Survey of Exchange-Provided Electronic Trading Risk Mitigation Controls

Montreal Exchange Inc.

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This document presents the exchange's responses to the FIA Exchange Risk Controls Survey, maintained as part of the FIA Exchange Risk Controls Repository. Fields designated for FIA internal use only are not disclosed. Unanswered fields are marked "N/A".

Contact Information

1 **Exchange Name**
Montreal Exchange Inc.

5 **Email for FIA members to find additional information**
monitoring@tmx.com

6 **Website URL for FIA members to find additional information**
https://www.m-x.ca/en/trading/connectivity/risk-management-tools

Introductory Question

7 **Does the Exchange allow direct market access?**

Check all that apply

- ☒ Direct access for Clearing Members
- ☒ Direct access for Traders sponsored by Clearing Members/Sponsoring Firms
- ☒ Direct access for any Trader who wants it
- ☒ Direct access via a Clearing Member's/Sponsoring Firms infrastructure

Exchange-Provided Risk Management Tools

8 **Does the Exchange make maximum order size limits available to Clearing Members/Sponsoring Firms and Traders, and if so, how can they be set?**

Check all that apply

- ☐ Not Applicable
- ☒ Available to set manually
- ☒ Available to set via API
- ☐ Is this a mandatory control

9 **If mandatory, provide rule citation**

- ☐ Not applicable
- ☒ Available to set manually
- ☒ Available to set via API
- ☐ Is this a mandatory control?

> No rule citation. Note: available to set manually — via Web GUI.

11 **If mandatory provide rule citation**

- ☐ Not applicable
- ☒ Available to set manually
- ☒ Available to set via API
- ☐ Is this a mandatory control

> No rule citation. Note: available to set manually — via Web GUI.

13 **If mandatory provide rule citation**

- [ ] Not applicable
- [x] Available to set manually
- [x] Available to set via API
- [ ] Is this a mandatory control?

> No rule citation. Note: available to set manually — via Web GUI.

15 **If mandatory provide rule citation**

- [x] Not applicable
- [ ] Available to set manually
- [ ] Available to set via API
- [ ] Is this a mandatory control?

> No rule citation. Note: available to set manually — via Web GUI.

17 **If mandatory provide rule citation**

N/A

18 **Does the Exchange make maximum intraday loss available to Clearing Members/Sponsoring Firms and Traders, and if so, how can it be set?**

Check all that apply

- [x] Not applicable
- [ ] Available to set manually
- [ ] Available to set via API
- [ ] Is this a mandatory control

19 **If mandatory provide rule citation**

N/A

20 **Does the Exchange make maximum number of open orders available to Clearing Members/Sponsoring Firms and Traders, and if so, how can it be set?**

Check all that apply

- [x] Not applicable
- [ ] Available to set manually
- [ ] Available to set via API
- [ ] Is this a mandatory control?

21 **21 If mandatory provide rule citation**

N/A

22 **Does the Exchange make restricted list management available to Clearing Members/Sponsoring Firms and Traders, and if so, how can it be set?**

Check all that apply

- [ ] Not applicable
- [x] Available to set manually
- [x] Available to set via API
- [ ] Is this a mandatory control?

23 **If mandatory provide rule citation**

- ☐ Not applicable
- ☒ Available to set manually
- ☒ Available to set via API
- ☐ Is this a mandatory control?

> No rule citation. Note: available to set manually — via Max Order Quantity 0; available to set via API — via Max Order Quantity 0.

25 **If mandatory provide rule citation**

- ☒ Not applicable
- ☐ Available to set manually
- ☐ Available to set via API
- ☐ Is this a mandatory control?

> No rule citation. Note: available to set manually; available to set via API.

27 **If mandatory provide rule citation**

N/A

28 **Does the Exchange make number of outstanding orders/quotes available to Clearing Members/ Sponsoring Firms and Traders, and if so, how can it be set?**

Check all that apply

- ☐ Not applicable
- ☒ Available to set manually
- ☒ Available to set via API
- ☐ Is this a mandatory control?

