

MIAx Pearl Equities Exchange

Risk Protections Guide

Updated May 2023

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1. Introduction

MIAX Pearl Equities™ created this Risk Protections Guide to assist its Members in understanding the MIAX Pearl Equities risk protections offering.

MIAX Pearl Equities supports both a binary interface (MIAX Express Orders, “MEO”) and FIX order entry interface, with parity in functionality supported on both. As such, all risk protections outlined in this guide are available for both the FIX and MEO binary interfaces.

For any protection that is set at multiple levels - for example, different Maximum Order Size thresholds set for an MPID and Session by the member - if an order is received corresponding to the respective session and MPID, the more conservative of the two thresholds will be honored.

Risk protections are latency equalized. There is no latency penalty for a member when opting into and leveraging a risk protection available on the exchange as compared to a member not opting into the risk protection.

Configuration changes can be requested by sending an email to Trading Operations at TradingOperations@miaxglobal.com or via MIAX's Member Firm Portal.

2. Per Order Risk Metrics (“PERM”)

Mandatory Protections			
Protection	Description	Configurability	Default
Maximum Order Size	<p>The Maximum Order Size Protection is the maximum total size of an order in shares permitted by the exchange. If the total size of an order or an Order Modification Request exceeds its Maximum Order Size threshold, the order or Order Modification Request will be rejected.</p> <p>Optionally members may set custom Maximum Order Size thresholds for each of their sessions or MPIDs.</p> <p>If an Equity Member does not provide MIAX Pearl Equities with a custom value for the Maximum Order Size protection, the default value established by the Exchange will be applied.</p>	<p>MPID Level Session Level</p> <p><i>Must be set in full 1 share increment between 1 and 1,000,000</i></p>	25,000 shares
Limit Order Price Protection	<p>A Limit Order to buy (sell) will be rejected if it is priced at or above (below) the greater of a specified dollar and percentage away from the NBO for Limit Orders to buy, the NBB for Limit Orders to sell.</p> <ul style="list-style-type: none"> • For buy (sell) orders, the Price Limit will be equal to the National Best Offer (Bid) plus (minus) the greater of the Percentage Based Limit and the Dollar Based Limit. <p>Members may customize the specified dollar and percentages on a per session or per MPID basis across six different price ranges.</p> <p>Limit Order Price Protection will be applied when an order is first eligible to trade. A Limit Order entered before the Regular Trading Session that becomes eligible to trade in the Regular Trading Session will become subject to Limit Order Price Protection when the Regular Trading Session commences.</p>	<p>MPID Level Session Level</p>	

	<p>Range 1: Order's Limit Price < \$1</p>	<p><i>Percent value must be set in a full percent increment between 1% and 500%</i></p> <p><i>Dollar value must be set in a sub-penny increment (\$0.0001) between \$0.0001 and \$1.00</i></p>	<p>10% and \$0.15</p>
	<p>Range 2: >=\$1 Order's Limit Price <\$10</p>	<p><i>Percent value must be set in a full percent increment between 1% and 50%</i></p> <p><i>Dollar value must be set in a penny increment (\$0.01) between \$0.01 and \$5.00</i></p>	<p>10% and \$0.15</p>
	<p>Range 3: >=\$10 Order's Limit Price <\$50</p>	<p><i>Percent value must be set in a full percent increment between 1% and 20%</i></p> <p><i>Dollar value must be set in a penny increment (\$0.01) between \$0.01 and \$10.00</i></p>	<p>10% and \$1.00</p>
	<p>Range 4: >=\$50 Order's Limit Price <\$100</p>	<p><i>Percent value must be set in a full percent increment between 1% and 20%</i></p> <p><i>Dollar value must be set in a penny increment (\$0.01) between \$0.01 and \$20.00</i></p>	<p>10% and \$5.00</p>

	<p>Range 5: >=\$100 Order's Limit Price <\$500</p>	<p><i>Percent value must be set in a full percent increment between 1% and 20%</i></p> <p><i>Dollar value must be set in a penny increment (\$0.01) between \$0.01 and \$100.00</i></p>	5% and \$10.00
	<p>Range 6: Order's Limit Price >=\$500</p>	<p><i>Percent value must be set in a full percent increment between 1% and 20%</i></p> <p><i>Dollar value must be set in a penny increment (\$0.01) between \$0.01 and \$500.00</i></p>	3% and \$25.00
<p>Minimum Order Size Check</p>	<p>Orders and Order Modification Requests must be entered in sizes that are in multiples of 1 share. Order and Order Modification Requests not submitted with a size that is a multiple of 1 share will be rejected. This protection is not configurable.</p>	Not configurable	1
<p>Minimum Order Price Protection</p>	<p>Orders and order modification requests with a limit price that is less than the Exchange-set Minimum Order Price will be rejected. This protection is not configurable.</p>	Not configurable	\$0.0001
<p>Maximum Order Price Protection</p>	<p>Orders and order modification requests with a limit price that is greater than the Exchange-set Maximum Order Price will be rejected. This protection is not configurable.</p>	Not configurable	\$999,999.99
<p>Price Tick Size Check</p>	<p>All orders and order modification requests will be checked against the valid price increments in the security upon entry into the System. This check is not configurable.</p>	Not configurable	N/A
	<p>Order with price less than \$1.00</p>		\$0.0001
	<p>Order with price equal to or greater than \$1.00</p>		\$0.01

