, with the provisions of the CAT NMS Plan, by adopting a Compliance Rule applicable to their Industry Members. The rules contained in the proposed Chapter XVII set forth the Compliance Rule to require Industry Members to comply with the provisions of the CAT NMS Plan. The proposed Rules include twelve proposed Rules covering the following areas: (1) definitions; (2) clock synchronization; (3) Industry Member Data reporting; (4) Customer information reporting; (5) Industry Member information reporting; (6) time stamps; (7) clock synchronization rule violations; (8) connectivity and data transmission; (9) development and testing; (10) recordkeeping; (11) timely, accurate and complete data; and (12) compliance dates.

(2) *Clearance and Settlement of Exchange Trades*

The Exchange will report matched trades to the Options Clearing Corporation. The Exchange will require each Member to be a Member of a registered clearing agency or clear its transactions through a Member that is a member of a registered clearing agency. The Exchange will also require each Member, for every transaction in which it participates, to immediately give up the name of the Clearing Member through whom the transaction will be cleared. If there is a subsequent change in identity of the Clearing Member, the Member must, as promptly as possible, report such change to the Exchange.

E. Exchange Fees (#4)

Fees Generally. In accordance with proposed Rule 1203 (which will be incorporated by reference to Rule 1203 of MIAX), the Exchange may prescribe such reasonable fees, and assessments or other charges as it may deem appropriate and as consistent with Section 6(b) of the Exchange Act. The Exchange intends to establish a Fee Schedule, which will be filed by the Exchange pursuant to Section 19 of the Exchange Act and Rule 19b-4 thereunder setting forth all applicable transaction and other fees. Actual fee amounts and types will not be determined until close to launch of Exchange operations because the fees and how they are applied will need to reflect the competitive landscape at that time.

The Exchange may also charge membership fees, application fees, market data fees, connectivity fees, and bandwidth fees. Exchange Members will be solely responsible for all telecommunications costs and all other expenses incurred in linking to, and maintaining links to, the Exchange. The Exchange may determine to revise or impose different fees upon its Members and Sponsoring Members from time-to-time.

F. Procedures for Ensuring Compliance with Exchange Usage Guidelines (#5)

The Exchange System contains embedded order/quote entry and trade guidelines. All data representing an order/quote must comply with these guidelines. Members cannot override these embedded guidelines. With respect to technical standards, prior to allowing a new Member to begin trading, the Exchange and the Member will thoroughly test the Member's connectivity. In addition, the Member may enter orders/quotes in test securities to ensure compatibility with the Exchange's System protocol. A Member may begin trading only after the Member and the Exchange are satisfied that both the Member's hardware and software meet the Exchange's standards.

Members also must agree to maintain an adequate connection to the Exchange as defined from time-to-time by the Exchange that includes a connection of sufficient speed and equipment of minimum quality.

G. Hours of Operation and Proposed Commencement of the Exchange (#6)

The Exchange proposes to operate Monday to Friday from 9:30 a.m. Eastern Time to 4:00 p.m. Eastern Time, except the Exchange may remain open for trading option contracts on Exchange Traded Fund Shares and Index-Linked Securities beyond 4:00 p.m. but in no case later than 4:15 p.m. Eastern Time. In addition, the Exchange may operate during any other day or time approved by the Board of Directors of the Exchange.

The Exchange proposes to commence operations upon the approval of its Form 1 Application for Registration as a National Securities Exchange by the Securities and Exchange Commission (the "Commission") and subject to approval of all necessary regulatory and National Market System plans, including the Plan for Reporting of Consolidated Options Last Sale Reports and Quotation Information (i.e., OPRA), and subject to the Exchange joining The Options Clearing Corporation, or OCC.

H. Exchange Users' Manual (#7)

As described above, Members will be provided with the Exchange's technical specifications, which will enable them to develop or purchase their own, customized front-end software for interfacing with the Exchange. Members also may use third-party vendors to route orders to the Exchange via a front end or service bureau configuration. The Exchange will make available on the internet to prospective Members all necessary API connectivity documentation. A draft Users' Manual that will be provided to all Members and prospective Members of the Exchange is included with this Exhibit E. The draft Users' Manual describes the Exchange's technical specifications and provides Members, prospective Members and other users of the Exchange with additional information that the Exchange believes will be useful to such persons for trading on the Exchange.

I. Possession of Funds or Securities (#8)

The Exchange will not hold funds or securities of its Members.

POST-ONLY AND MANAGED INTEREST EXAMPLES
RULE 515. EXECUTION OF ORDERS AND QUOTES

Example #1 Post-Only Price Process for a Post-Only Order or Quote (“Post-Only OQ”)

Rule 515(i)

(i) A Post-Only OQ is received by the Exchange. A Post-Only OQ received by the Exchange when the Emerald Best Bid or Offer (“EBBO”) is equal to the National Best Bid or Offer (“NBBO”) will be managed in accordance to the Post-Only Price Process (“POP Process”) as follows:

Current Market in XYZ August 50 Calls

(MPV \$.01)

EBBO \$1.09 (10) x \$1.11 (10)
ABBO \$1.09 (10) x \$1.11 (10)
NBBO \$1.09 (20 contracts) x \$1.11(20 contracts)

Incoming Post-Only OQ arrives in the System: **Buy 5 XYZ August 50 Calls at \$1.13**

1. By definition a Post-Only OQ does not take liquidity.
2. Post-Only OQs are never routed to another exchange.
3. Posting this incoming Post-Only OQ at its current limit price so that it is a maker and not a taker would cross the NBBO, therefore the Post-Only OQ will be managed under the POP Process by booking and displaying the Post-Only OQ to Buy one minimum price variation (“MPV”) away from the current opposite side EBBO under Rule 515(i)(3)(ii) as its limit price crosses the EBBO when the EBBO is the NBBO.
4. The Post-Only Buy OQ has a book price of \$1.10 and a display price of \$1.10.

Resulting Market in XYZ August 50 Calls

EBBO \$1.10 (5) x \$1.11 (10)
Post-Only interest
Buy 5 contracts, Display Price: \$1.10, Book Price: \$1.10, Limit Price: \$1.13
ABBO \$1.09 (10) x \$1.11 (10)
NBBO \$1.10 (5 contracts) x \$1.11 (20 contracts)

Example #2 Managed Interest Process

Current Market in XYZ August 50 Calls (Scenario A & B)

EBBO \$1.10 (5) x \$1.11 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.10, Book Price: \$1.10, Limit Price \$1.13

ABBO \$1.09 (10) x \$1.11 (10)

NBBO \$1.10 (5 contracts) x \$1.11 (20 contracts)

A. Non-Market Maker Order - Rule 515(c)(1)(ii)

(i) **EBBO worsens and is no longer equivalent to the NBBO.** The EBBO worsens when the 10 contracts for sale at \$1.11 are executed. The next best offer to sell on the Exchange is priced a \$1.15 and the ABBO \$1.11 offer faded to \$1.13.

1. The limit price of the Non-Market Maker Post-Only Order is \$1.13 which locks the faded opposite side ABBO of \$1.13.
2. The Non-Market Maker Post-Only Order is managed under the Managed Interest Process Rule, 515(c)(1)(ii) and re-priced with a Book price that locks the ABBO and a displayed price which is one MPV away from the ABBO under Rule 515(c)(1)(ii)(B).
3. The Non-Market Maker Post-Only Buy Order's book price is \$1.13 and its display price is \$1.12.

Resulting Market in XYZ August 50 Calls – Scenario 2.A

EBBO \$1.12 (5) x \$1.15 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.12, Book Price: \$1.13, Limit Price \$1.13

ABBO \$1.09 (10) x \$1.13 (10)

NBBO \$1.12 (5 contracts) x \$1.13 (10 contracts)

B. Market Maker (“MM”) Order or Quote (“OQ”) - Rule 515(d)(ii)

(i) **EBBO worsens and is no longer equivalent to the NBBO.** The EBBO worsens when the 10 contracts for sale at \$1.11 are executed. The next best offer to sell on the Exchange is priced a \$1.15 and the ABBO \$1.11 offer faded to \$1.13.

1. The limit price of the MM Post-Only OQ is \$1.13 which locks the faded opposite side ABBO of \$1.13.
2. The MM Post-Only OQ is managed under the Handling of Market Maker Orders and Quotes Rule 515(d)(ii) and re-priced with a Book price that locks the ABBO and a displayed price which is one MPV away from the ABBO under Rule 515(d)(ii).
3. The MM Post-Only Buy OQ's book price is \$1.13 and its display price is \$1.12.

Resulting Market in XYZ August 50 Calls – Scenario 2.B

EBBO \$1.12 (5) x \$1.15 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.12, Book Price: \$1.13, Limit Price \$1.13

ABBO \$1.09 (10) x \$1.13 (10)

NBBO \$1.12 (5 contracts) x \$1.13 (10 contracts)

Example #3 Opposite Side Order Non Post-Only

Current Market in XYZ August 50 Calls (Scenario A & B)

EBBO \$1.12 (5) x \$1.15 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.12, Book Price: \$1.13, Limit Price \$1.13

ABBO \$1.09 (10) x \$1.13 (10)

NBBO \$1.12 (5 contracts) x \$1.13 (10 contracts)

A. Non-Market Maker Post-Only Order Being Managed - Rule 515(c)(1)(ii)(B)

(i) Non-Market Maker Post-Only Order is being managed when a new executable order is received on the opposite side of the market.

Incoming order arrives in the System: **Sell 2 XYZ August 50 Calls at \$1.13**

1. The System immediately executes the 2 contracts at the book price of \$1.13 under Rule 515(c)(1)(ii)(C)1.
2. The System updates the remaining size of the Post-Only interest to 3 contracts under Rule 515(c)(1)(ii)(C)4.
3. The remaining Post-Only interest is 3 contracts with a book price of \$1.13 and a display price of \$1.12.

Resulting Market in XYZ August 50 Calls – Scenario 3.A

EBBO \$1.12 (3) x \$1.15 (10)

Post-Only interest

Buy 3 contracts, Display Price: \$1.12, Book Price: \$1.13, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.13 (10)

NBBO \$1.12 (3 contracts) x \$1.13 (10 contracts)

B. Market Maker Post-Only Order or Quote Being Managed - Rule 515(d)

(i) *Market Maker Post-Only OQ is being managed when a new executable order is received on the opposite side of the market.*

Incoming order arrives in the System: **Sell 2 XYZ August 50 Calls at \$1.13**

1. The System immediately executes the 2 contracts at the book price of \$1.13 under Rule 515(d)(iii)1.
2. The System updates the remaining size of the Post-Only interest to 3 contracts under Rule 515(d)(iii)4.
3. The remaining Post-Only interest is 3 contracts with a book price of \$1.13 and a display price of \$1.12.

Resulting Market in XYZ August 50 Calls – Scenario 3.B

EBBO \$1.12 (3) x \$1.15 (10)

Post-Only interest

Buy 3 contracts, Display Price: \$1.12, Book Price: \$1.13, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.13 (10)

NBBO \$1.12 (3 contracts) x \$1.13 (10 contracts)

Example #4 Opposite Side Only – Post-Only Order Received

Current Market in XYZ August 50 Calls (Scenario A & B)

EBBO \$1.12 (5) x \$1.15 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.12, Book Price: \$1.13, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.13 (10)

NBBO \$1.12 (5 contracts) x \$1.13 (10 contracts)

A. Non-Market Maker Order Being Managed - Rule 515(c)(1)(ii)(B)

(i) *Non-Market Maker Post-Only Order is being managed when a new Post-Only OQ is received on the opposite side of the market.*

Incoming Post-Only OQ arrives in the System: **Sell 10 XYZ August 50 Calls at \$1.12**

1. The System will re-price the book price of the resting Post-Only Order on the Buy side to its display price under Rule 515(c)(1)(ii)(C)3.
2. The Post-Only Buy Order's book price is \$1.12 and its display price is \$1.12.

3. The System will manage the new Post-Only OQ to Sell under the POP Process and set the book price and display price one MPV away from the opposite side EBBO, under Rule 515(i)(3)(ii).
4. The Post-Only Sell OQ's book price is \$1.13 and its display price is \$1.13.
5. Since the EBBO is now equal to the NBBO the System will also now manage the original resting Post-Only Buy Order under Rule 515(i)(3) with a book and display price of \$1.12 under Rule 515(i)(3)(i).

Resulting Market in XYZ August 50 Calls – Scenario 4.A

EBBO \$1.12 (5) x \$1.13 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.12, Book Price: \$1.12, Limit Price \$1.13
Sell 10 contracts, Display Price: \$1.13, Book Price: \$1.13, Limit Price \$1.12

ABBO \$1.09 (10) x \$1.13 (10)

NBBO \$1.12 (5 contracts) x \$1.13 (20 contracts)

B. Market Maker Order or Quote Being Managed - Rule 515(d)(ii)

(i) Market Maker Post-Only OQ is being managed when a new Post-Only OQ is received on the opposite side of the market.

Incoming Post-Only OQ arrives in the System: **Sell 10 XYZ August 50 Calls at \$1.12**

1. The System will re-price the book price of the resting Market Maker Post-Only OQ on the Buy side to its display price under Rule 515(d)(iii)3.
2. The Post-Only Buy OQ's book price is \$1.12 and its display price is \$1.12.
3. The System will manage the new Post-Only OQ to Sell under the POP Process and set the book price and display price one MPV away from the opposite side EBBO, under Rule 515(i)(3)(ii).
4. The Post-Only Sell OQ's book price is \$1.13 and its display price is \$1.13.
5. Since the EBBO is now equal to the NBBO the System will also now manage the original resting Post-Only Buy OQ under Rule 515(i)(3) with a book and display price of \$1.12 under Rule 515(i)(3)(i).

Resulting Market in XYZ August 50 Calls – Scenario 4.B

EBBO \$1.12 (5) x \$1.13 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.12, Book Price: \$1.12, Limit Price \$1.13
Sell 10 contracts, Display Price: \$1.13, Book Price: \$1.13, Limit Price \$1.12

ABBO \$1.09 (10) x \$1.13 (10)

NBBO \$1.12 (5 contracts) x \$1.13 (20 contracts)

Example #5**Less Aggressive Re-Booking of a Managed Order or Quote
Based on ABBO****Current Market in XYZ August 50 Calls
(Scenario A & B)**

EBBO \$1.12 (5) x \$1.15 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.12, Book Price: \$1.13, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.13 (10)

NBBO \$1.12 (5 contracts) x \$1.13 (10 contracts)

A. Non-Market Maker Order - Rule 515(c)(1)(ii)(D)*(i) An Away Market updates their offer price to lock the displayed price of the managed interest at \$1.12.*

1. The System will re-book the Non-Market Maker Post-Only Buy Order setting the book price equal to the display price under Rule 515(c)(1)(ii)(D).
2. The Post-Only Buy Order's book price is \$1.12 and its display price is \$1.12.