29 **If mandatory provide rule citation**

- ☐ Not applicable
- ☐ Available to set manually
- ☒ Available to set via API
- ☐ Is this a mandatory control?

> No rule citation. Note: available to set manually — PAR reports; available to set via API — Drop Copy.

31 **If mandatory provide rule citation**

- ☐ Not applicable
- ☐ Available to set manually
- ☐ Available to set via API
- ☒ Is this a mandatory control?

> No rule citation. Note: available to set via API — Quote Volume Limits avaibale via MM protection in SAIL API.

33 **If mandatory provide rule citation**

- ☐ Not applicable
- ☐ Available to set manually
- ☐ Available to set via API
- ☒ Is this a mandatory control?

> No Rule, its Business Operations defined threshold.
> No rule citation. Note: available to set manually — All Order Sessions 600 msg/second, all MM Quotes sessions 3000 msg/second. Set by exchange only.

35 **If mandatory provide rule citation**

> No Rule, its Business Operations defined threshold.
> No rule citation. Note: available to set manually — All Order Sessions 600 msg/second, all MM Quotes sessions 3000 msg/second. Set by exchange only.

36 **Are there any other pre-trade risk control tools that the Exchange makes available to Clearing Members/ Sponsoring Firms and Traders, and if so, how can they be set?**

> The Montreal Exchange offers Market Maker Protection (MMP) controls in the trading engine. This functionality allows market makers quoting via the Bulk Quote facility to set limits as follows:
> Trade count refresh (Maximum amount of trades above a minimum volume)
> Trade Volume Market Maker Protection
> Netted Trade Volume Market Maker Protection
> Notional Value Market Maker Protection
> Netted Notional Value Market Maker Protection
> All above limts are set via the SAIL protocol API

37 **Does the Exchange allow Clearing Members/Sponsoring Firms and Traders to set separate hard and soft limits?**

Yes

38 **If yes, is the setting of separate hard and soft limits mandatory?**

No

39 **If mandatory, provide rule citation.**

N/A

40 **Does the Exchange make maximum order size limits available to Clearing Members/Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- ☐ Not applicable
- ☐ Available to set by asset class
- ☒ Available to set by product group
- ☒ Available to set by product
- ☒ Available to set by spread
- ☐ Available to set by expiry
- ☐ Other

41 **Does the Exchange make maximum intraday net position limits available to Clearing Members/ Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- ☐ Not applicable
- ☐ Available to set by asset class
- ☒ Available to set by product group
- ☐ Available to set by product
- ☐ Available to set by spread
- ☐ Available to set by expiry
- ☐ Other

> Note for available by spread - Position Limits are on Legs only.

42 **Does the Exchange make maximum intraday gross position limits available to Clearing Members/ Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- ☐ Not applicable
- ☐ Available to set by asset class
- ☒ Available to set by product group
- ☐ Available to set by product
- ☐ Available to set by spread
- ☐ Available to set by expiry
- ☐ Other

> Note for available by spread - Position Limits are on Legs only.

43 **Does the Exchange make maximum intraday notional value limits available to Clearing Members/ Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- ☐ Not applicable
- ☐ Available to set by asset class
- ☒ Available to set by product group
- ☐ Available to set by product
- ☐ Available to set by spread
- ☐ Available to set by expiry
- ☐ Other

> Note for available by spread - Position Limits are on Legs only.

