Survey of Exchange-Provided Electronic Trading Risk Mitigation Controls

Cboe Futures Exchange, LLC

Exchange Name	Cboe Futures Exchange, LLC
Contact email	cfetradedesk@cboe.com
Website	https://www.cboe.com/us/futures/

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**
Cboe Futures Exchange, LLC

5 **Email for FIA members to find additional information**
cfetradedesk@cboe.com

6 **Website URL for FIA members to find additional information**
https://www.cboe.com/us/futures/

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**

> CFE Rule 513A(b)

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**

> CFE Rule 513A(c) Futures Only

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

- [x] 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
- [x] Available to set manually
- [ ] Available to set via API
- [x] Is this a mandatory control?

15 **If mandatory provide rule citation**

> CFE Rules 513A(j)(i)(B) and 513A(j)(iii) Options on Futures Only

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

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

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

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

23 **If mandatory provide rule citation**

> CFE Rule 513A(b)

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**

> CFE Rule 513A(b)

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**

> CFE Rule 513A(d) Price collars for Options on Futures are Exchange defined

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**

CFE Rule 513A(c) Futures Only

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**

CFE Rule 513A(h)

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**

CFE Rule 513A(h)

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?**

> CFE offers default Limit Up/Limit Down bands during Extended Hours trading and orders are rejected if priced outside of the bands. In addition to Exchange set and user specified price collars on limit orders, CFE offers default market order protection that rejects a market order if the prevailing market is wider than an acceptable Threshold Width and limits the extent to which a market order that is partially executed can be further executed above or below the initial price level. Futures spread instruments on CFE will transition to a queuing (non-trading) state when any one of the individual legs is quoted wider than an acceptable Threshold Width. CFE offers maximum notional value order size limits that may be set by Clearing Members and Traders for Options on Futures. CFE also offers market order protection for market orders in no-bid (offer) options on futures series in which market orders are permitted and an all buy legs spread order price reasonability check for options on futures, a debit/credit spread order price reasonability check for options on futures, and an acceptable price range spread order price reasonability check for options on futures.

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?**

N/A

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
- [x] 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
- [x] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other — **Futures 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

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 **— Options on Futures 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
- [ ] Available to set by product group
- [x] 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
- [x] 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
- [x] Available to set by product
- [ ] Available to set by spread
- [ ] Available to set by expiry
- [ ] Other

> Price collars for Options on Futures are Exchange defined

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 **— Futures Only**

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?**

- ☐ 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 **— Set at Port (match capacity allocation) Level**

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 **— Set at Port (match capacity allocation) Level**

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?**

> CFE sets product level Limit Up/Limit Down bands during Extended Hours trading where orders are rejected if priced outside of the bands. In addition to Exchange set and user specified price collars on limit orders, CFE offers default market order protection that rejects a market order if the prevailing market is wider than an acceptable Threshold Width. It also limits the extent to which a market order that is partially executed can be further executed above or below the initial price level. Spread instruments on CFE will transition to a queuing (non-trading) state when any one of the individual legs is quoted wider than an acceptable Threshold Width. All of these risk controls apply at the product level.

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?

Yes

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

Yes

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

Yes

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

Yes

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

Yes

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

Check all that apply

- ☐ Repeated execution alerts/controls
- ☒ Volume per time interval controls
- ☐ Other

> In addition to volume per time intervals for both Futures and Options on Futures (OOF) products, CFE offers the following unique post-trade limits for Options on Futures products: Trade count per time interval, Total notional per time interval, Percentage of quote per time interval.

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

> Limit Up/Limit Down protection. Limit order protection. No market orders allowed or no market orders allowed during extended trading hours in certain products.

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

> Cancel on Disconnect functionality includes Cancel on Port (Match Capacity Allocation) Disconnect, Cancel on Matching Engine Disconnect, and Cancel on Drop Disconnect functionality. CFE also offers Cancel on Reject functionality.