Resulting Market in XYZ August 50 Calls – Scenario 5.A

EBBO \$1.12 (5) x \$1.15 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.12, Book Price: \$1.12, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.12 (10)

NBBO \$1.12 (5 contracts) x \$1.12 (10 contracts)

B. Market Maker Order or Quote - Rule 515(d)(iv)*(i) An Away Market updates their offer price to lock the displayed price of the managed interest at \$1.12.*

1. The System will re-book the Market Maker Post-Only Buy OQ setting the book price equal to the display price under Rule 515(d)(iv).
2. The Post-Only Buy OQ's book price is \$1.12 and its display price is \$1.12.

Resulting Market in XYZ August 50 Calls – Scenario 5.B

EBBO \$1.12 (5) x \$1.15 (10)

Post-Only interest

Buy 5 contracts, Display Price: \$1.12, Book Price: \$1.12, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.12 (10)

NBBO \$1.12 (5 contracts) x \$1.12 (10 contracts)

Example #6

Multiple Re-Booking of Post-Only Orders and Quotes

Current Market in XYZ August 50 Calls (Scenario A & B)

(MPV \$.05)

EBBO \$2.50 (20) x \$2.55 (50)
ABBO \$2.50 (10) x \$2.55 (10)
NBBO \$2.50 (30 contracts) x \$2.55 (60 contracts)

A. Non-Market Maker Order - Rule 515(i)(3) & Rule 515(c)(1)(ii)(B)

(i) POP Process Moving to Managed Interest Process – Non-Market Maker Order.

Incoming non-Market Maker Post-Only Order arrives in the System: **Buy 100 XYZ August 50 Calls at \$2.70**

1. The System will manage the Post-Only Buy Order under Rule 515(i)(3)(ii) and book and display the order one MPV away from the current opposite side EBBO.
2. The Post-Only Order to Buy 100 contracts receives a book price of \$2.50 and a display price of \$2.50.

Resulting Market in XYZ August 50 Calls – Scenario 6.A(i)

EBBO \$2.50 (120) x \$2.55 (50)
Post Only interest
Buy 100 contracts, Display Price: \$2.50, Book Price: \$2.50, Limit Price: \$2.70
ABBO \$2.50 (10) x \$2.55 (10)
NBBO \$2.50 (130 contracts) x \$2.55 (60 contracts)

(ii) All displayed sell interest at \$2.55 is exhausted on both the MIAx Emerald Exchange and Away markets. The Exchange's next most aggressively priced offer is \$2.60 and the most aggressively priced sell order displayed at an away market is also \$2.60.

1. The System will manage the non-Market Maker Post-Only Buy Order under Rule 515(i)(3) and re-book and re-display the order one MPV away from the current opposite side EBBO under Rule 515(i)(3)(ii).
2. The Post-Only Order to Buy 100 contracts has a book price of \$2.55 and a display price of \$2.55.

Resulting Market in XYZ August 50 Calls – Scenario 6.A(ii)

EBBO \$2.55 (100) x \$2.60 (10)
Post Only interest
Buy 100 contracts, Display Price: \$2.55, Book Price: \$2.55, Limit Price: \$2.70
ABBO \$2.50 (10) x \$2.60 (10)
NBBO \$2.55 (100 contracts) x \$2.60 (20 contracts)

(iii) All displayed interest at \$2.60 is exhausted on both the MIAX Emerald Exchange and Away markets. The Exchange's next most aggressively priced offer is \$2.75 but the most aggressively priced sell order displayed at an away market is \$2.70.

1. The EBBO is worse than the ABBO.
2. The System will manage the Post-Only Order under the Managed Interest Process for Non-Routable Orders in Rule 515(c)(1)(ii)(B) and re-book the Post-Only Buy Order at the opposite side ABBO and re-display the order one MPV away from the current opposite side ABBO.
3. The Post-Only Order to Buy 100 contracts has a book price of \$2.70 and a display price of \$2.65
4. At each re-booking the Post-Only Interest retains its time priority relative to any other orders subject to the POP Process under Rule 515(c)(1)(ii)(D) and Rule 515(i)(3)(iv).

Resulting Market in XYZ August 50 Calls – Scenario 6.A(iii)

EBBO \$2.65 (100) x \$2.75 (10)

Post-Only interest

Buy 100 contracts, Display Price: \$2.65, Book Price: \$2.70, Limit Price: \$2.70

ABBO \$2.50 (10) x \$2.70 (10)

NBBO \$2.65 (100 contracts) x \$2.70 (10 contracts)

B. Market Maker Order or Quote - Rule 515(i)(3) & Rule 515(d)(ii)

(i) POP Process Moving to Managed Interest Process – Market Maker Post-Only OQ.

Incoming Market Maker Post-Only OQ arrives in the System: **Buy 100 XYZ August 50 Calls at \$2.70**

1. The System will manage the Post-Only Buy OQ under Rule 515(i)(3)(ii) and book and display the OQ one MPV away from the current opposite side EBBO.
2. The Post-Only OQ to Buy 100 contracts receives a book price of \$2.50 and a display price of \$2.50.

Resulting Market in XYZ August 50 Calls – Scenario 6.B(i)

EBBO \$2.50 (120) x \$2.55 (50)

Post Only interest

Buy 100 contracts, Display Price: \$2.50, Book Price: \$2.50, Limit Price: \$2.70

ABBO \$2.50 (10) x \$2.55 (10)

NBBO \$2.50 (130 contracts) x \$2.55 (60 contracts)

(ii) All displayed interest at \$2.55 is exhausted on both the MIAX Emerald Exchange and Away markets. The Exchange's next most aggressively priced offer is \$2.60 and the most aggressively priced sell order displayed at an away market is \$2.60.

1. The System will manage the Post-Only Buy OQ under Rule 515(i)(3) and re-book and re-display the OQ one MPV away from the current opposite side EBBO under Rule 515(i)(3)(ii).
2. The Post-Only OQ to Buy 100 contracts has a book price of \$2.55 and a display price of \$2.55.

Resulting Market in XYZ August 50 Calls – Scenario 6.B(ii)

EBBO \$2.55 (100) x \$2.60 (10)

Post Only interest

Buy 100 contracts, Display Price: \$2.55, Book Price: \$2.55, Limit Price: \$2.70

ABBO \$2.50 (10) x \$2.60 (10)

NBBO \$2.55 (100 contracts) x \$2.60 (20 contracts)

(iii) All displayed interest at \$2.60 is exhausted on both the MIAX Emerald Exchange and Away markets. The Exchange's next most aggressively priced offer is \$2.75 but the most aggressively priced sell order displayed at an away market is \$2.70.

1. The EBBO is worse than the ABBO.
2. The System will manage the Post-Only OQ under the Handling of Market Maker Order and Quotes in Rule 515(d)(ii) and re-book the Post-Only Buy OQ at its limit price and re-display the quote one MPV away from the current opposite side ABBO.
3. The Post-Only OQ to Buy 100 contracts has a book price of \$2.70 and a display price of \$2.65
4. At each re-booking the Post-Only OQ retains its time priority relative to any other orders and quotes subject to the POP Process under Rule 515(d)(iv) and Rule 515(i)(3)(iv).

Resulting Market in XYZ August 50 Calls – Scenario 6.B(iii)

EBBO \$2.65 (100) x \$2.75 (10)

Post-Only interest

Buy 100 contracts, Display Price: \$2.65, Book Price: \$2.70, Limit Price: \$2.70

ABBO \$2.50 (10) x \$2.70 (10)

NBBO \$2.65 (100 contracts) x \$2.70 (10 contracts)

Example #7**Managed Interest vs. Incoming Post-Only Interest****Current Market in XYZ August 50 Calls**

(MPV \$.01)

EBBO \$1.08 (10) x \$1.15 (10)
ABBO \$1.09 (10) x \$1.11 (10)
NBBO \$1.09 (10 contracts) x \$1.11 (10 contracts)

Non-Market Maker Order - Rule 515(c)(1)(ii)*(i) The Exchange receives a non-routable order.*

Incoming order marked Do Not Route (“DNR”) (not Post-Only) arrives in the System: **Buy 20 XYZ August 50 Calls at \$1.13**

1. The System will manage the order under Rule 515(c)(1)(ii)(B) as the limit price of the order crosses the current opposite side NBBO. The System will display the order one MPV away from the current opposite side NBBO and book the order at a price that will lock the current opposite side NBBO.
2. The DNR order to Buy 20 contracts has a book price of \$1.11 and a display price of \$1.10.

Resulting Market in XYZ August 50 Calls

EBBO \$1.10 (20) x \$1.15 (10)

DNR Order

Buy 20 contracts, Display Price: \$1.10, Book Price: \$1.11, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.11 (10)

NBBO \$1.10 (20 contracts) x \$1.11 (10 contracts)

Example #8 Managed Interest vs. Incoming Post-Only Interest

Market Maker Order or Quote - Rule 515(d)

Current Market in XYZ August 50 Calls

EBBO \$1.10 (20) x \$1.15 (10)

MM order or quote

Buy 20 contracts, Display Price: \$1.10, Book Price: \$1.11, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.11 (10)

NBBO \$1.10 (20 contracts) x \$1.11 (10 contracts)

Incoming Market Maker Post-Only OQ arrives in the System: **Sell 5 XYZ August 50 Calls at \$1.11**

1. Since the incoming Post-Only OQ cannot immediately execute by removing the resting managed interest booked at \$1.11, the System will reject the new incoming Post-Only OQ under Rule 515(d)(iii).

(i) The offer side of the NBBO fades from \$1.11 to \$1.15

2. The limit price of the resting DNR Market Maker order or quote no longer locks or crosses the market.
3. The System will give the resting Market Maker order or quote a new timestamp and book and display the Market Maker order or quote at its original full limit price under Rule 515(d)(iv).
4. The resting DNR Market Maker order or quote to Buy 20 contracts has a book price of \$1.13 and a display price of \$1.13.

Resulting Market in XYZ August 50 Calls

EBBO \$1.13 (20) x \$1.15 (10)

MM order or quote

Buy 20 contracts, Display Price: \$1.13, Book Price: \$1.13, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.15 (10)

NBBO \$1.13 (20 contracts) x \$1.15 (20 contracts)

**Example #9 Market Maker Managed Interest vs. Incoming Post-Only Interest
(Market Maker or Non-Market Maker)**

Rule 515(d)(iii)2.

Current Market in XYZ August 50 Calls

EBBO \$1.10 (20) x \$1.15 (10)

Market Maker Order or Quote

Buy 20 contracts, Display Price: \$1.10, Book Price: \$1.11, Limit Price: \$1.13

ABBO \$1.09 (10) x \$1.11 (10)

NBBO \$1.10 (20 contracts) x \$1.11 (10 contracts)

Incoming Market Maker or non-Market Maker Post-Only Order arrives in the System: **Sell 5 XYZ August 50 Calls at \$1.11**

1. Since the incoming Post-Only Order cannot immediately execute by removing the resting Market Maker managed interest of the buy order or quote booked at \$1.11, the System will reject the order (a Market Maker order under Rule 515(d)(iii)2; and will reject a non-Market Maker order under Rule 515(c)).
-

Example #10 ABBO Uncrossing – Handling Post-Only Interest and Managed Interest

Rule 515, Interpretations and Policies .02

Current Market in XYZ August 50 Calls

(MPV \$.01)

EBBO \$1.08 (15) x \$1.12 (20)

Post-Only Quote

Buy 15 contracts, Display Price: \$1.08, Book Price: \$1.09, Limit Price: \$1.13
DNR order

Sell 10 contracts, Display Price: \$1.12, Book Price: \$1.11, Limit Price: \$1.10
Market Maker Quote

Sell 10 contracts, Display Price: \$1.12, Book Price: \$1.12, Limit Price: \$1.12

ABBO \$1.11 (10) x \$1.09 (10)

NBBO \$1.11 (10 contracts) x \$1.09 (10 contracts)

(i) The ABBO fades on both sides to \$1.05 bid and \$1.15 offer.

Due to a change in the ABBO all managed interest is evaluated and any locking and crossing interest is considered tradable at the midpoint of the EBBO prior to the unlocking of the ABBO.

1. Resting Post-Only Quote to Buy 15 is considered tradable at the midpoint price of \$1.10.
2. The resting DNR order to Sell 10 is considered tradable at the midpoint price \$1.10.
3. The Resting Quote to Sell 10 is not considered tradable since the midpoint price of \$1.10 would exceed its limit of \$1.12 and therefore remains resting at the limit price of the Quote.
4. The system will match all tradable interest locking or crossing the midpoint price, Post-Only instructions are ignored, therefore the resting Post-Only Quote will trade with the resting DNR order at the midpoint price of \$1.10 for the tradable size of 10 contracts.
5. The system will manage the balance of the Post-Only Quote under Rule 515(i) and book and display at one MPV away from the opposite side EBBO.

Resulting Market in XYZ August 50 Calls

EBBO \$1.11 (5) x \$1.12 (10)

Post-Only Quote

Buy 5 contracts, Display Price: \$1.11, Book Price: \$1.11, Limit Price: \$1.13
Quote

Sell 10 contracts, Display Price: \$1.12, Book Price: \$1.12, Limit Price: \$1.12

ABBO \$1.05 (10) x \$1.15 (10)

NBBO \$1.11 (5 contracts) x \$1.12 (10 contracts)



USER'S MANUAL

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1. Introduction

The MIAx Emerald Exchange (MIAx Emerald, Emerald or the Exchange) created this User's Manual to assist Members and users of its Exchange in understanding the operation of the Exchange. The User's Manual discusses and in some cases, summarizes various MIAx Emerald Rules. MIAx Emerald's complete and official Rulebook is available at www.miaxoptions.com/rulebook/emerald. In the event of a conflict between the User's Manual and the Rules set forth in the official Rulebook, the Rulebook shall prevail.

MIAx Emerald operates a fully automated electronic options trading platform for the purpose of buying and selling securities with a continuous, automated matching function. Liquidity is derived from quotes and orders to buy and sell. Quotes and orders are submitted to the Exchange electronically by Members from remote locations. MIAx Emerald does not maintain a physical trading floor. There are two categories of Members on MIAx Emerald – Market Makers, and all other Members which are known as Electronic Exchange Members (EEMs).

There are three types of Market Makers on MIAx Emerald: (i) Registered Market Makers, (ii) Lead Market Makers, and (iii) Primary Lead Market Makers, each of which is described in Section 3 below. Primary Lead Market Makers are Lead Market Makers, who meet certain additional criteria and obligations and are appointed as a Primary Lead Market Maker by the Exchange. There is just one Primary Lead Market Maker appointed by the Exchange in each option class. Primary Lead Market Makers, Lead Market Makers and Registered Market Makers (collectively, Market Makers) have affirmative market making obligations. Information on the quoting requirements for Market Makers can be found in the *Quotes and Order Information* section of this manual.

Access to the Exchange is maintained by way of Trading Permits issued to the Members. Trading Permits are not transferable except in the event of a change in control of a Member.

Members are subject to fees for executions and services on the Exchange as set forth in the Exchange's Fee Schedule.

2. How to Become a Member of MIAX Emerald

To become a member of MIAX Emerald, a Firm must be registered as a broker-dealer, must be a member of at least one other registered options exchange or FINRA, must be able to clear option trades or must clear through a clearing Firm and must meet certain additional criteria described by the Exchange and set forth in the Exchange's Rules. Non-members may also gain access to the Exchange through the use of a Sponsored User arrangement with a Sponsoring Member, in accordance with the Exchange's Rules.