44 **Does the Exchange make maximum intraday margin utilization/buying power limits available to Clearing Members/Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- ☒ Not applicable
- ☐ Available to set by asset class
- ☐ Available to set by product group
- ☐ Available to set by product
- ☐ Available to set by spread
- ☐ Available to set by expiry
- ☐ Other

45 **Does the Exchange make maximum intraday loss available to Clearing Members/Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- ☒ Not applicable
- ☐ Available to set by asset class
- ☐ Available to set by product group
- ☐ Available to set by product
- ☐ Available to set by spread
- ☐ Available to set by expiry
- ☐ Other

46 **Does the Exchange make maximum number of open orders available to Clearing Members/Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- [x] Not applicable
- [ ] Available to set by asset class
- [ ] Available to set by product group
- [ ] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other

47 **Does the Exchange make restricted list management available to Clearing Members/Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- [ ] Not applicable
- [ ] Available to set by asset class
- [x] Available to set by product group
- [ ] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other

> Note for available to be set by product group - via Max Order Quantity 0.

48 **Does the Exchange make order/quote volume limits available to Clearing Members/Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- [ ] Not applicable
- [ ] Available to set by asset class
- [x] Available to set by product group
- [ ] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other

> Note for available to be set by product group - via Market Maker Protection.

49 **Does the Exchange make user defined price collars available to Clearing Members/Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- [x] Not applicable
- [ ] Available to set by asset class
- [ ] Available to set by product group
- [ ] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other

50 **Does the Exchange make number of outstanding orders/quotes available to Clearing Members/ Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- [x] Not applicable
- [ ] Available to set by asset class
- [ ] Available to set by product group
- [ ] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other

51 **Does the Exchange make outstanding order/quote volume limits available to Clearing Members/ Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- [ ] Not applicable
- [ ] Available to set by asset class
- [x] Available to set by product group
- [ ] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other

> Note for available to set by product group - Via SAIL API.

52 **Does the Exchange make message volume per time interval available to Clearing Members/Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- [ ] Not applicable
- [ ] Available to set by asset class
- [x] Available to set by product group
- [ ] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other

> Note for available to set by product group - Via SAIL API.

53 **Does the Exchange make number of messages per time interval available to Clearing Members/ Sponsoring Firms and Traders, and if so, at what product level can they be set?**

Check all that apply

- [x] Not applicable
- [ ] Available to set by asset class
- [ ] Available to set by product group
- [ ] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other

> Max Number of Msg per time interval is global for all products on the exchange

54 **Are there any other pre-trade risk control tools that the Exchange makes available to Clearing Members/ Sponsoring Firms and Traders, and if so, at what product level can they be set?**

> The Montreal Exchange offers Market Maker Protection (MMP) controls in the trading engine. This functionality allows market makers quoting via the Bulk Quote facility to set limits as follows:
> Trade count refresh (Maximum amount of trades above a minimum volume)
> Trade Volume Market Maker Protection
> Netted Trade Volume Market Maker Protection
> Notional Value Market Maker Protection
> Netted Notional Value Market Maker Protection
> All above limts are set via the SAIL protocol API

55 **At what user level does the Exchange allow pre-trade risk control tools to be set?**

Check all that apply

- [x] Clearing Firm/Sponsoring Firm Default
- [x] Trader Firm
- [ ] Trader Account Number
- [x] Trader/User Login
- [x] Trader defined desk/Strategy group
- [ ] Other

56 **Does the Exchange have 'clone user' functionality which allows for the**

copying/mirroring of controls from one Trader, group, firm etc. to another?

No

57 **If yes, does the functionality allow for choosing what components to clone rather than cloning everything?**

N/A

58 **Does the Exchange allow Clearing Member/Sponsoring Firm administrators to raise or lower limits during the trading day?**

N/A

59 **Does the Exchange allow Trader administrators to raise or lower limits during the trading day?**

N/A

60 **Does the Exchange offer post-trade surveillance tools?**

Yes

61 **If yes, which of the following are available?**

> 1- Drop Copy
> 2- Particpant Activity Report (PAR)
> 3- ATR Feed
> 4- Post Trade TMS and TM FIX API Feed

62 **Does the Exchange offer configurable price tolerance levels?**

No

63 **If yes, how is the logic designed?**

N/A

64 **Does the Exchange provide self-match prevention tools configurable by both the Clearing Member/ Sponsoring Firm and the Trader?**