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

> CFE offers drop copy feeds that provide executions as well as order drop copy feeds that provide all electronic order messaging.

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?**

Yes

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

No

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

> Kill Switch can be initiated by Exchange Connection protocols if initiated by Trading Privilege Holders. A Kill Switch automatically resets at the start of the next business day. The Kill Switch needs to be triggered again at the beginning of the next business day to keep it in place for that business day or other risk controls may be used after the initial triggering of the Kill Switch to prevent subsequent submission of additional orders over multiple business days.

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?**

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?**

> Trade support is available via phone for clients to status and cancel orders.

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

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

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**

N/A

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	*N/A*
• Maximum intraday notional value limits	Matching engine
• Maximum intraday margin utilization/buying power limits	*N/A*
• Maximum intraday loss	*N/A*
• Maximum number of open orders	*N/A*
• Restricted list management	Matching engine
• Order/Quote volume limits	Matching engine
• User defined price collars	Matching engine
• Number of outstanding order/quote limits	*N/A*
• Outstanding orders/quotes volume limits	Matching engine
• Number of messages per time interval	Gateway
• 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?**

> Limit Up/Limit Down Bands, Market Order Protection, spread threshold width checks are also available and the controls are on our matching 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	N/A
• Maximum intraday notional value limits	Reject Order
• Maximum intraday margin utilization/buying power limits	N/A
• Maximum intraday loss	N/A
• Maximum number of open orders	N/A
• Restriced list management	Reject Order
• Order/Quote volume limits	N/A
• User defined price collars	Reject Order
• Number of outstanding order/quote limits	N/A
• Outstanding orders/quotes volume limits	Reject Order
• Number of messages per time interval	Reject Order
• Message volume per time interval	Reject Order

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

> CFE interpreted its Maximum Order Size Limits risk control under CFE Rule 513A(b) to provide the ability to implement Restricted List Management and Order/Quote Volume Limits. CFE interpreted its Net Long and Net Short Limits risk control under CFE Rule 513A(c) to provide the ability to implement Outstanding Order/Quote Volume Limits. CFE interpreted its Execution Rate Limits risk control under CFE Rule 513A(g) to provide the ability to implement Message Volume Per Time Interval.

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

N/A

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?**

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?**

> The Exchange will receive alerts on the platform that pre-trade risk controls are not loaded or are not working properly. The Exchange will then inform the trading community of the general issue.

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

> They can be made effective 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**

> We have log viewer messaged internally that indicates to the exchange operations team that risk controls have been changed. We also have tooling within the pre-trade risk control itself that indicates which Trader identifier has had risk controls changed.

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**

> Pre-trade risk controls are stored and archived by the Exchange according to our Exchange Records Retention Policy.

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 — **Available**
- Message throttles — **Mandatory**
- Kill switches — **Available**
- Cancel on disconnect — **Available**
- Error policies — **Mandatory**

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

> Dynamic price banding: CFE Rules 1202(i)(i), 1302(l)(i), 1502(i)(i), 1702(l)(i), 2002(k)(i), 2102(k)(i), 2202(k)(i), 2702(k)(i), 2802(k)(i), and 2902(i)(i). Market pauses or halts: CFE Rules 417, 417A, and 418. Message throttles: CFE Rule 513A(h). Error policies: CFE Rule 416 and Policy and Procedure III of the Policies and Procedures Section of the CFE Rulebook. Messages in Flight: CFE Rule 513(c). The maximum messages in flight per FIX/BOE order handler to a matching engine is 64. An aggregate cap also applies where an order handler stops reading from the client's TCP socket once an order handler's total unacknowledged messages across all matching engines exceed 1024, resuming only after that count drops below 960.

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

Check all that apply

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

> Limit Up/ Limit Down Limits are based upon the prior day's daily settlement value. The limits may apply to specific futures products and during specific trading hours.