Optional Protections			
Protection	Description	Configurability	Default
Market Order Price Protection	Members may request Market Orders be rejected upon arrival if the contra-side ABBO price is not available. By default, this protection will not be applied.	MPID Level Session Level	None
Maximum Order Notional Value Protection	<p>Maximum Order Notional Value is the maximum notional value in dollars permitted by the exchange for an order.</p> <p>For Limit orders, the notional value of an order is calculated by multiplying the order's total size by the order's limit price.</p> <p>For Market orders, the notional value of an order is calculated by multiplying the order's total size by the contra-side PBBO at the time of the order's arrival.</p> <p>If the notional value of an order or an Order Modification Request exceeds its Maximum Order Notional Value threshold, the order will be rejected upon entry into the system.</p> <p>Maximum Order Notional Value is an optional protection for orders. If the member does not set a Maximum Order Notional Value threshold, the notional value check will not be applied to the member's orders.</p> <p>Members may enable this protection at the session level or MPID level, with the ability to apply independent settings for Market Orders and Limit Orders.</p>	MPID Level – Market Order Value MPID Level – Limit Order Value Session Level – Market Order Value Session Level – Limit Order Value	None
ISO Reject	Members will have the option to reject any orders marked as ISO.	MPID Level Session Level	Allow ISO Orders
Short Sale Reject	Members will have the option to reject any orders marked as short sale. The default behavior will be to allow Short Sale activity.	MPID Level Session Level	Allow Short Sale Orders

<p>Short Sale Exempt Reject</p>	<p>Members will have the option to reject any orders marked as short sale exempt. The default behavior will be to allow sell sale exempt activity.</p>	<p>MPID Level Session Level</p>	<p>Allow Short Sale Exempt Orders</p>
<p>Market Order Reject</p>	<p>Members will have the option to reject any market orders. The default behavior will be to allow market orders</p>	<p>MPID Level Session Level</p>	<p>Allow Market Orders</p>
<p>Average Daily Volume (ADV) Check</p>	<p>Average Daily Volume (ADV) for a security will be determined as an average of all traded volume in the security over the past twenty trading days. The ADV will be adjusted to account for any half-days. This check will still be applied if the security has been trading for less than twenty days; the ADV will be calculated based on the traded days for that security.</p> <p>If the total size of an order or an Order Modification Request exceeds the ADV size threshold, the order will be rejected upon entry into the system with an appropriate reason code.</p> <p>If an Order Modification Request is rejected due to exceeding the ADV Size threshold, the original order will remain on the orderbook and will not be cancelled.</p> <p>The ADV check threshold will be calculated as follows:</p> <ul style="list-style-type: none"> • ADV multiplied by a custom percentage, set by the member as a full percent increment. Members may enable this protection with a custom percentage set at the session level or MPID level. • Additionally, when opting into the protection, the member will be required to configure a “minimum ADV” required in the security for the check to be applied. For example, a member may indicate that for any securities with an ADV of 3000 shares or less, the ADV check should not be applied. <p>Optionally, the member will be able to override any MPID and/or a Session ADV percentage for an individual security. This change will be available to be made intra-day.</p>	<p>MPID Level – All Symbols Session Level – All Symbols MPID Level - Symbol Setting Session Level – Symbol Setting</p>	<p>None</p>
<p>Restricted Security List Check</p>	<p>Members will have the option to individually configure each of their sessions or MPIDs to reject any orders sent in a security on a member’s Restricted Security List with an appropriate reason code.</p> <p>This list will be set up using the Member Firm Portal by the member and may be changed multiple times intra-day by the member. Intra-day changes will be immediately effective in the system between the hours of 7:30 AM ET and 5:00 PM ET.</p>	<p>MPID Level Session Level</p>	<p>None</p>