Yes

65 **If yes, which of the following features are available?**

Check all that apply

- ☒ New order cancels entire resting order
- ☐ New order cancels only same quantity of resting order
- ☒ New order is canceled, resting order remains
- ☒ Both new order and resting order are cancelled
- ☐ Order will execute against each other but not print
- ☒ Configurable only by Trader
- ☐ Configurable only by Clearing Member/Sponsoring Firm
- ☐ Other

> Order will skip over self match order and trada with the next resting order at the same price if available.
> For 'Configurable only by Trader': Yes (can be inbound, resting, or both).
> Note for question 66 below, SMP is done at FIX Tag 7927 Anti Wash ID and can be configured from single trader, trader desk team, or entire firm Level.

66 **If yes, at what levels can the controls be set**

Check all that apply

- ☒ Member level firm
- ☐ Group level
- ☒ Trader ID level
- ☐ Member ID level
- ☒ Customer Account Level
- ☒ Strategy Level
- ☒ Session ID level

67 **What other services does the Exchange offer Clearing Members/Sponsoring Firms to assist with risk management?**

Check all that apply

- ☒ Drop copy feeds
- ☒ Kill switches
- ☐ Independent order management tool
- ☒ Cancel on disconnect
- ☐ Order cancel (on behalf)
- ☒ Mass cancel (on behalf)
- ☐ Non-exchange infrastructure order/trade feed (web etc.)
- ☐ Ability to cancel delayed orders (as used in matching engine-based speed bumps)
- ☐ Other

68 **What other services does the Exchange offer Traders to assist with risk management?**

Check all that apply

- ☒ Drop copy feeds
- ☒ Kill switches
- ☐ Independent order management tool
- ☒ Cancel on disconnect
- ☐ Order cancel (on behalf)
- ☒ Mass cancel (on behalf)
- ☐ Non-exchange infrastructure order/trade feed (web etc.)
- ☐ Ability to cancel delayed orders (as used in matching engine-based speed bumps)
- ☐ Other

> For drop copy feeds - Indivdual Traders can request a filtered Drop Copy from thier AP Broker.

69 **If the Exchange makes a “drop copy” feed available, what information is contained in the feed?**

Check all that apply

- ☒ Order Acknowledgements
- ☒ Filled Orders
- ☒ New orders
- ☒ Order Amendments
- ☒ Order Cancellations
- ☒ Reject messages
- ☒ Time stamps for all events
- ☒ Order numbers for all events
- ☐ Other

> The SAIL Dropy Feed may also contain:
> -Bulk Quote Acknowledhemnets
> -Respons for Request for Quotes,
> -Guarantted Cross Auction Orders Acknowledgements,
> -Confirmation of Panic Quotes Messages
> -Stretagy Creation Request Acknowledgement Messages

70 **If the Exchange offers a Kill Switch to Clearing Members/Sponsoring Firms, how is it implemented?**

Check all that apply

- ☒ Manually triggered and reset using exchang- provided administration tool
- ☒ Triggered and reset using an exchange-provided API
- ☒ Automated kill switch triggered by exchange defined parameters
- ☐ Other

> For automated kill switch triggered by exchange defined parameters -only for Market Maker Protection.
>
> For question 71, at EoD.

71 **If triggered and not reset intraday, does the exchange automatically reset the Kill Switch?**

Yes

72 **If triggered and not reset intraday, does the exchange require the Kill Switch to be manually reset?**

Yes

73 **If the Exchange offers a Kill Switch to Traders, how is it implemented?**

Check all that apply

- ☒ Manually triggered and reset using exchange provided administration tool
- ☒ Triggered and reset uding an exchange provided API
- ☒ Automated kill switch triggered by exchange defined parameters
- ☐ Other

> For automated kill switch triggered by exchange defined parameters -only for Market Maker Protection.
>
> For question 74, at EoD.