Further information on membership at MIAX Emerald, is available on the Exchange's website: www.miaxoptions.com/membership/emerald.

3. Types of Membership

Market Makers

- Registered Market Maker

A Registered Market Maker (RMM) is a member registered and approved by MIAX Emerald as a Market Maker able to meet certain financial requirements and quoting obligations set forth in MIAX Emerald Rules. Further information regarding the obligations and requirements for RMMs and information regarding RMM trade allocations can be found in MIAX Emerald Rules, Chapters V and VI.

- Lead Market Maker

A Lead Market Maker (LMM) is a Market Maker that is held to, and maintains, additional financial requirements, and higher quoting obligations than a Registered Market Maker. Only LMMs (including those appointed as a Primary Lead Market Maker, may participate in the Exchange's Directed Order program and receive Marketing Fee payments for orders directed to them by an Electronic Exchange Member (Directed Orders). When appropriate, LMMs are also entitled to certain enhanced trade allocations in accordance with the Directed Order program. Further information regarding the obligations and requirements for LMMs and information regarding enhanced trade allocations and entitlements can be found in MIAX Emerald Rules, Chapters V and VI.

- Primary Lead Market Maker

A Primary Lead Market Maker (PLMM) is an LMM that is held to, and maintains, additional financial requirements, order flow commitments and additional quoting obligations in order to be appointed as the PLMM in an option class. There is only one PLMM appointed to each class of options traded on MIAX Emerald. A PLMM may receive certain enhanced trade allocations and entitlements when appropriate, including

those associated with the Directed Order program. Further information regarding the obligations and requirements for a PLMM and information regarding enhanced trade allocations and other entitlements can be found in MIAX Emerald Rules, Chapters V and VI.

Electronic Exchange Members (EEM)

- An EEM is an Exchange Member that is permitted to submit either proprietary orders or orders it represents as agent to the MIAX Emerald System. An EEM is not permitted to act as a Market Maker.

4. Access by Non-Members

Non-Members may access the Exchange pursuant to Rules governing “sponsored access” to the Exchange. The Exchange permits access by entities (Sponsored Users) whose access is authorized in advance by entering into an arrangement with a Member (Sponsoring Member) in accordance with Exchange Rules.

Sponsored Users must agree to comply with all applicable Rules of the Exchange governing the entry, execution, reporting, clearing and settling of orders in securities eligible for trading on the Exchange. Further information about Sponsored Access can be found in MIAX Emerald Rules, Chapter II.

5. How Emerald Works

Architecture

Market Makers send quotes to the Exchange's systems through the MIAX Emerald Express Interface (MEI). Electronic Exchange Members send orders to the Exchange's systems through the MIAX Emerald FIX Order Interface (FOI) gateway. The MIAX Emerald Trading System is designed to be highly scalable, efficient, fast, reliable, robust and flexible.

The Exchange deploys multiple matching engines, each engine performing the trade match function for a defined set of option classes.

Market Makers connect to the System via the MIAX Emerald Express Interface (MEI), using a proprietary protocol for the transmission of quotes and other messages to and from the Exchange. Three types of MEI ports are available:

- Full Service MEI Port
 - All input message types are supported
- Limited Service MEI Port
 - Supports all message types except bulk quotes

- Priority Purge Port
 - Supports only Quote Mass Cancel messages

A Market Making Firm is allocated up to two full service, up to eight limited service and up to two Priority Purge MEI connections for each Exchange matching engine that performs the trade matching function for option classes in which the Member is assigned as a Market Maker.

EEMs connect to the System via the MIAx Emerald FOI gateway, using the industry standard FIX protocol with MIAx Emerald specific extensions, for the transmission of orders and other messages to and from the Exchange. The MIAx Emerald FOI validates incoming orders and forwards them to the appropriate matching engine. Executions and cancelation notifications are provided through these same interfaces.

The matching engines of the Exchange each handle a defined set of option classes, which may be reallocated on a periodic basis in order to ensure that system load is balanced across the MIAx Emerald System. Each matching engine compares the limit price of all incoming quotes and orders with those quotes and orders already resting on the MIAx Emerald Book. The matching engine matches liquidity as available, calculates the MIAx Emerald Best Bid and Best Offer (the EBBO), monitors the other markets' displayed prices and determines when, and if, a trade can occur. If a newly arrived quote or order is marketable against the existing MIAx Emerald Book, and the EBBO is equal to or better than the best consolidated quote, an immediate match is made and allocations are communicated back to the trade participants.

If another market is disseminating a price superior to MIAx Emerald's displayed price, orders may be routed to the better priced market(s). Quotes and orders may be managed within the MIAx Emerald System so as not to lock or cross the NBBO price.

Network Infrastructure

- The MIAx Emerald network was designed to complement the MIAx Emerald Trading System and was built from the ground up to address the performance and security needs of a high speed trading platform. MIAx Emerald network infrastructure utilizes fully diverse and redundant 40Gbps backbones and 10/40Gbps switch technology for maximum throughput and minimal latency.

Data Center Services

- MIAx Emerald has partnered with Equinix, a world-class provider of data center services, to host the Trading System's data center infrastructure in its NY4 location.
- MIAx Emerald has implemented this approach to achieve redundancy in a single geographic locality for primary data center services.
- Customers with very low latency demands can cross-connect to the MIAx Emerald systems from elsewhere within the Equinix facility.

- Notable Data Center Services
 - SSAE16 compliant Data Centers
 - Redundant power feed sourced from district substations
 - Redundant power and cooling distribution paths within the facility
 - Concurrently maintainable (N+1 for greater resiliency)
 - On-site backup power generation
- Enhanced Security Services
 - State of the art security
 - Hand Scanners
 - Card Readers
 - Cameras
- Buildings designed to withstand fires, earthquakes, hurricanes and other environmental threats.
- Manned 24/7.
- An additional Data Center is operated in the Equinix CH4 location for Disaster Recovery.

Connectivity Choices

- MIAx Emerald offers truly diverse, redundant 1 Gigabit, 10 Gigabit and 10 Gigabit ULL connectivity options in and between data center facilities and supports direct attachment of customer/provider network equipment or direct attached host systems. MIAx Emerald supports the following connectivity options:
 - Cross-Connect: Users that are co-located in the Equinix NY4 or CH4 data centers may request an in-house cross-connect from the User's Point of Entry (POE) to MIAx Emerald.
 - Point-to-point: Users may connect point-to-point using leased lines or other network methods (e.g. Ethernet, etc.). (Users are responsible for providing colocation space for independently owned equipment.)
 - Metro Ethernet/Dark Fiber: Users may connect via Metro Ethernet or a dark fiber provider.

Trading System Features

The MIAx Emerald Trading System was developed specifically for the unique functional and performance demands of derivatives trading. Our System provides the proper protections, low latency and throughput that is essential to the success of the trading community. The MIAx Emerald System provides extreme performance and scalability with best in class customer interface features and performance over the following interfaces:

- Emerald FIX Order Interface (FOI) gateway for orders.
 - Each FOI is capable of processing more than 7,700 order messages per second.
- Emerald FIX Drop (FXD)
 - For clearing trade drops normally sent over FIX.
 - Available only to submitting EEMs

- Echoes trade fills, trade adjustments, trade corrections and trade cancellations from orders submitted via FIX
- Does not include other FIX information such as order cancellations or order adjustments.
- Multiple MPIDs can be configured to use a single FIX Drop Interface
- MIAZ Emerald Express Interface (MEI) offers direct connections to each matching engine for high-speed mass quoting.
 - Each full service MEI is capable of processing more than 200,000 quote messages per second.
- Emerald Top of Market (ToM) provides low latency access to Emerald market data.
 - The Emerald ToM data feed service produces market data across 24 multicast channels. Each channel is capable of transmitting more than 1,200,000 messages per second during peak periods.
- Emerald Administrative Information Subscriber (AIS) feed provides low latency access to Administrative Information and Liquidity Seeking Event information as-well-as certain product and System status information.
 - The Emerald AIS data feed service produces market data across 24 multicast channels.
- Emerald Clearing Trade Drop (CTD) is a low-latency, real-time feed providing clearing trade information to the parties of a trade, clearing Firms and/or other entitled designated recipients. Recipients connect to the CTD using a proprietary protocol and one or more CTD connections for each Exchange matching engine.
 - The Emerald CTD interface is capable of processing more than 20,000 clearing trade messages per second.
- Emerald Order Feed (EOR)
 - The Emerald Order Feed provides information about orders in the Emerald markets over a multicast feed.

The MIAZ Emerald System uses a next-generation highly-automated Quality Assurance platform runs a full battery of tests against the System every night to ensure a high level of reliability and unprecedented confidence in System updates.

- State-of-the-art monitoring and systems security.
- A software and hardware architecture that results in minimizing the demands on power, space and cooling while allowing for rapid scalability, standard setting resiliency and superior fault isolation.

Further information on the Top of Market feed, Order feed and Administrative Information Subscribers feed is listed below. For additional details about connecting to the MIAZ Emerald trading platform, please see the Interface Connectivity Specifications on the MIAZ Emerald web site: www.miaxoptions.com/connectivity

Top of Market (ToM)

Top of Book and Trade Data is made available over the Emerald Top of Market data feed (ToM). ToM is available to all MIAX Emerald participants. ToM specific information:

- MIAX Emerald Best Bid and Offer information with sizes
- Indications of Public and Priority Customer at the EBBO
 - When present, the size of Priority Customer interest is also indicated
- Last sale information
- Underlying Trading Status Notification

ToM also includes information about other real-time Exchange System functions. Recipients connect to ToM using a proprietary protocol and for the purpose of redundancy may subscribe to two identical connections (ToM "A" and ToM "B") for each Exchange matching engine.

Complex Top of Market (cToM)

Complex Strategy Top of Book and Trade Data is made available over the Emerald Complex Top of Market data feed (cToM). cToM is available to all MIAX Emerald participants who choose to subscribe. cToM specific information:

- Complex Strategy Definition Notification
- Complex Strategy Book Best Bid and Offer information with sizes
 - Indication of Priority Customer size at the displayed Best Price on the Strategy Book (Phase II)
- Complex Strategy Last sale information
- Underlying Trading Status Notification

cToM also includes information about other real-time Exchange System functions. Recipients connect to cToM using a proprietary protocol and for the purpose of redundancy may subscribe to two identical connections (cToM "A" and cToM "B") for each Exchange matching engine

Emerald Order Feed (EOR)

The Emerald Order Feed provides information about orders on the MIAX Emerald order book over a multicast feed.

The following updates are transmitted over EOR when an order is received or when an order state changes.

- Published Order information
 - Time stamp
 - Action
 - Product ID
 - Order ID
 - Order Side

- Order Type
- Order Price
- Original Order Size
- Open Order Size
- Time in Force
- Origin
- Route Instruction
- Attributable ID if specified
- For Complex Orders the following information will also be included
 - Complex Strategy Definition Notification
 - Complex Order Notices
 - Priority Customer volume represented by a derived order
- Order Close Message
 - Used to disseminate Order Close (fill or cancel) for MIAX Emerald Simple and Complex Orders
 - Contains only the following information
 - Timestamp
 - Order ID
 - Simple or Complex Order
- The following will not be disseminated
 - Order States
 - Pending Replace
 - Rejected
 - Orders with time in Force of
 - IOC
 - FOK
 - AOC (unless for Opening and Reopening)
 - Paired Orders
 - PRIME
 - cPRIME
 - Customer Cross
 - Complex Customer Cross
 - Qualified Contingent Cross
 - Complex Qualified Contingent Cross
 - Child Orders related to routing are not published

Administrative Information Subscribers (AIS)

Liquidity Seeking Event information is made available over the MIAX Emerald Administrative Information Subscriber data feed (AIS). AIS is available to all MIAX Emerald participants. AIS specific information:

- Opening Imbalance condition information
- Opening Routing information

- Expanded Quote Range Information
- PRIME Auction notifications
- Complex Auction notifications
- cPRIME Auction notifications

AIS also includes information about other real-time Exchange System functions and Complex Order strategy definition notifications. Recipients connect to AIS using a proprietary protocol and for the purpose of redundancy may subscribe to two identical connections (AIS "A" and AIS "B") for each Exchange matching engine.

MIAX Emerald Information and Performance Reports

Emerald Information and Performance Reports provide Member Firms with details of their trading and activities on the Exchange. The Reports include key information about transaction fees, directed orders, marketing fees, the NBBO and EBBO at the time of transaction, as well as volume, clearing and risk information. This information is intended to assist firms in monitoring and evaluating their trading activity on MIAX Emerald.

The reports are available on a T +1 basis via Firm specific secure FTP locations. This is the same location where end of day GTC and end of day clearing reports can be found. Further information on MIAX Emerald Information and Performance Report availability can be obtained by contacting MIAX Emerald Trading Operations at: TradingOperations@MIAXOptions.com

There are many types of Reports available, some of which are described below.

- Traded Against Reports
 - Market Maker Report– Includes all trades in which the Market Maker participated
 - Executions resulting from orders directed to, and traded by, the Market Maker.
 - Executions resulting from orders directed to the Market Maker, but traded by others.
 - Executions resulting from orders directed to others and traded by the Market Maker.
 - Executions resulting from orders not directed and traded by the Market Maker.
 - Executions resulting from all other orders in a class to which the Member Firm is appointed as the PLMM.
 - Electronic Exchange Member Report– All executions resulting from orders sent by the EEM
 - Executions resulting from orders directed by the EEM and traded by the Directed LMM.
 - Executions resulting from orders directed by the EMM and traded by parties other than the Directed LMM.
 - Executions resulting from orders not directed by the EEM.

Classes Listed on MIAX Emerald

A complete list of all Option Classes traded on MIAX Emerald is maintained in the Listings section of the Exchange's website at this address: www.miaxoptions.com/listings/emerald.

The "All Classes Listed on MIAX Emerald" file is updated daily and is available in CSV format. The file contains detailed information on each Class including:

- Underlying Symbol
- Underlying Security Name
- Option Symbol
- Primary Lead Market Maker (PLMM)
- Minimum Price Variation
- Minimum Quote Quantity
- Closing Time
- Information on Expiration Programs
- Information on Price Programs
- An indication if the Class is Closing Only
- MIAX Emerald Cloud Number

Options Listed on MIAX Emerald

A complete list of all Options traded on MIAX Emerald is maintained in the Listings section of the Exchange's website at this address: www.miaxoptions.com/listings/emerald.

The "All Options Listed on MIAX Emerald" file is updated daily and is available in CSV format. The file contains detailed information on each listed Option including:

- Underlying Symbol
- Option Symbol
- Expiration Date
- Strike Price
- Deliverable
- An indication if the Option is Closing Only

Simple Order Types

The following are the order types described in the MIAX Emerald Rules that, except as described below, are available for use on the Exchange as of the date of this User's Manual:

- Market – An order to buy or sell a stated number of options contracts at the best price available at the time of execution.
- Limit – An order to buy or sell a stated number of options contracts at or better than a specified price.
- Marketable Limit – A marketable limit order is a limit order to buy (sell) at or above (below) the best offer (bid) on the Exchange.