<p>Regulation SHO Security List Check</p>	<p>Members will have the option to individually configure each of their sessions or MPIDs to reject any orders marked as a Short Sale and Short Sale Exempt with an appropriate reason code, if the order received is in a security that falls within the firm's Regulation SHO Restricted Security List.</p> <p>This protection will be applied regardless of whether the Short Sale Price Test is currently in effect or not for the security.</p> <p>This list will be set up using the Member Firm Portal by the member and may be changed multiple times intra-day by the member. Intra-day changes will be immediately effective in the system between the hours of 7:30 AM ET and 5:00 PM ET.</p>	<p>MPID Level Session Level</p>	<p>None</p>
<p>Non-Agency Reject</p>	<p>Members will have the option to reject any orders with a capacity of Principal or Riskless Principal. The default behavior will be to allow all orders, regardless of capacity.</p>	<p>MPID Level Session Level</p>	<p>Accept Agency Orders</p>
<p>Override Capacity to Agency</p>	<p>Members will be able to opt into a session configuration to override all orders received via the session to a Capacity of "Agency", regardless of the Capacity stated on the order (Agency, Principal or Riskless Principal).</p>	<p>Session Level</p>	<p>Do not override</p>
<p>Allow Test Securities</p>	<p>Members will have the option to reject any orders sent in a Test Security.</p>	<p>Session Level</p>	<p>Accept orders in Test Securities</p>
<p>Locate Account Validation</p>	<p>Members have the ability to opt into a protection that verifies the Locate Account specified on the member's Sell Short and Sell Short Exempt Orders. The Locate Account on the order will be compared to a member-provided list of valid Locate Accounts; the order will then be rejected if the Locate Account provided on the order is not a match to one from the list.</p> <p>This list will be set up using the Member Firm Portal by the member and may be changed multiple times intra-day by the member. However, any change will not be immediate and will need to be processed by the Trading Operations Team.</p>	<p>Firm Level</p>	<p>Off</p>

3. Cumulative Risk Metrics (“CRM”)

Protection	Description	Configurability	Trigger Action
Maximum Gross Notional Trade Value Protection	<p>MIAX Pearl Equities will provide members with the ability to limit their notional exposure aggregated across multiple trades for a Risk Protection Group, for a day, to a specified maximum value, for the following metric:</p> <p>Gross Notional Trade Value. The sum of the notional values of a member’s buy side and sell side trades for the day for that Risk Protection Group. i.e.</p> <ul style="list-style-type: none"> Gross Notional Trade Value = (Sum of Notional Value of Sell Side Trades) + (Sum of Notional Value of Buy Side Trades) 	<p>MPID Level</p> <p>Session Level</p> <p>Multiple Sessions Level</p> <p>Firm Level</p>	<p>Member chooses one:</p> <p>Mass Cancel Existing Orders & Block New Orders</p> <p>or</p> <p>Block New Orders Only</p>
Maximum Net Notional Trade Value Protection	<p>MIAX Pearl Equities will provide members with the ability to limit their notional exposure aggregated across multiple trades for a Risk Protection Group, for a day, to a specified maximum value, for the following metric:</p> <p>Net Notional Trade Value. The absolute value of the difference between the sum of the notional value of all buy side trades and the sum of the notional value of all sell side trades for the day for that Risk Protection Group. i.e.</p> <ul style="list-style-type: none"> Net Notional Trade Value = Absolute Value of [(Sum of Notional Value of Buy Side Trades) – (Sum of Notional Value of Sell Side Trades)] 	<p>MPID Level</p> <p>Session Level</p> <p>Multiple Sessions Level</p> <p>Firm Level</p>	<p>Member chooses one:</p> <p>Mass Cancel Existing Orders & Block New Orders</p> <p>or</p> <p>Block New Orders Only</p>
Maximum Gross Notional Open Value Protection	<p>MIAX Pearl Equities will provide members with the ability to limit their notional exposure aggregated across open orders for a Risk Protection Group, for a day, to a specified maximum value, for the following metric:</p> <p>Gross Notional Open Value: The sum of the notional values of a member’s buy side and sell side open orders for that Risk Protection Group. i.e.</p> <ul style="list-style-type: none"> Gross Notional Open Value = (Sum of Notional Value of Sell Side Open Orders) + (Sum of Notional Value of Buy Side Open Orders) 	<p>MPID Level</p> <p>Session Level</p> <p>Multiple Sessions Level</p> <p>Firm Level</p>	<p>Member chooses one:</p> <p>Mass Cancel Existing Orders & Block New Orders</p> <p>or</p> <p>Block New Orders Only</p>

