



FIA Survey of Exchange-Provided Electronic Trading Risk Mitigation Controls

FIA has committed to building a central repository of exchange-provided controls and practices. To do so, this survey has been developed in consultation with FIA members. The survey has been sent to 70+ exchanges globally and the central repository will present, in an exchange-by-exchange format, a view of the answers provided. We believe that the repository will provide a convenient, central source of exchange-provided controls and practices for global brokers, clearing firms and traders, as well as facilitating risk control benchmarking for exchanges.

The survey is in an editable excel format which will allow you to enter and save your responses and when complete to return to us at ExchangeRiskControlsSurvey@fia.org.

As you are completing the survey, should you have any questions or concerns, please contact us at ExchangeRiskControlsSurvey@fia.org.

FIA Privacy Statement <https://www.fia.org/fia-and-ifm-privacy-statement>

Contact Information

1	Exchange Name <i>As you would like it to appear on the FIA website</i>	Singapore Exchange (SGX)
2	Name of person completing the survey <i>First name Last name (i.e John Smith)</i> <i>For FIA internal use only</i>	
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6	Website URL for FIA members to find additional information <i>This will be published on the FIA website</i>	https://www.sgx.com/derivatives/platforms

Introductory Question

7	Does the Exchange allow direct market access? <i>Check all that apply</i>	
7.a	Direct access for Clearing Members	☒
7.b	Direct access for Traders sponsored by Clearing Members/Sponsoring Firms	☒
7.c	Direct access for any Trader who wants it	☐
7.d	Direct access via a Clearing Member's/Sponsoring Firms infrastructure	☒

Exchange-Provided Risk Management Tools

The following questions pertain to Exchange-Provided Risk Management Tools Configurable by Clearing Members/Sponsoring Firms and Traders

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? <i>Check all that apply</i>	
8.a	Not Applicable	☐
8.b	Available to set manually	☒
8.c	Available to set via API	☒
8.d	Is this a mandatory control	☒
9	If mandatory, provide rule citation	SGX Futures Trading Rules; Practice Note 2.6.3(1)(c) — Pre-Execution Checks.
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? <i>Check all that apply</i>	
10.a	Not applicable	☐
10.b	Available to set manually	☒
10.c	Available to set via API	☒
10.d	Is this a mandatory control?	☐
11	If mandatory provide rule citation	
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? <i>Check all that apply</i>	
12.a	Not applicable	☐
12.b	Available to set manually	☒
12.c	Available to set via API	☒
12.d	Is this a mandatory control	☐
13	If mandatory provide rule citation	
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? <i>Check all that apply</i>	
14.a	Not applicable	☒
14.b	Available to set manually	☐
14.c	Available to set via API	☐
14.d	Is this a mandatory control?	☐
15	If mandatory provide rule citation	
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? <i>Check all that apply</i>	
16.a	Not applicable	☐
16.b	Available to set manually	☒
16.c	Available to set via API	☒
16.d	Is this a mandatory control?	☒
17	If mandatory provide rule citation	SGX Futures Trading Rules; Practice Note 2.6.3(1)(c) — Pre-Execution Checks.

18	Does the Exchange make maximum intraday loss available to Clearing Members/Sponsoring Firms and Traders, and if so, how can it be set? <i>Check all that apply</i>	
18.a	Not applicable	☒
18.b	Available to set manually	☐
18.c	Available to set via API	☐
18.d	Is this a mandatory control	☐
19	If mandatory provide rule citation	
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? <i>Check all that apply</i>	
20.a	Not applicable	☒
20.b	Available to set manually	☐
20.c	Available to set via API	☐
20.d	Is this a mandatory control?	☐
21	21 If mandatory provide rule citation	
22	Does the Exchange make restricted list management available to Clearing Members/Sponsoring Firms and Traders, and if so, how can it be set? <i>Check all that apply</i>	
22.a	Not applicable	☐
22.b	Available to set manually	☒
22.c	Available to set via API	☐
22.d	Is this a mandatory control?	☐
23	If mandatory provide rule citation	
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? <i>Check all that apply</i>	
24.a	Not applicable	☒
24.b	Available to set manually	☐
24.c	Available to set via API	☐
24.d	Is this a mandatory control?	☐
25	If mandatory provide rule citation	
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? <i>Check all that apply</i>	
26.a	Not applicable	☐
26.b	Available to set manually	☒
26.c	Available to set via API	☒
26.d	Is this a mandatory control?	☐
27	If mandatory provide rule citation	
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? <i>Check all that apply</i>	
28.a	Not applicable	☒
28.b	Available to set manually	☐
28.c	Available to set via API	☐
28.d	Is this a mandatory control?	☐
29	If mandatory provide rule citation	