- Fill-or-Kill (FOK) – A limit order to be executed in full upon receipt at a single price as soon as it is received or cancelled. A Fill-or-Kill order is not valid during the opening rotation process described in Rule 503.
- Immediate-or-Cancel (IOC) – An order to be executed in whole or part upon receipt with any unexecuted portion cancelled. An immediate-or-cancel order is not valid during the opening rotation process described in Rule 503.
- Auction-or-Cancel (AOC) – An order used to provide liquidity during a specific Exchange process such as an Opening Imbalance Timer or an auction as provided in the MIAX Emerald Rules.
- Post-Only Order – Post-Only Orders are orders that will not remove liquidity from the Book. Post-Only Orders are to be ranked and executed on the Exchange pursuant to Rule 514 (Priority on the Exchange), or handled pursuant to Rule 515, as appropriate, and will never route away to another trading center.
- Intermarket Sweep Orders (ISO) – A limit order designated by the submitting member as an ISO trades without regard to MIAX Emerald price protections or protected quotations on other markets.
- Do Not Route (DNR) – An order that will never be routed outside of MIAX Emerald regardless of the prices displayed by away markets. A DNR Order will never execute at a price inferior to the NBBO and when necessary, its display price will be managed so as not to lock or cross the NBBO.
- Opening (OPG) – An order that is only valid during the Opening Process.
- Day Limit – An order to buy or sell which, if not executed, expires at the end of trading in the security on the day on which it was entered.
- Good 'Til Cancelled (GTC) – An order to buy or sell, which if not executed, remains in effect until cancelled or until the underlying option expires.
- Attributable – An Attributable Order is a market or limit order which displays the entering Firm's Market Participant Identification (MPID). Use of Attributable Orders is voluntary.
- Qualified Contingent Cross Order (QCC) – A QCC Order is an order that is comprised of an originating order to buy or sell at least 1,000 contracts (or 10,000 mini-option contracts) coupled with a contra side order for the same number of contracts and also paired with an NMS stock component. QCC Orders are not valid during the opening rotation process described in Rule 503.
- Customer Cross Order – A Customer Cross Order is comprised of a Priority Customer Order to buy and a Priority Customer Order to sell at the same price and for the same quantity. A Customer Cross Order is not valid during the opening rotation process described in Rule 503.

Each of these types of orders is described in detail in MIAX Emerald Rule 516. The Exchange maintains a full audit trail of every order submitted to the Exchange's System. Members may receive status reports regarding orders submitted to the Exchange or change or cancel an order at any time before that order is executed on the Exchange.

Routing to other Exchanges

Routing services are provided for routing to all Options Exchanges in the United States and are fully compliant with the Options Locked and Crossed Markets Plan (the Plan). The MIAX Emerald System routes Public Customer orders to away markets displaying liquidity at the NBBO when required to satisfy a protected quotation under the Plan.

A full description of MIAX Emerald routing functionality is available in MIAX Emerald Rule 529.

Automatic Order Resubmission

Members may submit written instructions to the Exchange designating their orders as eligible for automatic resubmission when the order or any remaining part of the order has been automatically cancelled by the System. The resubmitted order is automatically submitted by the System as a new order. Immediate or Cancel, Fill-or-Kill or Intermarket Sweep Orders are not eligible for automatic resubmission.

- For Firms that have submitted written instructions for automatic order re-entry in advance, an eligible and marketable order will be automatically re-entered by the Exchange a configurable number of times if it is not eligible to be placed on the Exchange's limit order book and is not fully executed. The current setting can be found under System Settings on the Exchange's website: <http://www.miaxoptions.com/system-configuration/emerald>.

Simple Quote Types

The Emerald System accepts single-sided quotes. Market Makers may independently update bids and offers and are not required to send bid/ask pairs with every submission, provided they are compliant with their quoting obligations. Market Makers may submit a single standard quote and multiple eQuotes for each individual option, and may have multiple quotes (one standard quote and one or more eQuotes) active in a single option at any time. The following are the quote types described in the MIAX Emerald Rules that are available for use on the Exchange:

- Standard – A Standard quote cancels or replaces the Market Maker's previous quote, if any. For each Option, a Market Maker may only have a single Standard quote per side.
 - Post-Only Standard Quotes – The Post-Only instruction may be added to a Standard quote so that the quote will not remove liquidity from the Book. Post-Only quotes are to be ranked and executed on the Exchange pursuant to Rule 514 (Priority on the Exchange), or handled pursuant to Rule 515, as appropriate, and will never route away to another trading center.
 - Technical information on the submission of Post-Only Standard Quotes can be found in the MIAX Emerald Express Interface Specification on the Exchange's website.

- eQuote – An eQuote is a quote with a specific time in force that does not automatically cancel and replace a previous Standard quote or eQuote.
 - Fill-or-Kill eQuote (FOK) – A quote to be executed in full upon receipt at a single price upon receipt or cancelled.
 - Immediate-or-Cancel eQuote (IOC) – A quote to be executed in whole or part upon receipt with any unexecuted portion cancelled.
 - Auction-or-Cancel eQuote (AOC) – A quote used to provide liquidity during a specific Exchange process such as an Opening Imbalance, Opening Route Timer or PRIME Auction.
 - Intermarket Sweep eQuote – A quote designated by the submitting member as an Intermarket Sweep eQuote trades without regard to MIAX Emerald price protections or protected quotations on other markets.
 - Opening Only eQuote (OPG) – A quote that is only valid during the Opening Process.

Further information regarding quote types available on the MIAX Emerald can be found in MIAX Emerald Rule 517.

Minimum Quote Size

- Standard Quotes – The MIAX Emerald System accepts Standard quotes in a single-sided format. Standard quotes may be delivered in bulk with up to 50 single-sided quotes in an individual bulk quote message. Standard quotes must meet a minimum initial size when delivered to the Exchange. The Exchange-wide global default for Standard quote minimum size is ten (10) contracts. From time-to-time, the minimum Standard quote size may vary by class. Changes to the minimum Standard quote size will be announced via a Regulatory Circular and posted in the Regulatory section of the Exchange's website: www.miaxoptions.com/regulatory-circulars/emerald.
- eQuotes – The MIAX Emerald System accepts eQuotes in a single-sided, single quote format. eQuotes must meet a minimum initial size when delivered to the Exchange. The Exchange-wide global default for all eQuote types is one (1) contract. From time-to-time the minimum eQuote size for certain types of eQuotes may vary. Changes to the minimum eQuote size will be announced via a Regulatory Circular and posted in the Regulatory section of the Exchange's website: www.miaxoptions.com/regulatory-circulars/emerald.

Further information regarding quoting requirements can be found in MIAX Emerald Rule 604 and further information on eQuotes can be found in MIAX Emerald Rule 517.

Quoting Requirements

PLMM, LMM and RMM Quoting Requirements are posted in the Regulatory section of the Exchange's website: www.miaxoptions.com/market-maker-requirements/emerald.

6. Trading on MIAZ Emerald

Penny Pilot Program

MIAZ Emerald participates in the Penny Pilot program, which provides for the quoting and trading of certain option classes in penny increments. A list of the classes participating in the Penny Pilot Program is available along with other listing information on the Exchange's website at this address: www.miaxoptions.com/listings/emerald

Minimum Trading and Pricing Increments on MIAZ Emerald

Options in classes not in the Penny Pilot Program have a Minimum Price Variation (MPV) for EBBO display in \$0.05 increments if the affected options contract has a price of under \$3.00, and in \$0.10 increments if the affected options contract has a price of \$3.00 or higher.

Options in classes in the Penny Pilot Program have an MPV for EBBO display in \$0.01 increments under \$3.00 and \$0.05 increments for prices of \$3.00 or greater. Notwithstanding the above, options overlying certain ETFs and HOLDERS may be priced and disseminated in increments of \$0.01, regardless of the price of the option.

Allocation of Trades

MIAZ Emerald supports both pro-rata and price-time trade allocation. As of the date of this User's Manual, only pro-rata trade allocation is available. If price-time trade allocation becomes available at a later date, notice will be provided via Regulatory Circular and on the Exchange's website.

Pro-rata trade allocation matches an initiating order against resting interest on the MIAZ Emerald electronic book using a methodology that ensures that the best price has priority, but also allocates in a method that rewards Market Makers submitting continuous narrow and liquid two-sided quotes. As further defined in Rule 514(e), when multiple participants with interest at the same price exist, MIAZ Emerald uses an allocation algorithm that groups the participants into three allocation tiers based on their participation type in the priority order defined below:

- Priority Customer Orders.
- Priority Quotes, after all Priority Customer Orders at the same price have been executed in full.
- All remaining Professional Orders and non-Priority Quotes, after all Priority Customer Orders and Priority Quotes have been executed in full.

A Market Maker quote that does **not** meet the defined Priority Width will be treated as Professional Interest for purposes of Enhanced Allocations and pro-rata trade allocation.

The priority quote width standard will be established by the Exchange and filed with the Commission. The priority quote width standard established by the Exchange can have bid/ask

differentials as narrow as one MPV, as wide but never wider than the bid/ask differentials outlined in Rule 603(b)(4), or somewhere in between. Notwithstanding the foregoing, until such time as the Exchange has submitted and received approval of a rule change establishing narrower bid/ask differentials, the priority quote width standard will be the bid/ask differentials outlined in Rule 603(b)(4).

Priority Quotes are required for Market Makers to be eligible for the Market Maker allocation tier (tier two). Priority Quotes are also required to be eligible to receive an Enhanced Allocation when the Primary Lead Market Maker or Directed Lead Market Maker overlays are in effect as described below.

Directed Order Enhanced Allocation

- Directed Orders
 - Directed Orders are orders that have identified a MIAx Emerald Market Maker (Directed Lead Market Maker, or DLMM) as the preferred contra party to the trade. If the Directed Lead Market Maker has a Priority Quote at the NBBO at the time the Directed Order is received, the Directed Lead Market Maker will receive the greater of:
 - an enhanced allocation of 60% if there is one other Market Maker with Priority Quotes at the NBBO or 40% if there are two or more other Market Makers with Priority Quotes at the NBBO; or
 - their pro-rata share; or
 - one contract.
 - In all cases Market Maker allocations occur only after all Priority Customer interest at that price level has been satisfied.
- Submitting a Directed Order
 - Directed Orders may be submitted by any MIAx Emerald EEM on behalf of a Priority Customer.
 - Instructions to direct the order must be indicated in the FIX order message.
- Receiving a Directed Order
 - MIAx Emerald Market Makers that are approved as a Lead Market Maker may receive Directed Orders.

PLMM Enhanced Allocation

- Orders Directed to the PLMM
 - If the PLMM has a Priority Quote at the NBBO at the time the order is received and the PLMM is identified as the preferred contra party to the trade (the DLMM), the PLMM enhanced allocation described below will apply.
- Allocation of (i) orders directed to the PLMM and (ii) non-directed orders or (iii) orders directed to participant who is not quoting at the NBBO.
 - A PLMM with a Priority Quote at the NBBO at the time the order is received is entitled to receive the entire allocation of incoming orders with a size of 5

contracts or less (provided that the PLMM's disseminated quote is for a size of at least 5 contracts). A PLMM with a Priority Quote at the NBBO at the time an order of greater than 5 contracts is received will receive the greater of:

- an enhanced allocation of 60% if there is one other Market Maker with Priority Quotes at the NBBO or 40% if there are two or more other Market Makers with Priority Quotes at the NBBO; or
 - their pro-rata share; or
 - one contract
- In all cases Market Maker allocations occur only after all Priority Customer interest at that price level has been satisfied.

MIAX Emerald Opening Process

The MIAX Emerald Opening Process begins when the quoting requirements and other provisions of MIAX Emerald Rule 503 have been satisfied.

Once the Opening Process begins, if there are no quotes or orders that lock or cross each other, the System will open by disseminating the Exchange's best bid and offer among quotes and orders that exist in the System at that time. If there are quotes or orders that lock or cross each other, the System will calculate an opening price taking into consideration all valid Exchange quotes and all valid orders, together with other exchanges' markets for the option and identify the price at which the maximum number of contracts can trade. If that price is within the highest valid width quote bid and lowest valid width quote offer and leaves no imbalance, the Exchange will open at that price, executing marketable trading interest, as-long-as the opening price includes only Exchange interest. If the calculated opening price is outside of the NBBO, or equals the NBBO and requires interest from another exchange to satisfy all interest at that price, the System will broadcast a System Imbalance Message and initiate a Route Timer (not to exceed one second) to allow additional orders or quotes to be submitted. If no new interest is received during the Route Timer, the System will route to other markets disseminating prices better than the Exchange's opening price, execute marketable interest at the opening price on the Exchange, and route to other markets disseminating prices equal to the Exchange opening price if necessary. If new interest is received during the Route Timer, the System will recalculate the opening price taking such new interest into account. Then, if there is no longer an imbalance, the System will execute marketable interest at the opening price on the Exchange and route the remainder to other markets.

If the Opening Process results in an imbalance that cannot be satisfied within the Exchange's opening Quote Range, the System will begin an imbalance process by establishing an Expanded Quote Range (EQR), which will represent the limits of the range in which transactions may occur during the Opening Process. The EQR is established by subtracting the amount specified in the EQR table from the Quote Range bid and adding the amount specified in the table to the Quote Range offer. The EQR table can be found in the Regulatory Circulars section of the Regulatory tab on the Exchange's website: www.miaxoptions.com/regulatory-circulars/emerald.

If there is sufficient size on the Exchange on the opposite side of the market from the imbalance to execute all opening marketable interest at a price that is within the established EQR without leaving an imbalance, the System will open the affected option for trading at that price by executing opening marketable interest on the System, as long as the System does not trade through the ABBO. If all opening marketable size cannot be completely executed at or within the EQR without trading through the ABBO, the System will initiate an imbalance process. The System will broadcast a System Imbalance Message and initiate an Imbalance Timer (not to exceed three seconds) to allow additional orders or quotes to be submitted. At the end of the Imbalance Timer, if quotes and orders submitted during the Imbalance Timer, or other changes to the ABBO, would not allow the entire imbalance amount to trade at the Exchange at or within the EQR without trading through the ABBO, the System will send a new System Imbalance Message and initiate a Route Timer (not to exceed one second). If during the Route Timer, interest is received by the System which would allow all interest to trade on the System (i.e., there is no longer an imbalance) at the opening price without trading through other markets, the System will trade and the Route Timer will end early. At the end of the Route Timer, the System will execute as many of the marketable contracts as possible by: (i) routing the number of contracts that will satisfy interest at other markets at prices better than the Exchange opening price; (ii) trading available contracts on the Exchange at the Exchange opening price; and/or (iii) routing a number of contracts that will satisfy interest at other markets at prices equal to the Exchange opening price. If not all of the marketable contracts on the Exchange can be executed, the System may repeat the imbalance process up to three times.