<p>Maximum Net Notional Open Value Protection</p>	<p>MIAX Pearl Equities will provide members with the ability to limit their notional exposure aggregated across open orders for a Risk Protection Group, for a day, to a specified maximum value, for the following metric:</p> <p>Net Notional Open Value: The absolute value of the difference between, the sum of the notional value of all buy side open orders and the sum of the notional value of all sell side open orders for that Risk Protection Group. i.e.</p> <ul style="list-style-type: none"> Net Notional Open Value = Absolute Value of [(Sum of Notional Value of Buy Side Open Orders) – (Sum of Notional Value of Sell Side Open Orders)] 	<p>MPID Level</p> <p>Session Level</p> <p>Multiple Sessions Level</p> <p>Firm Level</p>	<p>Member chooses one:</p> <p>Mass Cancel Existing Orders & Block New Orders</p> <p>or</p> <p>Block New Orders Only</p>
<p>Gross Notional Trade + Open Value Protection</p>	<p>MIAX Pearl Equities will provide members with the ability to limit their notional exposure aggregated across open orders for a Risk Protection Group, for a day, to a specified maximum value, for the following metric:</p> <p>Gross Notional Trade Value: The sum of the notional values of a member’s buy side and sell side trades and open orders for the day for that Risk Protection Group. i.e.</p> <ul style="list-style-type: none"> Gross Notional Trade Value = (Sum of Notional Value of Sell Side Trades) + (Sum of Notional Value of Buy Side Trades) + (Sum of Notional Value of Sell Side Open Orders) + (Sum of Notional Value of Buy Side Open Orders) 	<p>MPID Level</p> <p>Session Level</p> <p>Multiple Sessions Level</p> <p>Firm Level</p>	<p>Member chooses one:</p> <p>Mass Cancel Existing Orders & Block New Orders</p> <p>or</p> <p>Block New Orders Only</p>
<p>Net Notional Trade + Open Value Protection</p>	<p>MIAX Pearl Equities will provide members with the ability to limit their notional exposure aggregated across open orders for a Risk Protection Group, for a day, to a specified maximum value, for the following metric:</p> <p>Net Notional Trade Value: The absolute value of the difference between the sum of the notional value of all buy side trades and open orders and the sum of the notional value of all sell side trades and open orders for the day for that Risk Protection Group. i.e.</p> <ul style="list-style-type: none"> Net Notional Trade Value = Absolute Value of [(Sum of Notional Value of Buy Side Trades) + (Sum of Notional Value of Buy Side Open Orders) – (Sum of Notional Value of Sell Side Trades) - (Sum of Notional Value of Sell Side Open Orders)] 	<p>MPID Level</p> <p>Session Level</p> <p>Multiple Sessions Level</p> <p>Firm Level</p>	<p>Member chooses one:</p> <p>Mass Cancel Existing Orders & Block New Orders</p> <p>or</p> <p>Block New Orders Only</p>

For the above protections, to reset: The member will not be able to reset with an automated message on the session. Members must contact MIAX Pearl Equities Trading Operations to reset a Risk Protection Group with a request to update the threshold to a value that is above the Risk Protection Group’s current notional value. This request may also be submitted via the Member Firm Portal. This will be considered a permanent threshold change and will persist to the next day.

4. Duplicate and Order Rate Checks

Protection	Description	Configurability
Duplicate Order Check	<p>Duplicate Order Check will provide all members with the ability to limit potentially erroneous duplicative orders on a session sent from the same MPID from being live on the exchange.</p> <p>A duplicate order will be identified as a new order with the same signature: with the same MPID, side, price, quantity and security as the order sent before it via the same session.</p> <p>The Duplicate Order Check is an optional protection applied at the session level.</p>	Session Level
	<p>Duplicate Order Time Window. The rolling time window during which the Duplicate Order Count threshold must be hit.</p>	Must be set in milliseconds
	<p>Duplicate Order Count. The number of duplicate orders received during the Duplicate Order Time Window triggers the protection.</p>	Must be set as integer
	<p>Duplicate Order Trigger Action. The action that would be enforced when the protection is triggered, one of the following must be selected:</p> <ul style="list-style-type: none"> • Reject: All new orders received on the session for the MPID that triggered the protection will be rejected for the remainder of the rolling Duplicate Order Time Window. Order cancellations and Order Modification Requests will continue to be accepted. • Disable: All new orders received on the session for the MPID that triggered the protection will be rejected until a request is submitted to Trading Operations, either via email or through the Member Firm Portal, to reset the risk control on that session for that MPID. 	<p>Member chooses one:</p> <p>Reject</p> <p>or</p> <p>Disable</p>