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? <i>Check all that apply</i>	
30.a	Not applicable	☒
30.b	Available to set manually	☐
30.c	Available to set via API	☐
30.d	Is this a mandatory control?	☐
31	If mandatory provide rule citation	
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? <i>Check all that apply</i>	
32.a	Not applicable	☐
32.b	Available to set manually	☒
32.c	Available to set via API	☐
32.d	Is this a mandatory control?	☐
33	If mandatory provide rule citation	
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? <i>Check all that apply</i>	
34.a	Not applicable	☐
34.b	Available to set manually	☒
34.c	Available to set via API	☐
34.d	Is this a mandatory control?	☐
35	If mandatory provide rule citation	
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?	<u>Position limits</u> may be set at Open Buy/Sell, Traded Bought/Sold, Traded Net, Total Buy/Sell, Total Net Buy/Sell. <u>Credit limit</u> may be set as the dollar value for long and short, at either gross or net level. <u>Dynamic Max Order Size</u> is an automated safeguard that reduces the max order size in proportion to the remaining credit limit. <u>Mass Quote Protection</u> may be used to limit exposure across a market by setting thresholds for maximum traded quantity within a time period. <u>Kill Switch</u>, when activated, will reject all incoming order messages except cancellations and delta quantity down messages. Additionally Titan provides Cancel on Disconnect, Drop Copy (orders and trades), Retrievable Error Trade Price Range
37	Does the Exchange allow Clearing Members/Sponsoring Firms and Traders to set separate hard and soft limits?	☒ Yes ☐ No
38	If yes, is the setting of separate hard and soft limits mandatory?	☐ Yes ☒ No
39	If mandatory, provide rule citation.	

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? <i>Check all that apply</i>	
40.a	Not applicable	☐
40.b	Available to set by asset class	☐
40.c	Available to set by product group	☐
40.d	Available to set by product	☒
40.e	Available to set by spread	☐
40.f	Available to set by expiry	☐
40.g	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? <i>Check all that apply</i>	
41.a	Not applicable	☐
41.b	Available to set by asset class	☐
41.c	Available to set by product group	☐
41.d	Available to set by product	☒
41.e	Available to set by spread	☐
41.f	Available to set by expiry	☐
41.g	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? <i>Check all that apply</i>	
42.a	Not applicable	☐
42.b	Available to set by asset class	☐
42.c	Available to set by product group	☐
42.d	Available to set by product	☒
42.e	Available to set by spread	☐
42.f	Available to set by expiry	☐
42.g	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? <i>Check all that apply</i>	
43.a	Not applicable	☒
43.b	Available to set by asset class	☐
43.c	Available to set by product group	☐
43.d	Available to set by product	☐
43.e	Available to set by spread	☐
43.f	Available to set by expiry	☐
43.g	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? <i>Check all that apply</i>	
44.a	Not applicable	☐
44.b	Available to set by asset class	☐
44.c	Available to set by product group	☐
44.d	Available to set by product	☐
44.e	Available to set by spread	☐
44.f	Available to set by expiry	☐
44.g	Other	All products ie systemwide