Order types and Instructions supported during the Opening Process

- Opening Only (OPG)
- Settlement Auction Only (SAO)
- Auction-or-Cancel (AOC)
- Day Orders
- Good 'Til Cancelled (GTC)
- Do Not Route (DNR)
- Post-Only
 - The Post-Only instruction is ignored during the Opening Process

Quotes and eQuotes supported during the Opening Process

- Standard Quotes including Post-Only
 - The Post-Only instruction is ignored during the Opening Process
- eQuotes
 - Opening Only (OPG)
 - Settlement Auction Only (SAO)
 - Auction-or-Cancel (AOC)

More information on acceptable bid/ask spreads for the Opening and other System parameters relating to the Opening Process can be found under System Settings on the Exchange's

website: <http://www.miaxoptions.com/system-configuration/emerald> and under Market Maker Requirements on the Exchange's website: <http://www.miaxoptions.com/market-maker-requirements/emerald>.

Emerald Price Improvement Mechanism (Emerald PRIME®) for Orders in the Simple Market

Emerald PRIME allows MIAX Emerald EEMs to enter orders they represent as agent (an Agency Order) into an auction to allow an opportunity for the Agency Order to receive price improvement.

A PRIME order consists of a simple paired order with sides of equal size, where the Contra side of the paired order guarantees the Agency side a complete fill at a price no worse than the auction start price (the stop price).

Post-Only quotes and orders may not participate in a PRIME Auction, and if received during a PRIME Auction will be rejected.

Participants

- All MIAX Emerald members may participate in PRIME Auctions.

PRIME Order

- A MIAX Emerald EEM submits an order it represents as agent (Agency Order) along with a contra side order (Contra Order) for the full size of the Agency Order.
 - The Contra Order guarantees the Agency Order a fill with either principal or solicited interest at the stop price.
 - An EEM may submit a PRIME Order with multiple contra participants provided the sum of the individual contra participants equals the total size of the Agency Order
 - The Agency Order may be of any origin.
 - The Contra Order may be of any origin except MIAX Emerald Market Maker.
- Responders
 - All MIAX Emerald members, regardless of origin, may respond to a PRIME Auction.

PRIME Auction Start Price

- The Contra Order stops the Agency Order at a price that is equal to or better than the NBBO on the opposite side of the market from the Agency Order. The stop price also defines the auction's start price.
 - The EEM must stop the entire Agency Order at a price no worse than the NBBO.
 - If MIAX Emerald has an order resting on its book at the NBBO on the Agency Order side of the market, the auction start price must improve the NBBO by at least one penny

- Example
 - If the NBBO and the MIAX Emerald BBO are 2.00 – 2.10 and MIAX Emerald has a limit order on the book to pay 2.00, the range of auction start prices is 2.01 through 2.10
 - If MIAX Emerald only has quotes at 2.00, the range of auction start prices is 2.00 through 2.10
- The PRIME Auction start price and auction responses may be in pennies irrespective of the option's MPV.
- Additional information about PRIME and Crossing Order acceptance and the auction start price can be found in MIAX Emerald Rule 515A.

PRIME Auction Initiation

- Single-Price Submission
 - Unless otherwise specified, PRIME Orders default to single-price submission. With single-price submission the Contra Party guarantees the Agency Order a complete fill at a price no worse than the auction start price.
 - When using single-price submission, the Contra Party may opt for last priority in the allocation. If elected, the Contra Party will only participate after all other tradable interest, if needed.
- Auto-Match Limit and Auto-Match Market
 - As an alternative to single-price submission, the Contra Party may participate in a PRIME Auction using auto-match as a limit or a market.
 - Auto-Match Limit
 - The Contra Party matches each auction response that improves the auction start-price up to and including the Auto-Match limit price specified by the Contra Order.
 - Auto-Match Market
 - The Contra Party matches all auction responses that provide price improvement until the PRIME Order is filled.

PRIME Auction Notification

- MIAX Emerald initiates a PRIME Auction upon receipt of a qualified PRIME Order and disseminates a request-for-response (RFR) message to all of its market data subscribers. The RFR message identifies the option, side, size, auction start price, and auction start-time.

PRIME Auction Process

- Responders may submit multiple responses on the opposite side of the market from the Agency Order that may be modified or canceled throughout the auction. Responses are held until the end of the auction when they may trade with unrelated liquidity.
- Auction responses shall be an Auction-or-Cancel (AOC) Order or AOC eQuote.
 - Auction responses are neither published nor visible to anyone.

- Auction responses that do not equal or improve the auction start price and are therefore unable to join the auction will be rejected.
- If upon receipt of a PRIME Order MIAX Emerald has managed interest resting on its book on the opposite side of the market from the Agency Order, the Agency Order will immediately trade against the managed interest and any residual Agency Order quantity initiates the auction.

Auction Eligibility

- Only one PRIME auction may be in process for any given option at a time
 - If MIAX Emerald receives a PRIME Order in an option that is already in a PRIME Auction, MIAX Emerald rejects the new PRIME Order.
- Managed Interest on the same side of the market as the Agency Order
 - If upon receipt of a PRIME Order MIAX Emerald has managed interest resting on its book that is on the same side of the market as the Agency Order, MIAX Emerald rejects the PRIME Order.
- The PRIME Order will be rejected if there is a Post-Only quote or order on the Book for the option on the same side of the market as the Agency Order,
- If, at the time of receipt of a PRIME Order, the NBBO is locked or crossed, MIAX Emerald rejects the PRIME Order.
- For PRIME Orders of less than 50 contracts (or 500 Mini contracts)
 - If the option has an NBBO bid/ask spread of exactly one penny (\$0.01), MIAX Emerald rejects the PRIME Order.

Early Conclusion of an Auction:

- MIAX Emerald terminates the auction timer early in the following scenarios:
 - RFR response
 - If during a PRIME Auction MIAX Emerald receives an RFR response that is marketable against the NBBO, MIAX Emerald terminates the auction.
 - Same side unrelated liquidity
 - If during a PRIME Auction MIAX Emerald receives an unrelated order in the same option on the same side of the market as the Agency Order that is marketable against the NBBO, the auction start price, or any auction response, MIAX Emerald terminates the auction.
 - Opposite side unrelated liquidity
 - If during a PRIME Auction MIAX Emerald receives an unrelated order or quote in the same option on the opposite side of the market from the Agency Order that improves the price of any auction responses or is marketable against the NBBO, MIAX Emerald terminates the auction.
 - Locked or Crossed Markets
 - If the NBBO becomes locked or crossed, MIAX Emerald terminates the auction.

- Trading Halts
 - A halt in the underlying security terminates the auction and the Agency Order only trades with the Contra Order and auction responses. The Agency Order does not trade with unrelated liquidity or resting interest.
- With the exception of a trading halt, an early conclusion of an auction follows the standard end of auction process - the Agency Order may trade with the Contra Order, auction responses, and unrelated liquidity. Once the Agency Order is filled, any remaining unrelated liquidity can trade with the remaining auction responses and liquidity on the MIAX Emerald book.
- Please note that engaging in a pattern and practice of disrupting the auction mechanism by intentionally causing auctions to end early will constitute a rule violation.

Best Price

- At the conclusion of the PRIME Auction the Agency Order trades with the best price(s) against all available interest that includes the Contra Order, auction responses, and unrelated interest.

Allocation

- MIAX Emerald caps oversized auction responses to the original size of the PRIME Order for allocation purposes.
- After any Priority Customer interest is satisfied, the Contra Order is entitled to its allocation as specified below and then MIAX Emerald applies its standard allocation algorithm to remaining interest at the conclusion of the auction.
- The allocation percentage for the Contra Order is determined by the number of remaining responders at the same price as the Contra Order.
 - Single-Price Submission
 - If only one other responder joins the Contra Order at the best price, the Contra Order receives a 50% allocation based on the original size of the order; otherwise the Contra Order receives a 40% allocation based on the original size of the order.
 - If the Contra Order specifies the last-to-fill option, the Contra Order foregoes its guaranteed allocation.
 - Auto-Match
 - If using auto match, the Contra Order is eligible to receive a 40% allocation of the remaining Agency Order size at the final price.
 - Remaining contracts are allocated using the standard allocation algorithm
- Additional information concerning order allocation at the conclusion of PRIME Auctions can be found in MIAX Emerald Rule 515A

Directed Orders in PRIME

- The Agency Order can be assigned a Directed Firm Code (DFC) by the submitting Member. The DFC will be used for the distribution of any related Marketing Fees, but will not be used for contract allocation resulting from a PRIME Auction.

PRIME Solicitation

- The PRIME Solicitation, a mechanism for trading institutional size orders (500 or greater) will be available in the future. As of the date of this User's Manual, PRIME Solicitation is not available. If PRIME Solicitation becomes available at a later date, notice will be provided via Regulatory Circular and on the Exchange's website.

Qualified Contingent Cross and Customer Cross Orders

- The PRIME mechanism is used for trading Qualified Contingent Cross and Customer Cross Orders. These crossing order transactions take place immediately (without an auction timer).

7. The MIAX Emerald Complex Order System

The MIAX Emerald Complex Order System is an execution platform providing for the execution of Complex Orders. A Complex Order is an order involving the simultaneous purchase and/or sale of two or more different options in the same underlying security (the “legs” or “components”) for the same account for the purpose of executing a particular investment strategy. A Complex Order may have up to eight components, all settling into the same underlying security and executed at a single net price. The Complex Order System has the capability to auction Complex Orders upon arrival (if so instructed), to match Complex Orders (and Complex Quotes) with other Complex Orders (and Complex Quotes) on the Strategy Book, to execute individual components of Complex Orders against orders held on the Simple Order Book in the Simple Market when available at the NBBO and in the proper ratio (so called, “legging”), and to continually evaluate for possible execution (through matching or auction) those Complex Orders and Complex Standard quotes that are resting on the Strategy Book. As of the date of this User's Manual, Complex Standard quotes are not available. If Complex Standard quotes become available at a later date, notice will be provided via Regulatory Circular and on the Exchange's website.

Complex Order Types

- Market Orders
 - An order to buy or sell a stated number of Strategies at the best price available at the time of execution.
- Limit Orders
 - An order to buy or sell a stated number of Strategies at or better than a specified price.
- Day Limit Orders
 - May be designated as Auction-on-Arrival (cAOA) specifying the submitter's desire to be eligible to initiate a Complex Auction upon submission when received in free trading. Without a cAOA designation, Day Orders will be available for immediate Strategy Match, Legging or placement on the Strategy

Book upon arrival, may join a Complex Auction that is in progress or participate in or initiate a Complex Auction resulting from a reevaluation.

- GTC Orders
 - May be designated as cAOA specifying the submitter's desire to be eligible to initiate a Complex Auction upon submission when received in free trading. Without a cAOA designation, GTC Orders will be available for immediate Strategy Match, Legging or placement on the Strategy Book upon arrival, may join a Complex Auction that is in progress or participate in or initiate a Complex Auction resulting from a reevaluation.
- Auction-or-Cancel Orders (cAOC)
 - A cAOC order is a Complex Auction response order that lives only for the life of the event for which it was submitted and any unexecuted volume is cancelled by the System at the end of the event. cAOC Orders are not eligible to Leg into the Simple Market or initiate a Complex Auction.
- Immediate or Cancel Orders (cIOC)
 - A cIOC order immediately trades to the extent possible and is then cancelled by the System. cIOC Orders are not eligible to participate in, or initiate, a Complex Auction, but may Strategy Match or Leg into the Simple Market.
- Post-Only Orders
 - Post-Only Orders are not accepted by the Complex Order System and will be rejected.
- Complex Qualified Contingent Cross Orders (cQCC) – A cQCC Order is a Complex Order comprised of an originating Complex Order to buy or sell a Strategy consisting of at least 1,000 contracts of each option component coupled with a contra side order for the same Strategy which also consists of an NMS stock component. cQCC Orders are not valid during the opening rotation process described in Rule 503.
- Complex Customer Cross Orders – A Complex Customer Cross Order is comprised of a Priority Customer Complex Order to buy and a Priority Customer Complex Order to sell at the same price and for the same Strategy. A Complex Customer Cross Order is not valid during the opening rotation process described in Rule 503.
- More information about Complex Order types can be found in MIAX Emerald Rule 518.

Complex Quote Types

- Complex eQuotes
 - Auction-or-Cancel (cAOC)
 - A cAOC eQuote is a Complex Auction or cPRIME Auction response that lives only for the life of the event for which it was submitted and any unexecuted volume is cancelled by the System at the end of the event. cAOC eQuotes are not eligible to Leg into the Simple Market or initiate a Complex Auction.

- Immediate or Cancel (cIOC)
 - A cIOC eQuote immediately trades to the extent possible and is then cancelled by the System. cIOC eQuotes are not eligible to participate in, or initiate, a Complex Auction or Leg into the Simple Market.
- More information about Complex eQuotes can be found in MIAX Emerald Rule 518.

Strategy Matching of Complex Orders

The Strategy Matching of Complex Orders and Complex Quotes may take place in free trading or within a Complex Auction. Strategy Match may not take place when the price of one component of the Strategy would equal the price of a Priority Customer Order resting on the Simple Order Book, unless the NBBO of at least one component of the Strategy is improved by at least one penny.

Complex Orders are automatically executed against bids and offers on the Strategy Book in price priority. Bids and offers at the same price will be executed according to the following priority rules: Priority Customer Complex Orders have first priority and are allocated on the basis of time of receipt; Market Maker Priority Interest has second priority, and is allocated on a pro-rata basis; Market Maker non-Priority Interest has third priority, and is allocated on a pro-rata basis; and Non-Market Maker Professional Interest has fourth priority, and is allocated on a pro-rata basis.

Complex Orders are not routed outside of the Exchange regardless of prices displayed by away markets. Complex Orders resting on the Strategy Book are managed and continually re-evaluated for execution by the System. More information on the circumstances under which Strategy Matching can take place can be found in MIAX Emerald Rule 518.

Legging of Complex Orders into the Simple Market

Legging is the act of executing a Complex Order against individual liquidity on the MIAX Emerald Simple Order Book in the Simple Market when each component is available at the NBBO and sized so that all sides of the Complex Order can execute (bids taking the Simple Order Book offer and offers hitting the Simple Order Book bid) in their proper ratio and within the Complex Order's price limit. Legging is not available for Complex Standard quotes, Complex eQuotes, Complex Orders that include the underlying security as a component, or certain Strategies that are restricted from Legging as defined in MIAX Emerald Rule 518.

Complex Order Auctions

Complex Auctions may be initiated by the System in several different circumstances:

- At the opening or reopening of a Strategy.
 - Once all of the components of a Strategy are open and in free trading the System will conduct an initial evaluation to see if any liquidity on the Strategy Book meets the requirements to initiate a Complex Auction.
- Upon entry of an eligible order marked cAOA in free trading.
 - If certain marketability requirements are met, the System will initiate a Complex Auction on behalf of the incoming order.
- Upon reevaluation of the Strategy Book.
 - The System will continually reevaluate liquidity on the Strategy Book to determine if a Strategy Match is possible, if Legging of an order is possible, or if an eligible order meets the marketability and other requirements to initiate a Complex Auction.

Upon receipt of a Complex Auction-eligible order or upon an evaluation by the System indicating that there is a Complex Auction-eligible order resting on the Strategy Book, the System will begin the Complex Auction process by sending a notification to all Exchange Members that subscribe to the Exchange's data feeds that deliver such notifications and initiating the Complex Auction timer.