Order Rate Check with Automatic Reset	<p>The Order Rate Check is designed to identify any irregularity in order entry behavior, the source of which could be a malfunctioning system or erroneous business activity.</p> <p>Members will have the ability to define custom thresholds to monitor the rate at which all incoming new Orders (regardless of Order Type, Routing Strategy, etc.), Order Modification Requests and Cancellation Requests are entered on the exchange for a Risk Protection Group.</p>	<p>Counting messages for a Session</p> <p>Counting messages for a Session sent for an MPID</p> <p>Counting messages for a Session sent for an MPID in a specific security</p>
	<p>Order Rate Time Window. The rolling time window (or the look-back time period) during which the Order Count threshold must be breached.</p>	<p>Must be set in seconds</p>
	<p>Order Count. The Order Rate Protection is triggered when the amount of applicable messages exceeds the Order Count in the Order Rate Time Window.</p>	<p>Must be set an integer</p>
	<p>Order Rate Trigger Action. The action that would be enforced when the Order Rate Protection is triggered.</p> <ul style="list-style-type: none"> <p>Reject: All new Orders and Order Modification Requests received will be rejected for the remainder of the rolling Order Time Window. Order Cancellation Requests will continue to be accepted. These Order Cancellation Requests will not be counted for the Order Count while the threshold has been exceeded.</p> 	<p>Reject</p>
	<p>Exclude Cancels From Count. If set to "Yes", Order Cancellation Requests will not be considered towards the Order Count.</p>	<p>Member chooses one:</p> <p>Yes</p> <p>or</p> <p>No</p>

Order Rate Check with Manual Reset	<p>The Order Rate Check is designed to identify any irregularity in order entry behavior, the source of which could be a malfunctioning system or erroneous business activity.</p> <p>Members will have the ability to define custom thresholds to monitor the rate at which all incoming new Orders (regardless of Order Type, Routing Strategy, etc.), Order Modification Requests and Cancellation Requests are entered on the exchange for a Risk Protection Group.</p>	<p>Counting messages for an MPID</p> <p>Counting messages for a Session</p> <p>Counting messages for multiple Sessions</p> <p>Counting messages for a Firm</p>
	<p>Order Rate Time Window. The rolling time window (or the look-back time period) during which the Order Count threshold must be breached.</p>	<p>Must be set in seconds</p>
	<p>Order Count. The Order Rate Protection is triggered when the amount of applicable messages exceeds the Order Count in the Order Rate Time Window.</p>	<p>Must be set as integer</p>
	<p>Order Rate Trigger Action: The action that would be enforced when the Order Rate Protection is triggered.</p> <ul style="list-style-type: none"> • Warning Only: The member will be notified via email and via the Member Firm Portal that the threshold has been breached. There will be no impact to the member's order entry activity or resting orders. • Block Only: The system will reject all subsequent new orders received from the Risk Protection Group that triggered the Protection. There will be no impact to the member's resting orders. • Block and Mass Cancel: The system will reject all subsequent new orders and cancel all open orders on the exchange for the Risk Protection Group that triggered the Protection. 	<p>Member chooses one:</p> <p>Warning Only</p> <p>Block Only</p> <p>Block and Mass Cancel</p>
	<p>Exclude Cancels From Count. If set to "Yes", Order Cancellation Requests will not be considered towards the Order Count.</p>	<p>Member chooses one:</p> <p>Yes</p> <p>or</p> <p>No</p>

5. Trade Risk Metrics

Protection	Description	Configurability								
<p>Trading Collar</p>	<p>Except for orders that are eligible for the Opening Process, the Trading Collar prevents incoming orders, including those marked ISO, from executing at a price outside the Trading Collar price range, i.e. prevents buy orders from trading or routing at prices above the collar and prevents sell orders from trading or routing at prices below the collar.</p> <p>The Trading Collar price range is calculated using the greater of numerical guidelines for clearly erroneous executions or a specified dollar value established by the Exchange.</p> <p>Executions are permitted at prices within the Trading Collar price range, inclusive of the boundaries.</p> <p>Upon entry, any portion of an order to buy (sell) that would execute at a price above (below) the Trading Collar Price is cancelled.</p> <p>Reference Price: Consolidated last sale price disseminated during the Regular Trading Hours on trade date</p> <p>Calculation:</p> <table border="1"> <thead> <tr> <th>Trading Collar Reference Price</th> <th>Regular Trading Hours Numerical Guideline</th> </tr> </thead> <tbody> <tr> <td>Greater than \$0.00 up to and including \$25.00</td> <td>10%</td> </tr> <tr> <td>Greater than \$25.00 up to and including \$50.00</td> <td>5%</td> </tr> <tr> <td>Greater than \$50.00</td> <td>3%</td> </tr> </tbody> </table> <p>The Exchange calculates the Trading Collar price range for a security by applying the Numerical Guideline and reference price (for market orders) to the Trading Collar Reference Price.</p> <p>The result is added to the Trading Collar Reference Price to determine the Trading Collar Price for buy orders, while the result is subtracted from the Trading Collar Reference Price to determine the Trading Collar Price for sell orders.</p> <p>The Trading Collar Price is not enforced throughout the life of the order nor re-applied once the order is resting on the MIAX Pearl Equities Book.</p>	Trading Collar Reference Price	Regular Trading Hours Numerical Guideline	Greater than \$0.00 up to and including \$25.00	10%	Greater than \$25.00 up to and including \$50.00	5%	Greater than \$50.00	3%	<p>Not configurable <i>except for Market Orders only, a User may select a dollar value lower than the specified percentages and dollar values described on an order by order basis. In such case, the dollar value selected by the User will override the dollar values and specific percentages set by the Exchange.</i></p>
Trading Collar Reference Price	Regular Trading Hours Numerical Guideline									
Greater than \$0.00 up to and including \$25.00	10%									
Greater than \$25.00 up to and including \$50.00	5%									
Greater than \$50.00	3%									

