Survey of Exchange-Provided Electronic Trading Risk Mitigation Controls

Korea Exchange (KRX)

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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**
Korea Exchange (KRX)

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https://global.krx.co.kr

Introductory Question

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

N/A

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**

> Derivatives Market Business Regulation §71,
> Enforcement Rules of the Derivatives Market Business Regulation §61

10 **Does the Exchange make maximum intraday net position 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?

11 **If mandatory provide rule citation**

> Derivatives Market Business Regulation §154,
> Enforcement Rules of the Derivatives Market Business Regulation §162, §162-2,
> Derivatives Market Business Regulation §124①-3,
> Enforcement Rules of the Derivatives Market Business Regulation §119②, Annex 22

12 **Does the Exchange make maximum intraday gross position 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

13 **If mandatory provide rule citation**

N/A

14 **Does the Exchange make maximum intraday notional value 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?

15 **If mandatory provide rule citation**

N/A

16 **Does the Exchange make maximum intraday margin utilization/buying power 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?

17 **If mandatory provide rule citation**

> Derivatives Market Business Regulation §134,
> Enforcement Rules of the Derivatives Market Business Regulation §133 (Upfront Initial Customer Margin)
> Derivatives Market Business Regulation §133,
> Enforcement Rules of the Derivatives Market Business Regulation §132-2 (Risk Exposure Amount)

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

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

19 **If mandatory provide rule citation**

> Derivatives Market Business Regulation §133①,
> Enforcement Rules of the Derivatives Market Business Regulation §137

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

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

21 **21 If mandatory provide rule citation**

> Derivatives Market Business Regulation §71,
> Enforcement Rules of the Derivatives Market Business Regulation §61

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
- ☐ Available to set manually
- ☐ Available to set via API
- ☐ Is this a mandatory control?

23 **If mandatory provide rule citation**

N/A

24 **Does the Exchange make order/quote volume limits 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?

25 **If mandatory provide rule citation**

> Derivatives Market Business Regulation §71,
> Enforcement Rules of the Derivatives Market Business Regulation §61

26 **Does the Exchange make user defined price collars 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?

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**

N/A

30 **Does the Exchange make outstanding orders/quotes volume limits 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?

31 **If mandatory provide rule citation**

> Derivatives Market Business Regulation §71,
> Enforcement Rules of the Derivatives Market Business Regulation §61

32 **Does the Exchange make number of messages per time interval 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?

33 **If mandatory provide rule citation**

> Guidelines on Member System Access and Related Matters §8
> Enforcement Rules of the Derivatives Market Business Regulation §164-2

34 **Does the Exchange make message volume per time interval 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?

35 **If mandatory provide rule citation**

N/A

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?**

> N/A

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

No

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

No

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

> cf) Only hard limits is applicable, allowing members to set more ristict limits to their customers within that hard limits

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

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

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

- [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

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
- [x] Available to set by product group
- [x] Available to set by product
- [x] 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
- [x] 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

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

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
- ☐ Available to set by product group
- ☒ Available to set by product
- ☒ Available to set by spread
- ☐ Available to set by expiry
- ☐ Other

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

- ☒ 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

- ☒ 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
- ☐ Available to set by product group
- ☒ Available to set by product
- ☒ Available to set by spread
- ☐ Available to set by expiry
- ☐ Other

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
- ☐ Available to set by product group
- ☐ Available to set by product
- ☐ Available to set by spread
- ☐ Available to set by expiry
- ☐ Other

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?**

- ☐ 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 — **Available to set by session(connection line)**

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?**

> N/A

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

Check all that apply

- ☐ Clearing Firm/Sponsoring Firm Default
- ☒ Trader Firm
- ☒ Trader Account Number
- ☐ Trader/User Login
- ☐ 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?**

No

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

No

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

Yes

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

> KRX conducts post-trade surveillance through KRX market surveillance system.