The auction notification will include the following information:

- The limit price of the initiating order
 - If the limit price is through the opposite side of the Strategy price as calculated using the displayed price of the components in the Simple Market on MIAX Emerald (the displayed Complex EBBO – dcEBBO), the System will send the dcEBBO in place of the order's limit price.
- The side of the market of the initiating order
- The Matched Quantity and the Imbalance Quantity of all liquidity at the Complex Auction Price

The length of the Complex Auction timer will be disseminated by Regulatory Circular and will not exceed 500 milliseconds.

Complex Auctions match liquidity at least one penny inside the best available market calculated using the best price for each component on the Simple Order Book and at the single price where the most volume can trade. The Complex Auction process will then continue trading via Strategy Match and Legging up to the dcEBBO. If all liquidity at the dcEBBO is exhausted and Complex Auction interest remains, the remaining interest, if eligible to rest on the Strategy Book, will be posted at the exhausted dcEBBO price and will be immediately reevaluated. Complex Auction interest not eligible to rest on the Strategy Book will be cancelled by the System.

More information about Complex Auctions, the requirements to initiate Complex Auctions and how Complex Auctions operate, can be found in MIAX Emerald Rule 518.

Emerald Complex Order Price Improvement Mechanism (Emerald cPRIME)

Emerald cPRIME allows MIAX Emerald EEMs to enter Complex Orders they represent as agent (a cPRIME Agency Order) into an auction to allow an opportunity for the cPRIME Agency Order to receive price improvement.

A cPRIME Order consists of a paired Complex Order with sides of equal size, where the Contra side of the paired order guarantees the cPRIME Agency side a complete fill at a price no worse than the auction start price (the stop price).

Participants

- All MIAX Emerald members may participate in cPRIME Auctions.

cPRIME Order

- A MIAX Emerald EEM submits an order it represents as agent (cPRIME Agency Order) along with a Contra Order (cPRIME Contra Order) for the full size of the cPRIME Agency Order.
 - The cPRIME Contra Order guarantees the cPRIME Agency Order a fill with either principal or solicited interest at the stop price.
 - The cPRIME Agency Order may be of any origin.
 - The cPRIME Contra Order may be of any origin except MIAX Emerald Market Maker.
- Responders
 - All MIAX Emerald members, regardless of origin, may respond to a cPRIME Auction.

cPRIME Auction Start Price

- The cPRIME Contra Order stops the cPRIME Agency Order at a price that defines the auction's start price.
 - The EEM must stop the entire cPRIME Agency Order at a price that meets the following requirements:
 - The initiating price for a cPRIME Agency Order must be better than (inside) the icEBBO for the strategy and any other Complex Orders on the Strategy Book by at least \$0.01. The System will reject cPRIME Agency Orders submitted with an initiating price that is equal to or worse than (outside) the icEBBO or any other Complex Orders on the Strategy Book.
 - The price must be at or inside of the MIAX Emerald Price Collar (MPC) on both sides of the market.

- The icEBBO is a calculation that uses the best price from the Simple Order Book for each component of a complex strategy including displayed and non-displayed trading interest.
 - If the order is for a protected Strategy (a Vertical or Calendar spread), the price must be within the protected price range as outlined in MIAX Emerald Rule 515A.
- The cPRIME Auction start price and auction responses may be in pennies irrespective of the MPV of any Strategy component.
- Additional information about cPRIME and Complex Crossing Order acceptance and the auction start price can be found in MIAX Emerald Rule 515A.

cPRIME Auction Initiation

- Single-Price Submission
 - Unless otherwise specified, cPRIME Orders default to single-price submission. With single-price submission the Contra Party guarantees the cPRIME Agency Order a complete fill at a price no worse than the auction start price.
- Auto-Match Limit and Auto-Match Market
 - As an alternative to single-price submission, the Contra Party may participate in a cPRIME Auction using auto-match as a limit or a market.
 - Auto-Match Limit
 - The Contra Party matches each auction response that improves the auction start-price up to and including the Auto-Match limit price specified by the cPRIME Contra Order.
 - Auto-Match Market
 - The Contra Party matches all auction responses that provide price improvement until the cPRIME Order is filled.

cPRIME Auction Notification

- MIAX Emerald initiates a cPRIME Auction upon receipt of a qualified cPRIME Order and disseminates a request-for-response (RFR) message to all of its market data subscribers. The RFR message identifies the Strategy, side, size, auction start price, and auction start-time.

cPRIME Auction Process

- Responders may submit multiple responses on the opposite side of the market from the cPRIME Agency Order that may be modified or canceled throughout the auction. Responses remain in the System until the end of the auction.
- Auction responses shall be a Complex Auction-or-Cancel (cAOC) Order or cAOC eQuote.
 - Auction responses are neither published nor visible to anyone.
 - Auction responses that do not equal or improve the auction start price and are therefore unable to join the auction will be rejected.

Auction Eligibility

- Only one complex auction whether a cPRIME or a Complex Auction may be in process for any given Strategy at a time.
 - If MIAX Emerald receives a cPRIME Order in a Strategy that is already in a cPRIME or Complex Auction, MIAX Emerald rejects the new cPRIME Order.
- The cPRIME Order will be rejected at the time of receipt if any component of the Strategy is subject to the Managed Interest Process.
- The cPRIME Order will be rejected at the time of receipt if any component of the Strategy is subject to a SMAT Event.
- A cPRIME Order will be rejected if upon receipt MIAX Emerald has managed interest for any component of the Strategy resting on its Simple book.

Early Conclusion of a cPRIME Auction:

- MIAX Emerald terminates the auction timer early in the following scenarios:
 - Related liquidity (RFR response)
 - If a cAOC eQuote or cAOC Order on the opposite side of the market from the cPRIME Agency Order locks or crosses the Agency side icEBBO, or the best net price of a Complex Order in the same Strategy, whichever is more aggressive.
 - Unrelated liquidity
 - If Unrelated interest on the same side of the market as the cPRIME Agency Order locks or crosses the best price on the opposite side of the market.
 - If Unrelated interest on the opposite side of the market from the cPRIME Agency Order:
 - locks or crosses the Agency side icEBBO, or the best net price of a Complex Order in the same Strategy, whichever is more aggressive; or
 - Improves the price of any RFR response.
 - A Simple Order or Quote in a component of the Strategy on the same side of the market as the cPRIME Agency Order locks or crosses the NBBO for that component.
 - A Simple Order or Quote in a component of the Strategy on the opposite side of the market from the cPRIME Agency Order:
 - locks or crosses the NBBO for that component; or
 - Causes the icEBBO to be equal to or through the initiating price.
 - Trading Halts
 - A halt in the underlying security terminates the auction and the cPRIME Agency Order only trades with the cPRIME Contra Order and auction responses. The cPRIME Agency Order will not trade with unrelated liquidity or resting interest.
- With the exception of a trading halt, an early conclusion of an auction follows the standard end of auction process.

- Please note that engaging in a pattern and practice of disrupting the auction mechanism by intentionally causing auctions to end early will constitute a rule violation.

Best Price

- At the conclusion of the cPRIME Auction the cPRIME Agency Order trades with the best price(s) against all available interest including the cPRIME Contra Order, auction responses, unrelated interest and, if eligible for legging and interest remains, Simple Market interest that makes up the icEBBO.

Allocation

- MIAX Emerald caps oversized auction responses to the original size of the cPRIME Order for allocation purposes.
- The allocation percentage for the cPRIME Contra Order is determined by the number of remaining responders at the same price as the cPRIME Contra Order.
 - Single-Price Submission
 - If only one other responder joins the cPRIME Contra Order at the best price, the cPRIME Contra Order receives a 50% allocation based on the original size of the order; otherwise the cPRIME Contra Order receives a 40% allocation based on the original size of the order.
 - Auto-Match
 - If using auto match, the cPRIME Contra Order is eligible to receive a 40% allocation of the remaining cPRIME Agency Order size at the final price.
- Remaining contracts are allocated using the standard allocation algorithm
- Additional information concerning order allocation at the conclusion of cPRIME Auctions can be found in MIAX Emerald Rule 515A

Directed Orders in cPRIME

- The cPRIME Agency Order can be assigned a Directed Firm Code (DFC) by the submitting Member. The DFC will be used for the distribution of any related Marketing Fees, but will not be used for contract allocation resulting from a cPRIME Auction.

Complex Qualified Contingent Cross and Customer Cross Orders

- The cPRIME mechanism is used for trading Complex Qualified Contingent Cross and Customer Cross Orders. These crossing order transactions take place immediately (without an auction timer).
 - Information about the acceptance and execution of Complex Qualified Contingent Cross and Customer Cross Orders can be found in MIAX Emerald Rule 515A.

Stock-Tied Strategies

As of the date of this User's Manual, Complex Orders tied to stock are not available. If Complex Orders tied to stock become available at a later date, notice will be provided via Regulatory Circular and on the Exchange's website.

Derived Orders

Derived Orders facilitate the execution of a Complex Order by placing a limit order for all or part of a component on the Simple Order Book. A Derived Order is an Exchange-generated limit order placed on the Simple Order Book that represents either a bid or offer for a component of a Complex Order resting on the Strategy Book.

Derived Orders are:

- available only for Complex Orders that are eligible for Legging;
- available only for those components with a ratio of one (1);
 - i.e., a Complex Order with components requiring a 1:2 ratio would only be eligible for generation of a Derived Order for the component with a ratio size of one (1);
- represented in the EBBO;
- not available for Routing;
- subject to the Exchange's order management procedures.

More information about Derived Orders can be found in MIAX Emerald Rule 518.

Simple Market Auction Events / Wide Market Conditions

During certain Auction Events (defined below), the Exchange uses special handling in the Complex Order Market to protect users and to prevent potential conflicts between the Complex Order Market and the Simple Order Market. With the exception of Complex Crossing Orders during Wide Market Conditions, trading in the Strategy will be suspended and the Strategy will remain in a pre-market state until the condition is resolved. Complex Crossing Orders (cPRIME, cQCC and Complex Customer Cross) will be accepted and may trade or initiate a cPRIME Auction during Wide Market Conditions.

- Wide Market Conditions exist when any component of a Strategy at the time of evaluation has a displayed EBBO quote width that is wider than the permissible Simple Market Valid Quote Width.
- PRIME Auction events for any component of the Strategy

More information on System behavior during Auction Events and Wide Market Conditions can be found in MIAX Emerald Rule 518.

Trade Protections for Complex Orders

- ABBO Price Protection (APP)
 - The implied away best bid or offer (xABBO) is the best complex bid from each single exchange and best complex offer from each single exchange, taking into account each exchange trading the components of the Strategy on their

respective Simple Market Order books. Orders marked APP will never trade at a price outside of the opposing ixABBO as measured at the time of execution.

- ARM for Complex Quotes (cARM)
 - As of the date of this User's Manual, Complex Standard quotes are not available. If Complex Standard quotes become available at a later date, notice will be provided via Regulatory Circular and on the Exchange's website.
- ARM² for Complex Quotes
 - ARM² functionality will also be available and configurable when Complex Standard quotes are activated.
- RPM for Complex Orders
 - RPM Protection is extended to Complex Orders.
 - Complex Orders count as a single order for the delivering MPID regardless of the number of components that make up the Complex Order.
 - Contract sides executed as a result of Complex Orders will be counted for each component of the Strategy.
- Complex MIAZ Emerald Order Monitor (cMOM) Price Protection
 - Rejects incoming limit orders that are priced through the opposite side of the cNBBO by an amount to be determined by the Exchange.
 - cMOM price protection does not apply to Complex Crossing Orders (cPRIME, cQCC and Complex Customer Cross)
 - A full description of cMOM order price and size protections is contained under the Complex Order Protections Based on Price heading in Section 10 of this Manual.
- Order Protections Based on Size and Quantity
 - Order Protections based on size and quantity for Complex Orders function as described under the Order Protections Based on Size and Quantity heading in Section 10 of this Manual.
- MIAZ Emerald Price Collars (MPC) for Complex Orders and eQuotes
 - MPC is an Exchange-wide system that will prevent Complex Orders from executing at potentially erroneous prices by establishing a price range outside of which the Complex Order or eQuote will not be displayed or executed.
 - The MPC setting is calculated as a dollar amount (expressed in pennies) and will be determined by the Exchange and communicated via Regulatory Circular.
 - The MPC Setting will apply equally to all Classes listed on the Exchange in which Complex Orders are available. The MPC setting amount is added to the opposite side Complex National Best Bid or Offer (cNBBO) at the time the MPC Price is assigned (i.e. upon receipt or a upon Opening, to establish the MPC (price collar).
 - If the MPC Price is less aggressive than the limit price of the Complex Order or eQuote (i.e., the MPC Price is lower than the Complex Order or eQuote's bid price for a buy, or the MPC Price is higher than the Complex Order or eQuote's offer price for a sell), or if the Complex Order is a

- market order, the Complex Order or eQuote will be displayed and/or executed up to its MPC Price.
- Any unexecuted portion of the Complex Order or eQuote will be managed, or cancelled if it would otherwise be displayed or executed at a price that is outside the MPC Price.
 - More information about MPC behavior can be found in MIAZ Emerald Rule 518.
 - Vertical Spread Price Protection
 - A configurable Vertical Spread Variance (VSV) can be added to the maximum spread value (the difference between the two strikes) or subtracted from the minimum spread value of zero to create an allowable trading range for the Strategy. Orders priced through the allowable trading range will be managed at the limit of the allowable trading range.
 - The pre-set value of the VSV will be uniform for all option classes as determined by the Exchange and communicated to Members via Regulatory Circular.
 - Calendar Spread Price Protection
 - A configurable Calendar Spread Variance (CSV) can be subtracted from the minimum spread value of zero (only one side is protected for a Calendar Spread). Orders priced through the minimum allowable trade value will be managed at the limit of the allowable trading range.
 - The pre-set value of the CSV will be uniform for all option classes as determined by the Exchange and communicated to Members via Regulatory Circular.

More information about all of the various Trade Protections for Complex Orders can be found in MIAZ Emerald Rule 518.

8. System Settings

All current System settings are posted in the Regulatory Circulars located under the Regulatory tab on the Exchange's website: www.miaxoptions.com/regulatory-circulars/emerald and are also available under System Settings on the Exchange's website: <http://www.miaxoptions.com/system-configuration/emerald>.

Quoting information, including a table containing the following valid quote ranges is located under the Regulatory tab on the Exchange's website: www.miaxoptions.com/market-maker-requirements/emerald.

- Opening Valid Quote Width Table
- Opening Priority Quote Width Table
- Free Trading Valid Width Quote Table
- Free Trading Priority Quote Table

9. Trading Halts and Trading Pauses

The System automatically halts trading when the primary market for the underlying security disseminates a halted or paused condition. Under certain circumstances, in the interest of a fair and orderly market, the Exchange may elect to manually halt trading in an individual option class, a group of option classes or all option classes Exchange wide.