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? <i>Check all that apply</i>	
45.a	Not applicable	☒
45.b	Available to set by asset class	☐
45.c	Available to set by product group	☐
45.d	Available to set by product	☐
45.e	Available to set by spread	☐
45.f	Available to set by expiry	☐
45.g	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? <i>Check all that apply</i>	
46.a	Not applicable	☐
46.b	Available to set by asset class	☐
46.c	Available to set by product group	☐
46.d	Available to set by product	☒
46.e	Available to set by spread	☒
46.f	Available to set by expiry	☐
46.g	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? <i>Check all that apply</i>	
47.a	Not applicable	☐
47.b	Available to set by asset class	☐
47.c	Available to set by product group	☐
47.d	Available to set by product	☒
47.e	Available to set by spread	☐
47.f	Available to set by expiry	☐
47.g	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? <i>Check all that apply</i>	
48.a	Not applicable	☐
48.b	Available to set by asset class	☐
48.c	Available to set by product group	☐
48.d	Available to set by product	☒
48.e	Available to set by spread	☐
48.f	Available to set by expiry	☐
48.g	Other	All products for the CMs clients.
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? <i>Check all that apply</i>	
49.a	Not applicable	☐
49.b	Available to set by asset class	☐
49.c	Available to set by product group	☐
49.d	Available to set by product	☒
49.e	Available to set by spread	☐
49.f	Available to set by expiry	☐
49.g	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? <i>Check all that apply</i>	
50.a	Not applicable	☒
50.b	Available to set by asset class	☐
50.c	Available to set by product group	☐
50.d	Available to set by product	☐
50.e	Available to set by spread	☐
50.f	Available to set by expiry	☐
50.g	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? <i>Check all that apply</i>	
51.a	Not applicable	☒
51.b	Available to set by asset class	☐
51.c	Available to set by product group	☐
51.d	Available to set by product	☐
51.e	Available to set by spread	☐
51.f	Available to set by expiry	☐
51.g	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? <i>Check all that apply</i>	
52.a	Not applicable	☐
52.b	Available to set by asset class	☐
52.c	Available to set by product group	☐
52.d	Available to set by product	☐
52.e	Available to set by spread	☐
52.f	Available to set by expiry	☐
52.g	Other	Message volume i.e. all order book changes set per API. Order rate limit is also available at a product 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? <i>Check all that apply</i>	
53.a	Not applicable	☐
53.b	Available to set by asset class	☐
53.c	Available to set by product group	☐
53.d	Available to set by product	☐
53.e	Available to set by spread	☐
53.f	Available to set by expiry	☐
53.g	Other	Message volume i.e. all order book changes set per API. Order rate limit is also available at a product 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?	
	<u>Position limits</u> may be set at Open Buy/Sell, Traded Bought/Sold, Traded Net, Total Buy/Sell, Total Net Buy/Sell for each Product. <u>Credit limit</u> is applied system wide. <u>Dynamic Max Order Size</u> applies for each Product. <u>Mass Quote Protection</u> applies for products being quoted. <u>Kill Switch</u> applies to all products. <u>Cancel on Disconnect</u> applies to all products <u>Drop Copy</u> (orders and trades) applies to all products, <u>Retrievable Error Trade Price Range</u> applies to all products.	

55	At what user level does the Exchange allow pre-trade risk control tools to be set? <i>Check all that apply</i>	
55.a	Clearing Firm/Sponsoring Firm Default	☒
55.b	Trader Firm	☒
55.c	Trader Account Number	☒
55.d	Trader/User Login	☐
55.e	Trader defined desk/Strategy group	☐
55.h	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 ☒ No
57	If yes, does the functionality allow for choosing what components to clone rather than cloning everything?	☐ Yes ☒ No
58	Does the Exchange allow Clearing Member/Sponsoring Firm administrators to raise or lower limits during the trading day?	☒ Yes ☐ No
59	Does the Exchange allow Trader administrators to raise or lower limits during the trading day?	☒ Yes ☐ No
60	Does the Exchange offer post-trade surveillance tools?	☐ Yes ☒ No
61	If yes, which of the following are available? <i>Check all that apply</i>	
61.a	Repeated execution alerts/controls	☐
61.b	Volume per time interval controls	☐
61.c	Other	
62	Does the Exchange offer configurable price tolerance levels?	☒ Yes ☐ No
63	If yes, how is the logic designed? <i>Check all that apply</i>	
63.a	Price Deviation	☒
63.b	Market Depth Protection	☐
63.c	Price Drift Control	☐
63.d	Market Order Disabled	☐
63.e	Other	Price limits can be set as a percentage of the reference price which can be the last done price or DSP at a product level.
64	Does the Exchange provide self-match prevention tools configurable by both the Clearing Member/Sponsoring Firm and the Trader?	☒ Yes ☐ No
65	If yes, which of the following features are available? <i>Check all that apply</i>	
65.a	New order cancels entire resting order	☐
65.b	New order cancels only same quantity of resting order	☒
65.c	New order is canceled, resting order remains	☒
65.d	Both new order and resting order are cancelled	☐
65.e	Order will execute against each other but not print	☐
65.f	Configurable only by Trader	☒
65.g	Configurable only by Clearing Member/Sponsoring Firm	☒
65.h	Other	