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

Yes

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

Check all that apply

- ☒ Price Deviation
- ☐ Market Depth Protection
- ☒ Price Drift Control
- ☒ Market Order Disabled
- ☐ Other

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

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

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

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

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

No

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

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

No

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?**

Check all that apply

- ☒ Manually using an exchange-provided administration tool?
- ☐ Automated by API
- ☐ Other

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

N/A

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

N/A

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

Mandatory

80 **If Mandatory, provide rule citation**

> Enforcement Rules of the Derivatives Market Business Regulation §164-10②

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	**Not Applicable**
• Maximum intraday notional value limits	**Not Applicable**
• Maximum intraday margin utilization/buying power limits	**Matching engine**
• Maximum intraday loss	**Matching engine**
• Maximum number of open orders	**Matching engine**
• Restriced list management	**Not Applicable**
• 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	**Matching engine**
• Number of messages per time interval	**Gateway**
• Message volume per time interval	**Not Applicable**

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

N/A

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

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

> Each tools are explained in Derivatives Market Business Regulation and Enforcement Rules

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

> Derivatives Market Business Regulation §134,
> Enforcement Rules of the Derivatives Market Business Regulation §133 (Upfront Initial Customer Margin)
> Derivatives Market Business Regulation §133,
> Enforcement Rules of the Derivatives Market Business Regulation §132-2 (Risk Exposure Amount)

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?**

Yes

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?**

No

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

N/A

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

> Users can check through comparing "pre-trade control tools page" and monitoring pages of "order/order rejection"(by Exchange monitoring responsibility)

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

> Immediately

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**

> members are informed via newsboard and e-mail regarding changes and time schedule

96 **If the Exchange provides pre-trade control tools, are previous control settings stored?**

Yes

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

> Changing dates and change histories are stored in DB permanently

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

Yes

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 — **Mandatory**
- Market pauses or halts — **Mandatory**
- Message policies — **Mandatory**
- Message throttles — *N/A*
- 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.**

> (Dynanmic price banding) Derivatives Market Business Regulation §70-2 & Enforcement Rules of the Derivatives Market Business Regulation §60-3
> (Market pauses or halts) Derivatives Market Business Regulation §76, §77 & Enforcement Rules of the Derivatives Market Business Regulation § 73~75
> (Error policies) Derivatives Market Business Regulation §81 & Enforcement Rules of the Derivatives Market Business Regulation §77
> (Message policies) Guidelines on Member System Access and Related Matters §8
> Enforcement Rules of the Derivatives Market Business Regulation §164-2

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

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

> In cases where trading of stocks in stock markets halts (ex.Circuit Break) respectively, the trading of all equity derivatives based on the relevant stock market, etc. (including futures spread trading for stock markets, etc) shall be suspended.

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

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

Check all that apply

- ☐ Email
- ☒ Website
- ☐ Other — **Market disclosure and notice(message)**

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

Check all that apply

- [x] Website
- [ ] On request
- [ ] Other

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?**

> The Exchange may, when engaging in the intermediation of trades, correct the trades that are executed to be inconsistent with the quotation details for any of the following reasons:
> 1. The failure of the Exchange derivatives system;
> 2. The failure in program operation of the Exchange derivatives system; and
> 3. Other reasons that are deemed necessary by the Exchange.
>
> In the case of a transaction error made in contract name, quantity, price, specification of bid and ask, quotation type, derivatives account number of customer, etc.: The relevant member shall be asked to take over the relevant trading as a proprietary account 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
- [x] Adjust price if outside a certain range
- [ ] Cancel/bust trade if outside a certain range
- [ ] Other

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

> The resolution limit of transaction errors of futures shall be the value determined by multiplying the previous day's closing price of underlying asset by the resolution limit ratio of transaction errors.

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?

> Different price ratios are applied by product, and spreads are also applied with different price ratios from individual products.

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

> N/A

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

> Correcting Transaction Errors(Enforcement Rules §77) :
> 4,484 ('23.1.1~23.12.31); 8,311 ('25.8.1~'26.7.31)
> Resolution of Transaction Errors(Enforcement Rules §78-3) :
> 0 ('23.1.1~12.31)

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

No

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

> Error trade process :
> Derivatives Market Business Regulation §81 & Enforcement Rules of the Derivatives Market Business Regulation §77

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

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?**

> offer period: Business days / offer time: Business hours

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?

> Separated by physical network

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?**

N/A