The Opening Process will not begin if the underlying security is halted or paused. If the Opening Process is in progress at the time of the halt, the System will interrupt the Opening Process prior to its completion, will halt trading in options already opened and will prevent unopened options from opening. After a trading halt on MIAX Emerald, the System will reopen following the same processes as the Opening Process, except that the Primary Listing Exchange for the underlying security will be used in place of the designated Exchange for Opening. The designated Exchange for Opening is disseminated via Regulatory Circular and is available on the Exchange's website.

Market Maker quotes are purged when a halt is initiated. Market Makers must send a re-entry flag prior to submitting quotes after the inception of a trading halt.

The following MIAX Emerald timers, if in progress at the time of a halt in the option, will be discontinued and will not result in an execution:

- Opening Imbalance Timer
- Opening Route Timer

If a PRIME or cPRIME Auction is in progress at the time of a halt in the option (or any option component of a Strategy), the Auction will be discontinued and the following end of Auction process will be followed:

- Quotes and eQuotes (other than AOC eQuotes in the auction) will be purged
- The Auction Timer will be terminated and the standard End of Auction process will be performed using only the Agency Order, the Contra Order and any Auction Responses
 - Unrelated Orders or interest resting on the NBBO will not be included
- After fully trading the Agency Order
 - Any remaining contracts from the Contra Order will be cancelled
 - Any remaining Auction Responses will be cancelled

All Standard quotes and eQuotes existing at the time of the trading halt on MIAX Emerald will be purged by the System. Quotes sent prior to the conclusion of the purge will be rejected. A re-entry flag is required to resume submitting quotes after the purge is complete.

Notifications Prior to Re-Opening:

- The Post Halt Notification period is the length of time prior to reopening after a manual trading halt prior to which a System notice is distributed over the Exchange's data feeds.
 - 20 Seconds.
- The Reopening Delay period is the length of time prior to reopening after an automatic trading halt (a System initiated interruption of trading resulting from a halt or pause in the underlying security on its primary listing exchange) prior to which a System notice is distributed over the Exchange's data feeds.
 - 5 Seconds

Limit Up/Limit Down (LULD)

LULD functionality on MIAX Emerald is in effect when the underlying NMS Stock has entered into a Limit State or Straddle State. Once an NMS Stock has entered either a Straddle State or Limit State:

- The Exchange will not open an affected option.
- If an LULD state is entered after the opening, the Exchange will:
 - reject all incoming market orders submitted into the Exchange System, and
 - cancel all unexecuted market orders existing within the Exchange System, except that market orders to sell an option received when the national best bid is zero and the Exchange's disseminated offer is equal to or less than \$0.10 that have been converted to limit orders to sell pursuant to Rule 519(a) will not be cancelled by the Exchange's System.

In addition, once an NMS Stock has entered either a Limit or Straddle State, the Exchange shall relieve Exchange Market Makers from the following quotation obligations for options on the affected underlying NMS Stock:

- the bid/ask differential requirements set forth in MIAX Emerald Rule 603(b)(4);
- the minimum size requirement set forth in MIAX Emerald Rule 604(b)(2);
- the requirement to submit two-sided quotes set forth in MIAX Emerald Rule 604(c); and
- the continuous quoting obligation set forth in MIAX Emerald Rule 604(e)

When an underlying NMS Stock is subject to a Trading Pause, the Exchange System will halt trading in options overlying the affected NMS Stock pursuant to MIAX Emerald Rule 504(c).

Market Wide Circuit Breakers (MWCB)

MWCB halts are treated by the System in the same fashion as a Regulatory Trading Halt on the Primary Listing Market.

10. MIAZ Emerald Trade Protections

MIAZ Emerald Variable Price Protection (MVP)

The System applies a price protection process, as described in MIAZ Emerald Rule 515, to all orders other than ISO Orders (as per MIAZ Emerald Rule 515(c)(1)) and orders for the account of a MIAZ Emerald Market Maker, limiting executions to no more than a specified number of MPVs through the NBBO as captured at time of order receipt. (If the ABBO is crossing the EBBO on the same side of the market as the incoming order at time of receipt, the EBBO price on the same side of the market will be used as the starting point for the MVP process in place of the opposite side NBBO.)

If size remains from a limit order priced though the NBBO (at the time of receipt) by more than the specified number of MPVs or a market order, and the order has exhausted its ability to execute on the NBBO within the MVP limit, the balance of the order will be cancelled back to the submitting member.

The number of MPVs through the NBBO at the time of order receipt that the order will be allowed to execute may be specified in the order at the time it is submitted to the Exchange through the Emerald Fix Order Interface. The acceptable value range for MVP is:

- 0 to 20
 - A selection of 0 will indicate that the order will not be allowed to trade at a price inferior to the NBBO at the time the order was received

To determine when an order will be converted to the max range or rejected, please refer to the Emerald FIX Order Interface Functional Specification on the MIAZ Emerald website:
www.miaxoptions.com/interface-specifications/emerald.

In the absence of a specified MVP value in the order at the time of submission, an Exchange default value for MVP will be applied. The MVP Exchange default value range is: 1 to 5. The effective value will be announced via Regulatory Circular and will be available under System Settings on the Exchange's website: <http://www.miaxoptions.com/system-configuration/emerald>.

Orders that participate in the MIAZ Emerald Opening Process (including after a trading halt) will always use an MVP value of zero (0) regardless of whether another value has been specified in the order at the time of submission.

Orders with a price protection limit that is less aggressive than the order's effective limit price will be cancelled immediately following the commencement of a trading halt and at the end of each trading session.

MIAX Emerald Order Monitor (MOM)

Simple Order Protections Based on Price

In order to reduce the incidence of potential obvious or catastrophic errors on the Exchange, the MIAX Emerald System includes MOM, as described in Exchange Rule 519. MOM prevents certain orders that violate certain pre-defined price limits from executing or being placed on the MIAX Emerald Book. These price protections include:

- Rejection of market orders to sell when the national best bid is zero (0) and the national best offer is greater than \$0.10.
- Rejection of market orders to buy or sell when the NBBO is \$5.00 wide or greater.
- Rejection of limit orders priced though the opposite side of the NBBO by the lesser of:
 - (a) 50% of the opposite side NBBO where the minimum crossing price is \$0.25, or (b) \$2.50.

Protections under MOM do not apply to orders received prior to, or during the Opening Process, to Intermarket Sweep Orders (ISO), or to GTC orders resting from a prior session.

Complex Order Protections Based on Price

The MIAX Emerald Complex Order System also includes the Complex MIAX Emerald Order Monitor (cMOM), as described in Exchange Rule 518, Interpretations and Policies .06. cMOM prevents Complex Orders that violate certain pre-defined price limits from executing or being placed on the Emerald Strategy Book. The cMOM price protection is as follows:

- Rejects incoming limit orders that are priced through the opposite side of the cNBBO by an amount to be determined by the Exchange and communicated to Members via Regulatory Circular, but which amount will not be greater than \$2.50.
- The cMOM price protection feature does not apply to Complex Crossing Orders (cPRIME, cQCC and Complex Customer Cross)

Order Protections Based on Size and Quantity

The MIAX Emerald System offers protections from potentially erroneous executions or obvious errors based on the size of orders, number of open orders and number of open contracts. Protections are available for both the Simple Order and Complex Order Markets.

Members are required to submit Exchange-wide global default settings for their Firm as a part of the MIAX Emerald Membership Application and System certification process. Firms provide settings by contacting the MIAX Emerald Trading Operations staff. The most recent settings will remain effective in the MIAX Emerald System until a subsequent update is received by the Exchange.

If triggered, the Simple Market Order protections referred to in this section will not affect the Firm's Complex Order Market functionality in any way, and if triggered, the Complex Market protections referred to in this section will not affect the Firm's Simple Market functionality in any way.

The following Exchange-wide Firm protections are available. These settings are not individually selectable by FOI connection, underlying security or MPID.

Order size

- Maximum size for a single Simple Market Order
- Maximum size for a Simple Market Crossing Order (includes PRIME, Customer Cross and Qualified Contingent Cross).
- Maximum size for a single Complex Market Order
- Maximum size for a Complex Market Crossing Order (includes cPRIME, Complex Customer Cross and Complex Qualified Contingent Cross)

Maximum number of open orders

- Maximum number of Simple Market open orders
- Maximum number of Complex Market open orders
- These settings include partially filled orders.

Maximum number of open contracts

- Maximum number of Simple Market open contracts
- Maximum number of Complex Market open contracts
- These settings include sum of any contracts remaining from unfilled and partially filled orders.

In addition to Firm-provided Exchange-wide settings that apply to all Classes, the following Firm/Class protections are available to provide Firm specific settings for individual Option Classes:

- Maximum size for a single Simple Market Order for a specific Class
- Maximum size for a single Simple Market Crossing Order (includes PRIME, Customer Cross and Qualified Contingent Cross) for a specific Class
- Maximum size for a single Complex Market order for a specific Class
- Maximum size for a single Complex Market Crossing order (includes cPRIME, Complex Customer Cross and Complex Qualified Contingent Cross) for a specific Class.

For both Simple Market and Complex Crossing Orders, both the Agency side and Contra Order will each contribute to calculations for all Order Protections based on open orders and open contracts. For the Maximum size of a Crossing Order, only the Agency side (or the first side for Customer Cross and Qualified Contingent Cross Orders) will be counted.

For further information on the configuration of Order Protections Based on Size and Quantity, please contact MIAX Emerald Trading Operations: TradingOperations@MIAXOptions.com

MIAX Emerald Aggregate Risk Manager (ARM)

The MIAX Emerald Aggregate Risk Manager (ARM) protects Market Makers by limiting the number of contracts they execute in a class on the MIAX Emerald within a brief period of time as described in Exchange Rule 612.

The MIAX Emerald ARM tracks the number of contracts traded by a Market Maker (represented as a percentage of quote size) in an assigned option class within a specified time period. The Market Maker establishes a percentage of their quotations (Allowable Engagement Percentage) and the time period for each option class ("specified time period"). When an execution against a Market Maker's Standard quote occurs, the System looks back over the specified time period to determine whether the execution is of sufficient size to trigger the Aggregate Risk Manager.

Market Makers can elect whether to have each new Standard quote sent reset their ARM count for that option side by selecting whether Reset on Quote (RoQ) is "on" or "off". If Reset on Quote is "on", and the Market Maker has requoted an option within the Counting Period, the Counting Period will only look back to the most recent requote. RoQ defaults to the "on" configuration. If Reset on Quote is "off", all trades that occurred during the Counting Period are counted regardless of whether or not the Market Maker has requoted that side of that option. Participants desiring to have RoQ set to "off" must contact MIAX Emerald Trading Operations to request the new setting.

The System engages the Aggregate Risk Manager when it has determined that a Market Maker has traded a number of contracts equal to or above their Allowable Engagement Percentage during the time period. The Aggregate Risk Manager then automatically cancels and removes the Market Maker's standard quotations from the Exchange's disseminated quotation in all series of that particular option class until the Market Maker sends a re-entry flag and submits new quotations in the affected class. eQuotes present in the market are not cancelled by the Aggregate Risk Manager.

ARM²

ARM² is an enhancement to the existing Emerald ARM functionality. ARM² further protects MIAX Emerald Market Maker Firms with two ARM-derived counting programs, ARM² Class Protection and ARM² Firm Protection.

- ARM² Class Protection - ARM² Class Protection counts the number of ARM protections in a Class for that MPID over an ARM² Counting Period specified by the Firm. If the number of ARM protections in that Class meets the specified number, ARM² will initiate (Trigger) ARM² Class Protections in that Class for that MPID. Once Triggered, ARM² Class Protection requires a manual reset by MIAX Emerald Trading Operations to

enable the Firm to send an ARM Quote Protection Reset Message and resume quoting in that Class.

- ARM² Firm Protection- ARM² Firm Protection counts the total number of unique Classes that Trigger ARM for a Firm over a Counting Period specified by the Firm. If the number of unique Classes that Trigger ARM protection meets or exceeds the designated threshold, ARM² will Trigger ARM protections for all Classes the Firm quotes. ARM² Firm Protection is an ARM protection for all Classes traded by the Firm and once Triggered requires manual reset by MIAZ Emerald Trading Operations to enable the Firm to send an ARM Quote Protection Reset Message for each Class.
- Configuration of ARM² Settings
 - As with ARM settings, ARM² Class Protections are entered into the System via that MIAZ Emerald Express Interface (MEI). Using MEI, the Firm can at any time create, edit or delete:
 - The settings for how many Primary ARM protections are required to Trigger ARM² for any Class/MPID combination.
 - The Counting Period settings for any Class/MPID combination.
 - To create, edit or delete ARM² Firm Protections, the Firm must submit a completed Protection Template to MIAZ Emerald Trading Operations describing the ARM² Firm Protection settings desired including the following:
 - The total number of unique Classes that must be protected by ARM across all MPIDs in the Firm required to Trigger ARM² Firm Protection
 - The Counting Period setting for ARM² Firm Protection

Market Maker Single Side Protection (SSP) for the Complex and Simple Order Markets

MIAZ Emerald Single Side Protection removes the risk of a Market Maker trading multiple quotes on the same side of the market for an option or Complex Order Strategy. In order for the protection to be in effect, SSP must be enabled for an MPID by contacting MIAZ Emerald Trading Operations. A single setting will enable (or disable) SSP for both the Simple Order Market and Complex Order Market, although the protections will operate separately (i.e. a Simple Order Market trigger will not affect Complex Order Market quotations or vice-versa.)

If enabled, SSP will be triggered when the full remaining size of a Simple or Complex Standard quote, IOC eQuote or FOK eQuote is exhausted by a trade.

Once Triggered in either the Simple or Complex Market, the Market Maker will be notified and the following actions affecting that Market Maker in that market will be taken:

- Any Simple Market or Complex Standard quote on that side of that option or Strategy for that Market Maker will be cancelled
- All new Simple Market or Complex Standard quotes and IOC/FOK eQuotes on that side of that option or Strategy for that Market Maker will be Blocked

- A reset message will be required before the Market Maker can reenter Standard quotes or IOC/FOK eQuotes on that (sell or buy) side of that option or Strategy.
- ISO, AOC and OPG eQuotes are unaffected (are not cancelled or blocked) and will never cause the protection to be triggered.

SSP Operates separately from any other MIAX Emerald trade protection and requires a separate reset to re-enable trading for that MPID for that side of the affected option or Strategy.

MIAX Emerald Risk Protection Monitor (RPM)

The MIAX Emerald Risk Protection Monitor (RPM) protects Member Firms, Clearing Firms and EEMs by providing a configurable and flexible safeguarding system that protects against Exchange-wide risk from the transmission and execution of orders as described in Exchange Rule 519A.

RPM enables the creation and simultaneous operation of multiple safeguarding measures (Metrics) allowing Members to establish Allowable Order Rates (rates of Order Acceptance by the Exchange) and Allowable Contract Execution Rates.

RPM is mandatory and all members who enter orders on the Exchange are required to establish basic risk protections as a prerequisite for trading on MIAX Emerald. Members must establish specified time periods for both an Allowable Order Rate and an Allowable Contract Execution Rate. The maximum duration of each specified time period will be established by the Exchange and announced via Regulatory Circular. The established multiplier may not exceed an Exchange designated multiplier of the Member's historical peak order rate and peak contract execution rate over a specified number of trading days. The maximum Multiplier will also be established by the Exchange on an Exchange-wide basis and announced via Regulatory Circular.