66	If yes, at what levels can the controls be set <i>Check all that apply</i>	
66.a	Member level firm	☒
66.b	Group level	☒
66.c	Trader ID level	☒
66.d	Member ID level	☒
66.e	Customer Account Level	☒
66.f	Strategy Level	☒
66.g	Session ID level	☐
67	What other services does the Exchange offer Clearing Members/Sponsoring Firms to assist with risk management? <i>Check all that apply</i>	
67.a	Drop copy feeds	☒
67.b	Kill switches	☒
67.c	Independent order management tool	☐
67.d	Cancel on disconnect	☒
67.e	Order cancel (on behalf)	☒
67.f	Mass cancel (on behalf)	☒
67.g	Non-exchange infrastructure order/trade feed (web etc.)	☐
67.h	Ability to cancel delayed orders (as used in matching engine-based speed bumps)	☐
67.i	Other	
68	What other services does the Exchange offer Traders to assist with risk management? <i>Check all that apply</i>	
68.a	Drop copy feeds	☒
68.b	Kill switches	☒
68.c	Independent order management tool	☐
68.d	Cancel on disconnect	☒
68.e	Order cancel (on behalf)	☒
68.f	Mass cancel (on behalf)	☒
68.g	Non-exchange infrastructure order/trade feed (web etc.)	☐
68.h	Ability to cancel delayed orders (as used in matching engine-based speed bumps)	☐
68.i	Other	Mass Quote Protection, DMAX, Error Trade Price Range.
69	If the Exchange makes a “drop copy” feed available, what information is contained in the feed? <i>Check all that apply</i>	
69.a	Order Acknowledgements	☒
69.b	Filled Orders	☒
69.c	New orders	☒
69.d	Order Amendments	☒
69.e	Order Cancellations	☒
69.f	Reject messages	☐
69.g	Time stamps for all events	☒
69.h	Order numbers for all events	☒
69.i	Other	

70	If the Exchange offers a Kill Switch to Clearing Members/Sponsoring Firms , how is it implemented? <i>Check all that apply</i>	
70.a	Manually triggered and reset using exchange- provided administration tool	☒
70.b	Triggered and reset using an exchange-provided API	☐
70.c	Automated kill switch triggered by exchange defined parameters	☐
70.d	Other	
71	If triggered and not reset intraday, does the exchange automatically reset the Kill Switch?	☐ Yes ☒ No
72	If triggered and not reset intraday, does the exchange require the Kill Switch to be manually reset?	☒ Yes ☐ No
73	If the Exchange offers a Kill Switch to Traders , how is it implemented? <i>Check all that apply</i>	
73.a	Manually triggered and reset using exchange provided administration tool	☐
73.b	Triggered and reset using an exchange provided API	☐
73.c	Automated kill switch triggered by exchange defined parameters	☐
73.d	Other	Triggered via breach of any of the limits set.
74	If triggered and not reset intraday, does the exchange automatically reset the Kill Switch?	☐ Yes ☒ No
75	If triggered and not reset intraday, does the exchange require the Kill Switch to be manually reset?	☒ Yes ☐ No
76	If the Exchange provides independent order management capability, how is it provided? <i>Check all that apply</i>	
76.a	Manually using an exchange-provided administration tool?	☐
76.b	Automated by API	☐
76.c	Other	
77	If the Exchange provides independent order management capability, does it enable the following by phone ? <i>Check all that apply</i>	
77.a	Ability to review all orders	☐
77.b	Ability to review fill information for the day, including partial fills	☐
77.c	Ability to review cancel and replace history	☐
77.d	Ability to review timestamps	☐
77.e	Ability to cancel individual orders	☐
77.f	Ability to cancel groups of orders	☐
77.g	Ability to cancel all working orders with a single command	☐
77.h	Other	
78	If the Exchange provides independent order management capability, does it enable the following by portal ? <i>Check all that apply</i>	
78.a	Ability to review all orders	☐
78.b	Ability to review fill information for the day, including partial fills	☐
78.c	Ability to review cancel and replace history	☐
78.d	Ability to review timestamps	☐
78.e	Ability to cancel individual orders	☐
78.f	Ability to cancel groups of orders	☐
78.g	Ability to cancel all working orders with a single command	☐
78.h	Other	
79	If the Exchange offers cancel on disconnect at the session level, please specify whether it is mandatory or discretionary	☐ Mandatory ☒ Discretionary
80	If Mandatory, provide rule citation	

General Exchange Pre-Trade Risk Controls

The following questions pertain to Exchange Pre-Trade Risk Controls Generally.