<p>Market Impact Collar</p>	<p>The Market Impact Collar is an optional protection that is designed to prevent limit orders from executing at prices that are too far through the current market upon entry and adversely affecting the security's prices.</p> <ul style="list-style-type: none"> Upon entry, any portion of a limit order to buy (sell) that has a Limit Price above (below) the Upper (Lower) Bound of the Market Impact Collar will be rejected back to the member with an appropriate reason. <p>Members will be able to configure percentage and dollar limits for the following price ranges for each of their MPID(s) or Session(s):</p> <table border="1"> <thead> <tr> <th>Reference Price</th> <th>Custom Percentage Amount</th> <th>Custom Dollar Amount</th> </tr> </thead> <tbody> <tr> <td>Greater than \$3.00</td> <td>X%</td> <td>Cannot specify</td> </tr> <tr> <td>\$0.75 up to including \$3.00</td> <td>Y%</td> <td>Cannot specify</td> </tr> <tr> <td>Less than \$0.75</td> <td>Z%</td> <td>\$X.XX</td> </tr> </tbody> </table> <p>The Market Impact Collar Reference Price will be calculated as the mean price of eligible reported trades for the security over the immediately preceding five minute period.</p> <p>The Market Impact Collar will be calculated as follows:</p> <ul style="list-style-type: none"> Market Impact Collar Upper Bound (For a buy order): <ul style="list-style-type: none"> Market Impact Collar Reference Price plus Higher of <ul style="list-style-type: none"> Custom Percentage Amount Custom Dollar Amount Market Impact Collar Lower Bound (For a sell order); <ul style="list-style-type: none"> Market Impact Collar Reference Price minus Higher of <ul style="list-style-type: none"> Custom Percentage Amount Custom Dollar Amount 	Reference Price	Custom Percentage Amount	Custom Dollar Amount	Greater than \$3.00	X%	Cannot specify	\$0.75 up to including \$3.00	Y%	Cannot specify	Less than \$0.75	Z%	\$X.XX	<p>MPID Level Session Level</p> <p><i>When setting up Market Impact Collar, the member must provide all of the custom percentage amounts for each price range as well as the custom dollar amount to set up a full risk profile for the protection.</i></p> <p><i>The custom percentage amounts must be set as a full percent increment (i.e. 30%, 31%, etc.).</i></p> <p><i>The custom dollar must but be set as a full penny increment (i.e. \$0.75, \$0.76).</i></p>
	Reference Price	Custom Percentage Amount	Custom Dollar Amount											
Greater than \$3.00	X%	Cannot specify												
\$0.75 up to including \$3.00	Y%	Cannot specify												
Less than \$0.75	Z%	\$X.XX												

<p>Self-Trade Protection</p>	<p>If opted into, Self-Trade Protection will apply during the Opening Process, any Re-Opening Process and during Regular Trading.</p> <p>Self-Trade Protection Modifiers. Any order designated with an STP modifier will be prevented from executing against a contra-side order also designated with an STP modifier and originating from the same MPID, Exchange Member identifier (Firm), Parent Group or trading group identifier (any such identifier, a “Unique Identifier”). The STP modifier on the order with the most recent timestamp controls the interaction between two orders marked with STP modifiers.</p> <ul style="list-style-type: none"> • Cancel Newest. An order marked with the Cancel Newest modifier will not execute against a contra-side order marked with any STP modifier originating from the same Unique Identifier. The order with the most recent timestamp marked with the Cancel Newest modifier will be cancelled back to the originating User(s). The contra-side order with the older timestamp marked with an STP modifier will remain on the MIA X Pearl Equities Book. • Cancel Oldest. An order marked with the Cancel Oldest modifier will not execute against a contra-side order marked with any STP modifier originating from the same Unique Identifier. The order with the older timestamp marked with the STP modifier will be cancelled back to the originating User(s). The contra-side order with the most recent timestamp marked with the STP modifier will remain on the MIA X Pearl Equities Book. • Decrement and Cancel. An order marked with the Decrement and Cancel modifier will not execute against contra-side interest marked with any STP modifier originating from the same Unique Identifier. If both orders are equivalent in size, both orders will be cancelled back to the originating User(s). If both orders are not equivalent in size, the equivalent size will be cancelled back to the originating User(s) and the larger order will be decremented by the size of the smaller order, with the balance remaining on the MIA X Pearl Equities Book. • Cancel Both. An order marked with the Cancel Both modifier will not execute against contra-side interest marked with any STP modifier originating from the same Unique Identifier. The entire size of both orders will be cancelled back to the originating User(s). 	<p>Order Level</p>
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6. Order Cancellation Capabilities