74 **If triggered and not reset intraday, does the exchange automatically reset the Kill Switch?**

Yes

75 **If triggered and not reset intraday, does the exchange require the Kill Switch to be manually reset?**

Yes

76 **If the Exchange provides independent order management capability, how is it provided?**

> By Calling the Market Operations Department, request for cancellations can be requested.

77 **If the Exchange provides independent order management capability, does it enable the following by phone?**

Check all that apply

- ☒ Ability to review all orders
- ☒ Ability to review fill information for the day, including partial fills
- ☐ Ability to review cancel and replace history
- ☒ Ability to review timestamps
- ☒ Ability to cancel individual orders
- ☒ Ability to cancel groups of orders
- ☒ Ability to cancel all working orders with a single command
- ☐ Other

78 **If the Exchange provides independent order management capability, does it enable the following by portal?**

- ☐ Ability to review all orders
- ☐ Ability to review fill information for the day, including partial fills
- ☐ Ability to review cancel and replace history
- ☐ Ability to review timestamps
- ☐ Ability to cancel individual orders
- ☐ Ability to cancel groups of orders
- ☐ Ability to cancel all working orders with a single command
- ☐ Other — **Not applicable for all options.**

79 **If the Exchange offers cancel on disconnect at the session level, please specify whether it is mandatory or discretionary**

Discretionary

80 **If Mandatory, provide rule citation**

> No rule citation. Note discretionary on each individual order via Time in Force (Tag 59)

General Exchange Pre-Trade Risk Controls

81 **If the Exchange provides pre-trade control tools, where do each of the tools reside?**

- Maximum order size limits — **Matching engine**
- Maximum intraday net postion limits — **Matching engine**
- Maximum intraday gross position limits — **Matching engine**
- Maximum intraday notional value limits — **Matching engine**
- Maximum intraday margin utilization/buying power limits — **Not Applicable**
- Maximum intraday loss — **Not Applicable**
- Maximum number of open orders — **Not Applicable**
- Restriced list management — **Matching engine**
- Order/Quote volume limits — **Matching engine**
- User defined price collars — **Not Applicable**
- Number of outstanding order/quote limits — **Not Applicable**
- Outstanding orders/quotes volume limits — **Not Applicable**
- Number of messages per time interval — **Matching engine**
- Message volume per time interval — **Matching engine**

82 **If the Exchange provides any other pre-trade control tools, what are these, and where do each of the tools reside?**

> Market Maker Protection offered only to Market Makers using Bulk Quotes, also resides in the trading engine.

83 **If the Exchange provides pre-trade control tools, what happens when each limit is hit?**

- Maximum order size limits — **Reject Order**
- Maximum intraday net postion limits — **Reject Order**
- Maximum intraday gross position limits — **Reject Order**
- Maximum intraday notional value limits — **Reject Order**
- Maximum intraday margin utilization/buying power limits — **Not Applicable**
- Maximum intraday loss — **Not Applicable**
- Maximum number of open orders — **Not Applicable**
- Restriced list management — **Reject Order**
- Order/Quote volume limits — **Pause Order**
- User defined price collars — **Not Applicable**
- Number of outstanding order/quote limits — **Not Applicable**
- Outstanding orders/quotes volume limits — **Not Applicable**
- Number of messages per time interval — **Pause Order**
- Message volume per time interval — **Pause Order**

84 **Are there any other details that you would like to provide on the above question?**

N/A

85 **If the Exchange provides margin utilization/buying power control limits, how is the margin calculated?**

> The number of contracts multiplied by the margin rates Published by the Regulatory Division.
>
> Note for question 86 below, only if the clearing member is an approved participant of the Exchange.