81	If the Exchange provides pre-trade control tools, where do each of the tools reside?					
		Gateway	Matching engine	Other	Not Applicable	
81.a	Maximum order size limits	☐	☒	☐	☐	
81.b	Maximum intraday net position limits	☒	☐	☐	☐	
81.c	Maximum intraday gross position limits	☒	☐	☐	☐	
81.d	Maximum intraday notional value limits	☐	☐	☐	☒	
81.e	Maximum intraday margin utilization/buying power limits	☐	☐	☒	☐	
81.f	Maximum intraday loss	☐	☐	☐	☒	
81.g	Maximum number of open orders	☒	☐	☐	☐	
81.h	Restricted list management	☐	☒	☐	☐	
81.i	Order/Quote volume limits	☒	☐	☐	☐	
81.j	User defined price collars	☐	☐	☒	☐	
81.k	Number of outstanding order/quote limits	☐	☐	☒	☐	
81.l	Outstanding orders/quotes volume limits	☐	☐	☒	☐	
81.m	Number of messages per time interval	☒	☐	☐	☐	
81.n	Message volume per time interval	☒	☐	☐	☐	
82	If the Exchange provides any other pre-trade control tools, what are these, and where do each of the tools reside?		Position limits - PTRC (Pre-Trade Risk Control) server Credit limit system wide - PTRC server Dynamic Max Order Size - PTRC server Mass Quote Protection - Trading engine Kill Switch - PTRC server Cancel on Disconnect - Trading engine Drop Copy (orders and trades) - Trading engine Retrievable Error Trade Price Range - Central database			
83	If the Exchange provides pre-trade control tools, what happens when each limit is hit?					
		Reject Order	Pause Order	Shut Down Session	Other	Not Applicable
83.a	Maximum order size limits	☒	☐	☐	☐	☐
83.b	Maximum intraday net position limits	☒	☐	☐	☐	☐
83.c	Maximum intraday gross position limits	☒	☐	☐	☐	☐
83.d	Maximum intraday notional value limits	☐	☐	☐	☐	☒
83.e	Maximum intraday margin utilization/buying power limits	☒	☐	☐	☐	☐
83.f	Maximum intraday loss	☐	☐	☐	☐	☒
83.g	Maximum number of open orders	☒	☐	☐	☐	☐
83.h	Restricted list management	☒	☐	☐	☐	☐
83.i	Order/Quote volume limits	☒	☐	☐	☐	☐
83.j	User defined price collars	☒	☐	☐	☐	☐
83.k	Number of outstanding order/quote limits	☐	☐	☐	☐	☒
83.l	Outstanding orders/quotes volume limits	☐	☐	☐	☐	☒
83.m	Number of messages per time interval	☒	☐	☐	☐	☐
83.n	Message volume per time interval	☒	☐	☐	☐	☐

84	Are there any other details that you would like to provide on the above question?	Any breach condition of maximum order size, order rate limit, credit limit, position limit, price limit will cause the Kill Switch to be activated. When activated, the kill switch will reject all incoming order messages except cancellations for the associated risk group.
85	If the Exchange provides margin utilization/buying power control limits, how is the margin calculated?	Set as the dollar value for long and short , at either gross or net level. Credit consumption is defined as # of contracts X maintenance margin x coefficient. The coefficients allow adjusting the credit consumption of a particular instrument class by a factor of 0.10 to 1.00. This is primarily used to adjust the credit consumed for an options order, for e.g. buying call options, the risk is only the premium, hence one might set a value of 0.1 for the coefficient, so that the full futures margin is not deducted from the credit limit for the order for call options.
86	Does the Exchange have a risk controls portal available for Clearing Member / Sponsoring Firm and Trader viewing?	☒ Yes ☐ No
87	Does the Exchange set default risk controls if nothing is set by the Clearing Member / Sponsoring Firm or Trader?	☐ Yes ☒ No
	If the Exchange provides pre-trade control tools, what is the sequence of events when a pre-trade control check is performed?	
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")	☐ ☒
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 ☐ No
90	If the Exchange provides pre-trade control tools, do any of the controls add latency?	☐ Yes ☒ No
91	If yes, what is the latency added?	
92	If the Exchange provides pre-trade control tools, how are users notified if the controls are not operating as intended?	Any IT incidents are notified via email and SMS to market participants coordinators.
93	If the Exchange provides pre-trade control tools, how quickly do changes to the controls go into effect?	Critical control changes are effected in realtime. Non critical control changes are effected next business day.
94	If the Exchange provides pre-trade control tools, is there a notification that the controls have been changed?	☒ Yes ☐ No
95	If yes, please provide specifics	The SGX Titan PTRC Audit Report will contain every single order that is checked by PTRC in the risk group, together with any limit changes to the risk parameters for the risk group. The report is available on demand as snapshot at the time of generation or auto-generated End-of-Day & deposited in CMs SFG Folder. Retained for 7 business days on a rolling basis.
96	If the Exchange provides pre-trade control tools, are previous control settings stored?	☒ Yes ☐ No
97	If yes, provide specifics on what information is stored and for how long	Stored in database for an Exchange defined period of time.
98	If the Exchange provides pre-trade control tools is an audit trail of controls entered and controls changed available?	☒ Yes ☐ No