Protection	Description	Configurability
<p>Auto Cancel on Disconnect (ACOD) for an Order Entry Session</p>	<p>In the event a member's session with the exchange is disconnected, orders submitted via that session that are open can be cancelled automatically upon disconnect.</p> <p>Members must select one of the following actions on a session by session basis which will be enforced when the protection is triggered:</p> <ul style="list-style-type: none"> • Cancel All Open Orders. All orders that were sent through this session and are open will be cancelled upon session disconnect. • Do Not Cancel All Open Orders. This will disable Auto Cancel on Disconnect and MIAX Pearl Equities will not cancel any open orders upon that session's disconnect. This is the default behavior for the session if the member does not opt in for ACOD. <p>The ACOD feature is provided on a best effort basis. Executions can occur while the ACOD event is being processed.</p> <p>As the technical circumstances initiating a disconnect may vary, Firms may contact Trading Operations to confirm the status of ACOD eligible open orders remaining at MIAX Pearl Equities that were sent via the session(s) that disconnected. The execution reports resulting from cancels or trades during the disconnect can also be received upon a subsequent reconnect by the Firm on the same day.</p>	<p>Session Level</p> <p>Member chooses Trigger Action:</p> <p>Cancel all Open Orders</p> <p>Or</p> <p>Do Not Cancel All Open Orders</p>