86 **Does the Exchange have a risk controls portal available for Clearing Member / Sponsoring Firm and Trader viewing?**

Yes

87 **Does the Exchange set default risk controls if nothing is set by the Clearing Member / Sponsoring Firm or Trader?**

No

88 **The order is already in the matching engine queue and then the control check is performed (“out of-line check”)**

The control check is performed before the order reaches the matching engine and gets queued (“in-line check”)

Out-of-line check

89 **If the Exchange provides pre-trade control tools, are the pre-trade controls in the critical path even if they are optional (i.e., is the code still called)?**

Yes

90 **If the Exchange provides pre-trade control tools, do any of the controls add latency?**

Yes

91 **If yes, what is the latency added?**

> For all Global Credit Exposure calculations The PTV counter needs to sum the values from all the exchanges matching engines so there is minor Latency
> - MX Offers to "cancel" before Global as option to eliminate latency
> - MX offers PTV to be applied to Specific groups all inside one engine.

92 **If the Exchange provides pre-trade control tools, how are users notified if the controls are not operating as intended?**

> All PTV Trigger event notifications, rejected Orders, Global cancellation Acks, are sent via SAIL API feed, and also available in TMX Web GUI.
>
> Note to question 88 above, Each incoming order is validated by the matching engine and rejected and or PTV triggered by the engine itself. Engine is single threaded.
>
> Note that if controls are not operating as intended because of an exchange anomaly, our exchange push emails all clients with a market alert and posts all active market issues here: https://www.m-x.ca/en/trading/connectivity/status

93 **If the Exchange provides pre-trade control tools, how quickly do changes to the controls go into effect?**

> Real-Time

94 **If the Exchange provides pre-trade control tools, is there a notification that the controls have been changed?**

Yes

95 **If yes, please provide specifics**

> All PTV Control changes (revised values), are sent via SAIL API feed, and also available in TMX Web GUI.

97 **If yes, provide specifics on what information is stored and for how long**

> All Data from the Matching engine is stored internally for 5 years.

98 **If the Exchange provides pre-trade control tools is an audit trail of controls entered and controls changed available?**

N/A

Exchange Market Integrity Controls

99 **What controls does the Exchange set to prevent market disruption? Please indicate whether the controls are "available" or "mandatory."**

- Dynamic price banding — **Available**
- Market pauses or halts — **Mandatory**
- Message policies — **Available**
- Message throttles — **Mandatory**
- Kill switches — **Available**
- Cancel on disconnect — **Available**
- Error policies — **Available**

100 **If any of the above are mandatory, please provide the rule citation in each case.**

> Please refer to article 6.210 in the link below.
> https://rules.m-x.ca/w/mx/en#!
> fragment/zoupio-_Toc74301107/BQCwhgziBcwMYgK4DsDWszlQewE4BUBTADwBdoAvbR
> ABwEtsBaAfX2zgHYAWAZgAYAjAL4cAIABpk2UoQgBFRIVwBPaAHI 14ilTC4ECpao1adekA
> GU8pAEKqASgFEAMg4BqAQQByAYQfjSYABG0KTsoqJAA

101 **If the Exchange has dynamic price banding, does it enable the following?**

Check all that apply

- ☒ Limits differentiated on specific characteristics of a product
- ☐ Limit differentiated based on specific conditions of the market
- ☒ Limits that can be adapted intraday
- ☐ Other

> For product, it is availble for Stock Options, and Strategies on Index Futures (Dynamic Top of Book Protection).
>
> All products can have Price Bands adjusted live intraday

102 **If the Exchange has market pauses or halts, what specific events trigger such halts?**

Check all that apply

- ☐ Orders outside a given price deviations for a given financial instrument
- ☒ Change in volatility over a specified time interval for a given financial instrument
- ☐ Other

> Halts on the exchange are for the following:
> 1- Share Futures and Options: when thew underlying is halted in its primary marketplace.
> 2- When Industry Wide Global Circuitbreaker of +-10%: All Products Halted

103 **If the Exchange applies a market pause or halt for a specific financial instrument, does it**

coordinate halts with:

Check all that apply

- ☒ Related financial instruments on the same exchange
- ☒ Related financial instruments on other exchanges

104 **If the Exchange has market pauses or halts, how is price discovery re-established after the event?**

Check all that apply

- ☒ Resume continuous trading
- ☒ An intraday auction period
- ☐ Other

> For resume continuous trading, for shares Futures and Options.
>
> For intraday auction period, applies to all global circuit breaker restoration.