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
- [x] Change in volatility over a specified time interval for a given financial instrument
- [ ] Other

> CFE configures Limit Up/Limit Down bands for some products, established from the prior day's settlement price. Orders priced outside these thresholds will be rejected or cancelled back to the TPH. Additionally, CFE products based on securities indexes are subject to Market Wide Circuit Breaker (MWCB) halts during regular trading hours in conjunction with the MWCB halts applicable in the U.S. equities markets.

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

coordinate halts with:

Check all that apply

- [x] Related financial instruments on the same exchange
- [x] 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
- [x] 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

- [x] Email
- [x] Website
- [ ] Other

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

Check all that apply

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

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

Yes

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

> The Exchange generally adjusts prices if outside the non-reviewable range. If the adjustment of an error trade involving the execution of a Limit Order with a Customer Type Indicator Code of 4 would result in an adjusted trade price for the transaction that is greater than the limit price of the Limit Order if it was an Order to buy or that is less than the limit price of the Limit Order if it was an Order to sell, the Trade Desk will not adjust the trade and instead is authorized in its sole
> discretion to bust the 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

> The Exchange generally adjusts prices if outside the non-reviewable range. If the adjustment of an error trade involving the execution of a Limit Order with a Customer Type Indicator Code of 4 would result in an adjusted trade price for the transaction that is greater than the limit price of the Limit Order if it was an Order to buy or that is less than the limit price of the Limit Order if it was an Order to sell, the Trade Desk will not adjust the trade and instead is authorized in its sole
> discretion to bust the trade.

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

> For a trade that is adjusted because the trade is found to be outside the non-reviewable range, the execution price of the trade is adjusted to the bound of the non-reviewable range (except that if the adjustment would result in a trade price that is through the limit price of a limit order with Customer Type Indicator 4, the trade may be busted rather than adjusted).

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?

> The no bust range is set by product and may be different for different products. Spread orders have the same no bust range as the corresponding outright product.

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

> The Exchange periodically reviews these ranges as appropriate.

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

> The CFE error trade policy has been invoked 8 times in the past 12 months to bust a block trade or exchange of contract for related position transaction inputted by an Authorized Reporter of a CFE Trading Privilege Holder with a mistake, inaccuracy, or error. CFE has invoked the error trade policy in no instances on electronically executed trades within the past 12 months.

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**

> The dispute resolution process is governed by the arbitration provisions of Chapter 8 of the CFE Rulebook which provides that arbitrations are administered by National Futures Association under its arbitration rules.

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?**

No

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

N/A

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?**

Yes

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?

> Certification and production environments can be accessed from the same physical network connection to CFE. However, the environments are configured with distinct IP address ranges and authentication criteria (i.e. passwords). In addition, production access to any order entry ports is restricted to only source IP address subnets that have been communicated by the Trading Privilege Holder to the Exchange. Connection attempts sourcing from unknown IP address subnets are blocked.

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?**

CFE offers Traders the ability to designate the following options on futures risk monitor parameters by Executing Firm ID (EFID) and options on futures product: (1) number of contracts executed; (2) notional value of executions; (3) number of executions; and (4) number of contracts executed as a percentage of number of contracts outstanding. Traders may establish these parameters over a time period established by the Trader or on an absolute basis for a trading day. Clearing Members also have the ability to designate absolute notional value limits by EFID and product for options on futures. These parameters are triggered on a post-trade basis. Additional information regarding CFE's various risk controls is available in the CFE Rulebook (https://cdn.cboe.com/resources/regulation/rule_book/cfe-rule-book.pdf), including in particular in CFE Rule 513A; the Policies and Procedures Section of the CFE Rulebook (https://cdn.cboe.com/resources/regulation/rule_book/CFEPoliciesandProcedures.pdf); and the CFE Risk Management Specification (https://cdn.cboe.com/resources/membership/CBOE_FUTURES_EXCHANGE_RISK_MANAGEMENT_SPECIFICATION.pdf)