<p>Auto Cancel on Disconnect (ACOD) for a Drop Copy Session</p>	<p>In the event a member's Drop Copy session with the exchange is disconnected, all orders that are open and that were sent through any session for which the Drop is entitled will be cancelled upon the Drop's disconnect.</p> <p>This protection is available only to Drop Copy sessions that have an entitlement of their own sessions; if the Drop Copy has an MPID entitlement, this protection will not be available for that Drop.</p> <p>Members must select one of the following actions on a session by session basis which will be enforced when the protection is triggered:</p> <ul style="list-style-type: none"> • Cancel All Open Orders for Order Entry Session(s): All orders that are open and that were sent through any session for which the Drop is entitled will be cancelled upon the Drop's disconnect. Additionally, any new orders or Order Modification Requests received via the entitled sessions will be rejected with an appropriate reason code. Order Cancellation Requests will be accepted. • Do Not Cancel All Open Orders for Order Entry Session(s): This will disable this protection. If the member does not opt in to ACOD for the Drop, MIAX Pearl Equities will not cancel any open orders that were sent through any session for which the Drop is entitled upon the Drop's disconnect. Any new orders and Order Modification Requests received via the entitled sessions will continue to be accepted. <p>Reset: Once the disconnected Drop reconnects, the protection will automatically be reset</p> <p>The ACOD feature is provided on a best effort basis. Executions can occur while the ACOD event is being processed.</p>	<p>Session Level</p> <p>Member chooses Trigger Action:</p> <p>Cancel all Open Orders</p> <p>Or</p> <p>Do Not Cancel All Open Orders</p>
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<p>Auto Cancel on System Failure (ACOSF) for an Order Entry Session</p>	<p>In the event of a Matching Engine or gateway failure that prevents Firm's interaction with existing orders, members may request that their open orders are cancelled automatically for a given session. Orders submitted via any of the member's other sessions will not be affected. Additionally, orders submitted to any Matching Engines that are not impacted will not be affected.</p> <p>Members must select one of the following actions on a session by session basis which will be enforced when the protection is triggered:</p> <ul style="list-style-type: none"> • Cancel All Open Orders: All open orders in the impacted Matching Engine(s) that were sent through this session will be cancelled upon system failure. • Do Not Cancel All Open Orders: This will disable Auto Cancel on System Failure and MIAx Pearl Equities will not cancel any open orders from that session upon system failure. This is the default behavior for the session if the member does not opt in for ACOSF. <p>The ACOSF feature is provided on a best effort basis. Executions can occur while the ACOSF event is being processed.</p> <p>As the technical circumstances initiating an ACOSF may vary, Firms are advised to contact Trading Operations to confirm the status of ACOSF eligible open orders remaining at MIAx Pearl Equities. The execution reports resulting from cancels or trades during the failure can also be received upon a subsequent reconnect by the Firm on the same day.</p>	<p>Session Level</p> <p>Member chooses Trigger Action:</p> <p>Cancel all Open Orders</p> <p>Or</p> <p>Do Not Cancel All Open Orders</p>
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<p>Auto Cancel on System Failure (ACOSF) for a Drop Copy Session</p>	<p>In the event that of a MIAX system failure that affects the Drop, all orders that are open and that were sent through any session for which the Drop is entitled will be cancelled.</p> <p>This protection is available only to Drop Copy sessions that have an entitlement of their own sessions; if the Drop Copy has an MPID entitlement, this protection will not be available for that Drop.</p> <p>Members must select one of the following actions on a session by session basis which will be enforced when the protection is triggered:</p> <ul style="list-style-type: none"> • Cancel All Open Orders for Order Entry Session(s): All orders that are open and that were sent through any session for which the Drop is entitled will be cancelled. Additionally, any new orders or Order Modification Requests received via the entitled sessions will be rejected with an appropriate reason code. Order Cancellation Requests will be accepted. • Do Not Cancel All Open Orders for Order Entry Session(s): This will disable this protection. If the member does not opt in to ACOSF for the Drop, MIAX Pearl Equities will not cancel any open orders that were sent through any session for which the Drop is entitled upon the Drop's disconnect. Any new orders and Order Modification Requests received via the entitled sessions will continue to be accepted. <p>Reset: Once the MIAX Pearl Equities system issue is rectified, the protection will automatically be reset</p> <p>The ACOSF feature is provided on a best effort basis. Executions can occur while the ACOSF event is being processed.</p>	<p>Session Level</p> <p>Member chooses Trigger Action:</p> <p>Cancel all Open Orders</p> <p>Or</p> <p>Do Not Cancel All Open Orders</p>
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<p>Mass Cancel Functionality (via Priority Purge Port API, or Member Firm Portal)</p>	<p>A member can use the Mass Cancel functionality to manage risk for themselves as well as their sponsored clients. The scope of a Mass Cancel Request or a Mass Cancel Reset request must be one of the following:</p> <ul style="list-style-type: none"> • Firm Level (available via Member Firm Portal Only). When a Mass Cancel Request is submitted at the Firm Level, all orders submitted from that Firm across the exchange, for any MPID and any Session, will be subject to the Mass Cancel Action. • Session Level (available via Member Firm Portal Only). When a Mass Cancel Request is submitted at the Session Level, all orders submitted via that Session across the exchange, for any MPID, will be subject to the Mass Cancel Action. • MPID Level (available via Purge Port and Member Firm Portal). When a Mass Cancel Request is submitted at the MPID Level, all orders submitted from that specific MPID across the exchange, from any Session, will be subject to the Mass Cancel Action. • MPID + Purge Group Level (available via Purge Port and Member Firm Portal). When a Mass Cancel Request is submitted at the Purge Group Level, all orders submitted from that MPID with that Purge Group specified on the order across the exchange, from any Session, will be subject to the Mass Cancel Action. <p>The member must select one from amongst the following Mass Cancel Actions:</p> <ul style="list-style-type: none"> • Block Only: The system will reject all subsequent new orders received from the specified scope. Existing orders on the book are not impacted. The system will additionally send a warning to Trading Operations indicating the action taken. • Mass Cancel Only: The system will cancel all open orders on the exchange for the specified scope. However, the system will not reject any subsequent new orders from the specified scope. • Block and Mass Cancel: The system will reject all subsequent new orders and cancel all open orders on the exchange for the specified scope. • Note: During a mass cancel event, open orders will be cancelled in a deterministic order on a best efforts basis prioritizing price, notional value, and entry time. 	<p>Firm Level Session Level MPID Level MPID + Purge Group Level</p>																										
	<p>A block can be reset as follows:</p> <table border="1"> <thead> <tr> <th></th> <th>Reset via Firm Portal</th> <th>Reset via Purge Port</th> <th>Reset via MEO/FOI Port</th> </tr> </thead> <tbody> <tr> <td>MPID Block via Purge Port</td> <td>Yes</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>MPID + Purge Group Block via Purge Port</td> <td>Yes</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>MPID + Purge Group Block via Firm Portal</td> <td>Yes</td> <td>No</td> <td>No</td> </tr> <tr> <td>MPID Block via Firm Portal</td> <td>Yes</td> <td>No</td> <td>No</td> </tr> <tr> <td>Session Block via Firm Portal</td> <td>Yes</td> <td>No</td> <td>No</td> </tr> <tr> <td>Firm Block via Firm Portal</td> <td>Yes</td> <td>No</td> <td>No</td> </tr> </tbody> </table>			Reset via Firm Portal	Reset via Purge Port	Reset via MEO/FOI Port	MPID Block via Purge Port	Yes	Yes	No	MPID + Purge Group Block via Purge Port	Yes	Yes	No	MPID + Purge Group Block via Firm Portal	Yes	No	No	MPID Block via Firm Portal	Yes	No	No	Session Block via Firm Portal	Yes	No	No	Firm Block via Firm Portal	Yes
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MPID Block via Purge Port	Yes	Yes	No																									
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Session Block via Firm Portal	Yes	No	No																									
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