105 **If the Exchange has market pauses or halts, how is the event communicated to market participants?**

Check all that apply

- ☒ Email
- ☒ Website
- ☐ Other

> All Group State change notices since via all API and all mutlicast market data diffuion feeds.

106 **If the Exchange has market pauses or halts, are the parameters that trigger such events available publicly?**

Check all that apply

- ☒ Website
- ☐ On request
- ☐ Other — **Are available via the Webiste, and push email**

107 **If the Exchange offers cancel on disconnect functionality, is it enabled by default?**

No

108 **If the Exchange has an error policy, what is the approach to "single trade" error trades?**

Check all that apply

- ☒ Let the trade stand if with defined range
- ☐ Let the trade stand if within specified time limit
- ☒ Adjust the price if it is outside a certain range
- ☒ Cancel/bust the trade if it outside a certain range
- ☐ Other

> Cancel the transaction only if there is concern or potential issue.
> Both Counterparts of trade are consulted before cancelling a trade.

109 **If the Exchange has an error policy, what is the approach to "mass trade" error trades?**

Check all that apply

- ☒ Let trade stand if with defined range
- ☐ Let trade stand if within specified time limit
- ☒ Adjust price if outside a certain range
- ☒ Cancel/bust trade if outside a certain range
- ☐ Other

> Cancel the transaction only if there is concern or potential issue.
> Both Counterparts of trade are consulted before cancelling a trade.

110 **If the Exchange’s error trade policy adjusts prices outside of a certain range, what is the approach for determining that range?**

> The Market Operations Department calculates an acceptable reference price and the
> No-Cancel Range established by the exchange is either added to or subtracted from said refrence price.
> Please refer to article 6.210 in the link below for more details. https://rules.m-x.ca/w/mx/en#!
> fragment/zoupio-_Toe?4301108/BQCwhgziBcwMYgK4DsDWszlQewE4BUBTADwBdoAvbR
> ABwEtsBaAfX2zgHYAWAZgAYAjAL4AOAJQAaZNIKEIARUSFcAT2gBydRliEwuBluVrN23fp
> ABIPKQBCagEoBRADKOAagEEAcgGFHE0jAAl2hSdjExlA

111 **Are all products subject to the same approach or do some products inherit the same range as other similar products?**

For example, does a calendar spread product inherit the range from the corresponding outright product? Or is the range for that calendar spread product assessed on its own merit?

> Just outright Futures or Options on Futures contracts within a product group have the same No-Cancel Range.
> Related Strategy instruments have their own separate No-Cancel Range.
> Please refer to article 6.210 in the link below for more details. 1ttps://rules.m-x.ca/w/mx/en#!
> ragment/zoupio-_Toe?4301108/BQCwhgziBcwMYgK4DsDWszlQewE4BUBTADwBdoAvbR
> tswEtsBaAfX2zgHYAWAZgAYAjAL4AOAJQAaZNIKEIARUSFcAT2gBydRliEwuBluVrN23fp

112 **How often are these ranges reviewed to ensure they offer appropriate protection?**

> Annually

113 **How often has the error trade policy been invoked in the past 12 months, and what were the circumstances for each?**

> The error trade policy has been invoked numerous times and is mostly related to prices outside the no-review range and are subsequently adjusted to ensure that traded prices are not detrimental to the normal operations of the market.