When triggered the Risk Protection Monitor will prevent the System from accepting any new orders in all classes from the Member and, if designated by the Member's instructions, the System will also cancel all existing Day Orders in all classes from the Member.

When a Member's order is entered, or when an execution of a Member's order occurs, the System will look back over the specified time period to determine whether the order entered or the execution that occurred triggers the Risk Protection Monitor.

- Members may establish whether the Risk Protection Monitor, when triggered, will:
 - prevent the System from receiving any new orders in all series in all classes from the Member; or
 - prevent the System from receiving any new orders in all series in all classes from the Member and cancel all existing Day Orders in all series in all classes from the Member; or
 - send a notification that the Risk Protection Monitor has been triggered without any further preventative or cancellation action by the System.

Cancellation instructions for orders remaining on the book on behalf of protected MPIDs will continue to be accepted and acted upon. Cancel/Replace orders for affected MPIDs will cause only the Cancel portion of the order will be acted upon. The Replace instruction of the Cancel/Replace order will be rejected.

RPM Groups

- Members may also elect to group with other Members to enable the Risk Protection Monitor to apply collectively to the Group. The Members in the Group must designate a Group owner. Members may elect to group provided that either:
 - there is at least 75% common ownership between the firms as reflected on each firm's Form BD, Schedule A; or
 - there is written authorization signed by all Members in the Group and the Group owner maintains exclusive control of all orders sent to the Exchange from each MPID within the Group.
- A clearing firm may also elect to group several Members to enable the Risk Protection Monitor to apply collectively to the group with the clearing firm designated as the group owner, provided that the clearing firm serves as the clearing firm for all the MPIDs of the Group and there is written authorization signed by the clearing firm and each Member of the Group. A clearing firm that has grouped several Members may only receive warning messages, unless one Member of the Group maintains exclusive control of all orders sent to the Exchange from each MPID within the Group.
- The Risk Protection Monitor for groups will operate in the same manner as described above, except that: (i) the counting program will count the number of orders entered and the number of contracts traded resulting from an order entered by all MPIDs in the Group collectively; (ii) the System will trigger the Risk Protection Monitor when the Group collectively exceeds either the Allowable Order Rate or Allowable Contract Execution Rate for the Group; (iii) once engaged, the Risk Protection Monitor will then either automatically prevent the System from receiving any new orders in all series in all classes from each MPID in the Group, and, if designated by the Group owner's instructions, cancel all existing Day Orders in all series in all classes from the Group or send a notification without any further preventative or cancellation action by the System; and; (iv) only the designated Group owner may request the Exchange to enable the acceptance of new orders for all the Members of the Group.
 - Subject to the above, a Member may establish more than one Group.

PRIME and Complex Crossing Order handling in RPM

- The System does include the following paired order types in the counting program. Each be counted as two orders for the purpose of calculating the Allowable Order Rate:
 - PRIME Orders
 - PRIME Solicitation Orders
 - cPRIME Orders

- Simple and Complex QCC Orders
 - Simple and Complex Customer Crossing Orders.
- Once engaged, the Risk Protection Monitor will block, but will not cancel any existing:
 - PRIME Orders
 - PRIME Solicitation Orders
 - Complex Crossing Orders (Stopped orders or immediately executed orders)
 - Simple or Complex AOC Orders
 - OPG Orders
 - Simple or Complex GTC Orders
 - QCC, cQCC, C2C and cC2C orders do not exist on the book and are therefore not subject to cancellation.

Such orders will remain in the System available for trading and management when the Risk Protection Monitor is engaged.

RPM Warnings

- Members may also elect to receive warning notifications indicating that a specific percentage of an Allowable Order Rate or an Allowable Contract Execution Rate has been met for all metrics.

For further information on the configuration and operation of the Risk Protection Monitor, please contact MIAX Emerald Trading Operations: TradingOperations@MIAXOptions.com

Mass Cancellation of Trading Interest (MCTI)

Cancel

- A Member may cancel all or a subset of its orders in the System, by firm name or by MPID, by requesting the Exchange staff to effect such cancellations.

Cancel and Block.

- An EEM may request that the Exchange cancel all or a subset of its orders in the System and block all new inbound orders.
- A Market Maker may request that the Exchange remove all or a subset of its (i) quotations in the System and block all or a subset of its new inbound quotations by firm name or MPID; or (ii) Standard quotations in the System and block all or a subset of its new inbound Standard quotations by MPID.
- The block will remain in effect until the Member requests that the Exchange remove the block.

Detection of Loss of Communication

- MIAX Emerald Express Interface (“MEI”)
 - When a Loss of Communication is detected on an MEI port during a certain time period (“xx” seconds), the System will close the session and automatically cancel

quotes and eQuotes, as configured by the Member, provided that when a Loss of Communication is detected on the last connected MEI port during a certain time period ("xx" seconds), the System will close the session and automatically cancel quotes and eQuotes. The Exchange shall determine the appropriate period of ("xx" seconds) and shall notify Members of the value of "xx" seconds via Regulatory Circular. In no event shall "xx" be less than one (1) second or greater than ten (10) seconds. Initially, the Exchange intends to set the value at 1 second.

- Financial Information eXchange ("FIX") Protocol
 - When a Loss of Communication is detected on a FIX port the System will logoff the Member's session and (i) cancel all eligible orders for the FIX Session if instructed by the Member upon login, or (ii) cancel all eligible orders identified by the Member. Following a disconnection, a reconnection will not be permitted for a certain period of time ("yy" seconds). The Exchange shall determine the appropriate period of ("yy" seconds) and shall notify Members of the value of "yy" seconds via Regulatory Circular. In no event shall "yy" be less than one (1) second or greater than ten (10) seconds. Initially, the Exchange intends to set the value at 1 second.

Loss of Communication

- 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.
 - Loss of communication is determined on an MEI port by (a) the lack of Heartbeats and/or Heartbeat responses as determined by the Exchange and communicated to Members via Regulatory Circular, or (b) the lack of data transmission from the Member, within a certain time period as determined by the Exchange and communicated to Members via Regulatory Circular. Initially, the Exchange intends to set this value at 1 second.
 - Loss of communication is determined on a FIX port by the lack of Heartbeats and/or Heartbeat responses as determined by the Exchange and communicated to Members via Regulatory Circular, within a certain time period as specified by the Member upon login. Initially, the Exchange intends to set this value at 1 second.

Good 'Til Cancelled ("GTC") Orders, as defined in Rule 516 and PRIME Orders, as defined in Rule 515A, are not eligible for automatic cancellation

For more details on MCTI functionality, refer to MIAx Emerald Rule 519C. Additional information is also available in the MIAx Emerald FIX Order Interface Functional Specification or the MIAx Emerald Express Interface Functional Specification on the Exchange's web site: www.miaxoptions.com/interface-specifications/emerald.

Self-Trading Protection

The MIAZ Emerald System contains certain protections to prevent a Market Maker from interacting with their own quote or order. In the event that a Market Maker sends a quote or order priced at a limit that would allow it to interact with a quote or order from that same Market Maker MPID that is resting on the opposite side of the market, the resting quote or order from that Market Maker MPID will be cancelled by the System and the new quote or order will be accepted by the System.

Mass Quote Cancellation

- Firm Initiated and Firm Requested Mass Cancellation
 - Firms may initiate mass quote cancellation via MEI with a single request
 - Class Mass Quote Cancel – Remove all Standard quotes and eQuotes in a class or classes associated with a specific underlying security for a given MPID.
 - Can apply to Simple Market quotes, Complex Market quotes or both.
 - A Reset Message is required to resume the submission of Standard quotes and eQuotes in that Class.
 - Hybrid Mass Quote Cancel – Remove all Standard quotes in a class with a specific underlying security for a given MPID. eQuotes are not affected.
 - Can apply to Simple Market Standard quotes, Complex Market Standard quotes (when available) or both.
 - A Reset Message is required to resume the submission of Standard quotes in that Class.
 - eQuotes are not blocked and continue to be accepted without the requirement of a Reset Message.
 - MPID Wildcard Mass Quote Cancel – Cancel all Standard quotes and all eQuotes for all classes on a specified matching engine for a given MPID.
 - Hybrid Wildcard Mass Cancellations are not supported.
 - MPID Wildcard Mass Cancellations can apply to Simple Market quotes, Complex Market quotes or both.
 - A Reset Message is required to resume the submission of Standard quotes and eQuotes in all classes after a Wildcard Mass Cancellation.
 - MIAZ Emerald Trading Operations has the ability to quickly cancel all quotes by Firm request for the following categories
 - Underlying security and MPID.
 - Globally by MPID.
 - Globally by Firm.

- MIAx Emerald Initiated and Automatic Purges
 - Port Disconnect Purges
 - Default Behavior – If all ports for a given Firm on a specific matching engine disconnect, all Standard quotes and eQuotes for all of that Firm's MPIDs will be purged for that matching engine.
 - Port Grouping – Allows Firms to specify custom port groupings and regulate automatic purge behavior by group. Contact MIAx Emerald Trading Operations for details.
 - Port Disconnect Purges can be configured to apply to Simple Market quotes, Complex Market quotes or both.
 - Loss of Heartbeat
 - If all MEI applications on a specific matching engine fail for a given Firm, all quotes are purged for that entire Firm's MPIDs on that matching engine.
 - Port Grouping – Allows Firms to specify custom port groupings and regulate automatic purge behavior by group. Contact MIAx Emerald Trading Operations for details.
 - Trading Halt
 - In the case of a trading halt, all quotes in all classes associated with the underlying security(ies) that have halted are purged.
 - Non-tradable Series
 - When a series is made non-tradable, all quotes for the series are purged.
- Additional information about quote Mass Cancellation and Purges can be found in the MIAx Emerald Express Interface Functional Specification on the MIAx Emerald website: www.miaxoptions.com/interface-specifications/emerald.

ABBO Crossing Protection (Management of Non-Routable Liquidity)

The Exchange System will not disseminate a locked or crossed market unless such dissemination is done in accordance with Exchange Rules or a National Market System plan (NMS) governing locked and crossed markets. When the System receives a quote or non-routable order that would lock or cross an away market, the System will display such quote or non-routable order at a price that is one MPV away from the current opposite side NBBO and book the quote or order at an undisplayed price that will lock the current opposite side NBBO. Should the NBBO price change to a price that is inferior to the price of the undisplayed booked quote or order, such quote or order's undisplayed price will continuously re-price to lock the new NBBO, and the quote or order's displayed price will continuously re-price one MPV away from the new NBBO until the quote or order reaches its original limit price, is fully executed, or is cancelled.

11. MIAx Emerald Member Firm Portal

The Member Firm Portal (MFP) is a member-facing application available via the internet. The MFP provides members with the tools needed to search for trade data, apply same-side clearing trade corrections and perform symbol self-assignments for LMMs and RMMs. This function is not available for PLMM assignment which is handled through the Exchange Listings Department.

The Member Firm Portal is available for search queries at all times. The trade information clearing correction function is available from 09:30 AM ET until System shutdown which occurs at approximately 5:15 PM ET.

LMM and RMM symbol self-assignments must be entered via the Member Firm Portal prior to 6:00 PM are effective for the following trading day. LMM and RMM symbol assignment changes via the Member Firm Portal are expected to become mandatory beginning in early 2018. Same day self-assignments are not available through the Member Firm Portal.

Additional information regarding the Member Firm Portal can be obtained by contacting MIAx Emerald Trading Operations at: TradingOperations@MIAxOptions.com.

12. MIAx Emerald Rules

A copy of the complete MIAx Emerald Rulebook is available in the Regulatory Section of the MIAx Emerald's website: www.miaxoptions.com/rulebook/emerald.

Throughout this User's Manual reference is made to MIAx Emerald Rules, in the event of any conflict between a description or discussion of a Rule in this User's Manual and the Rules set forth in the MIAx Emerald Rulebook, the Rulebook shall prevail.

13. MIAx Emerald Fees

MIAx Emerald Fee Schedule

MIAx Emerald operates under a maker-taker fee structure in which the Exchange generally pays its Members a rebate to provide liquidity and generally charges Members a fee to remove liquidity. MIAx Emerald may choose apply volume discounts or other incentives to some of its transaction fees.

MIAx Emerald also charges membership fees, application fees, market data fees, connectivity fees, bandwidth fees and testing fees. A link to a copy of the complete MIAx Emerald Fee Schedule is available on the Exchange's website under the Fee Summary tab: www.miaxoptions.com/fees/emerald.

14. Nullification and Adjustment of Options Transactions Including Obvious Errors Policy

The Exchange's policy towards Nullification and Adjustment of Options Transactions Including Obvious Errors is set forth in Exchange Rule 521 and 530(j). Participants who believe they may have been a party to an erroneous transaction or wish to request a voluntary nullification or adjustment are encouraged to fill out the Regulatory Form found on the MIAx Emerald website under Regulatory: www.miaxoptions.com/regulatory-forms/emerald and email it to Regulatory@miaxoptions.com. Once submitted, a MIAx Emerald Regulatory Official will review the transaction and take the appropriate action. The MIAx Emerald Regulatory Official will promptly notify all parties to the trade in question of any Voluntary or Obvious Error reviews. Once a review has been completed all parties will be notified and informed of any rulings or voluntary agreements. A member may appeal the decision from an Obvious Error review to the MIAx Emerald Chief Regulatory Officer (CRO).

15. Hours of Operation and Calendar

Normal Trading Hours

Normal hours of operation can be found on the Exchange's website:
www.miaxoptions.com/trade-hours-calendar/emerald.

Holiday Schedule and Altered Trading Hours

The Holiday Schedule and any deviations from Normal Trading Hours can be found on the Exchange's website: www.miaxoptions.com/trade-hours-calendar/emerald.

16. Contact MIAx Emerald

Miami International Holdings, Inc.

Address: 7 Roszel Road, Suite 5-A
Princeton, NJ 08540

Phone : (609) 897-7300

Area of Interest	Department	Email
Investor Inquiries	Investor Relations	Investor.Relations@Miami-Holdings.com
Business Development	Business Development	info@MIAxOptions.com
Regulatory	Regulatory	Regulatory@MIAxOptions.com Primary: (609) 897-7309
Membership	Membership	Membership@MIAxOptions.com
Market Operations	Trading Operations	TradingOperations@MIAxOptions.com Primary: (609) 897-7302
Connectivity	Trading Operations	TradingOperations@MIAxOptions.com Primary: (609) 897-7302
Certification Testing	Trading Operations	TradingOperations@MIAxOptions.com Primary: (609) 897-7302
Interface Development	Trading Operations	TradingOperations@MIAxOptions.com Primary: (609) 897-7302
Market Data Requests	Market Data	MarketData@MIAxOptions.com
Market Data Usage Reporting	Market Data	MarketDataUsage@MIAxOptions.com
Listings	Listings	Listings@MIAxOptions.com">Listings@MIAxOptions.com Primary: (609) 897-7308
Sales and Marketing	Business Development	Sales@MIAxOptions.com Primary: (609) 897-8177
Billing	Billing	Billing@MIAxOptions.com