114 **Does the Exchange have a clearly defined dispute resolution forum in case of error trades?**

Yes

115 **If yes, what is the forum and dispute resolution process**

> As described in MX Rules PART 5 - DISPUTES
> https://rules.m-x.ca/w/mx/en#!fragment/zoupio-_Toc225241933/
> BQCwhgziBcwMYgK4DsDWszIQewE4BUBTADwBdoAvbRABwEtsBaAfX2zgCYOBWDgFgCMATgDMIgJQAaZNl
> KEIARUSFcAT2gByDZIiEwuBEpXqNpXGAAmhAAQW6EGojnbd+hAGU8pAELqASgCiADIBAGoAggByAMIBkqRg
> AEbQrgYg4uJAA

Exchange Certification and Testing Environments

116 **Does the Exchange provide a certification environment for certifying vendor and proprietary trading systems?**

Yes

117 **If the Exchange provides a certification environment, which specific functions must be certified?**

Check all that apply

- ☒ Ability of the system to communicate with the exchange
- ☒ Specific trading functionality offered by the system
- ☒ Specific risk functionality offered by the system
- ☐ Other

> Note there are 3 General Test Enviornments for 3rd party Vendor and prop trading systems testing and certifications.
>
> Vendors certify to one or multiple the following Modules:
> 1- Conenctivity Management (Manadatory for all)
> 2- Order Management
> 3- Quote Management (for option market makers only)
> 4- Trade Management
> 5- Unsolocited Messages (Trade cancellation, Trade Creation, Trade Adjustment)
> 6- User Strategy Creation Management
> 7- Risk Tools Management

118 **Does the Exchange provide one certification environment for current production and another environment for the next version of production?**

Yes

119 **If yes, what is the availability of the certification environment?**

> 7:30 PM ET to 5:20 PM ET from Sunday to Friday.

120 **How closely does the certification environment mirror the production environment?**

- ☐ Exact duplicate with mirrored synthetic market activity from production
- ☒ Exact duplicate without mirrored market activity, only activity from other certification activity
- ☐ Other

121 **Does the Exchange offer a test symbol in the production environment to enable the entry of test trades in production without impacting actual markets?**

No

122 **If the Exchange offers a certification environment, which of the following tests can be performed in this environment?**

Check all that apply

- ☒ Unit testing
- ☒ Functional testing (integration, regression)
- ☐ Non-functional testing (load, stress, performance, scalability)
- ☒ Acceptance testing

123 **If the Exchange offers a certification environment, which of the following actions can be performed in this environment?**

Check all that apply

- ☒ Send a test order
- ☒ Send a cancel of the test order
- ☒ Test all order types (blocks, crosses, etc.)
- ☒ Receive confirmation of a cancellation of test order
- ☒ Receive confirmation of partial execution of the test order and cancellation
- ☒ Receive confirmation of full execution of the test order and cancellation
- ☒ Receive confirmation of rejection of the test order
- ☒ Receive confirmation of enabled risk controls working in the enviroment
- ☒ Test pre-trade risk control functionality

124 **How are certification and live environments segregated?**

i.e., Are applicable orders (test or live) going over the same wires such that a configuration error can have a major impact?

> Different IPs Different Ports Different Servers Different Co-location
> Different Session Usernames, Different Session Passwords.
>
> Note for question 122 above, non-functional testing applicable only upon request for a reserved product or group.

General Information

125 **Does the Exchange provide information on the following to the public via website/exchange portal?**

Check all that apply

- ☒ Risk control tools provided by the Exchange to Traders
- ☒ Risk control tools provided by the Exchange to Clearing Members/Sponsoring Firms
- ☒ Mechanisms used by the Exchange to protect market integrity

126 **Does the Exchange verify Exchange set market integrity control settings to ensure that the values would prevent a market disruption?**

Yes

127 **Does the Exchange test and validate all Exchange provided risk control tools to ensure that they are operating properly?**

Yes

128 **Is there any additional information that you would like to provide on the Exchange's risk control tools?**

> Please see the following for for the MX Risk Controls:
> https://www.m-x.ca/en/trading/connectivity/risk-management-tools.
>
> For question 125.c above, please see: https://www.m-x.ca/en/trading/connectivity/exchange-market-thresholds-and-controls