Exchange Market Integrity Controls

The following questions pertain to Exchange Market Integrity Controls.

99	What controls does the Exchange set to prevent market disruption? Please indicate whether the controls are "available" or "mandatory."	
		Available Mandatory
99.a	Dynamic price banding	☒
99.b	Market pauses or halts	☒
99.c	Message policies	☒
99.d	Message throttles	☒
99.e	Kill switches	☒
99.f	Cancel on disconnect	☒
99.g	Error policies	☒
100	If any of the above are mandatory, please provide the rule citation in each case.	Error Policies; Futures Trading Rules – Regulatory Notice 4.1.8 – SGX-DT Market Error Trade Policy.
101	If the Exchange has dynamic price banding, does it enable the following? <i>Check all that apply</i>	
101.a	Limits differentiated on specific characteristics of a product	☒
101.b	Limit differentiated based on specific conditions of the market	☐
101.c	Limits that can be adapted intraday	☒
101.d	Other	
102	If the Exchange has market pauses or halts, what specific events trigger such halts? <i>Check all that apply</i>	
102.a	Orders outside a given price deviations for a given financial instrument	☒
102.b	Change in volatility over a specified time interval for a given financial instrument	☐
102.c	Other	
103	If the Exchange applies a market pause or halt for a specific financial instrument, does it coordinate halts with:	
103.a	Related financial instruments on the same exchange	☒
103.b	Related financial instruments on other exchanges	☒
104	If the Exchange has market pauses or halts, how is price discovery re-established after the event? <i>Check all that apply</i>	
104.a	Resume continuous trading	☒
104.b	An intraday auction period	☐
104.c	Other	
105	If the Exchange has market pauses or halts, how is the event communicated to market participants? <i>Check all that apply</i>	
105.a	Email	☒
105.b	Website	☐
105.c	Other	API Market Message

106	If the Exchange has market pauses or halts, are the parameters that trigger such events available publicly? <i>Check all that apply</i>	
106.a	Website	☐
106.b	On request	☐
106.c	Other	Can be calculated using Exchange defined parameters
107	If the Exchange offers cancel on disconnect functionality, is it enabled by default?	
		☐ Yes ☒ No
108	If the Exchange has an error policy, what is the approach to “single trade” error trades? <i>Check all that apply</i>	
108.a	Let the trade stand if with defined range	☐
108.b	Let the trade stand if within specified time limit	☐
108.c	Adjust the price if it is outside a certain range	☒
108.d	Cancel/bust the trade if it outside a certain range	☐
108.e	Other	Price adjusted if outside certain range but only on request and agreement by both parties to the trade within the time specified by the Exchange.
109	If the Exchange has an error policy, what is the approach to “mass trade” error trades? <i>Check all that apply</i>	
109.a	Let trade stand if with defined range	☐
109.b	Let trade stand if within specified time limit	☐
109.c	Adjust price if outside a certain range	☒
109.d	Cancel/bust trade if outside a certain range	☐
109.e	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 Exchange will notify all Members of the error trade price range in terms of absolute prices or percentages, as the case may be, on a daily basis. The Exchange will notify all Members of the volatility range on a quarterly basis. In addition, the Exchange will inform all Members, via circular, of any changes in the size of the error trade price range or volatility range at least one (1) week before effecting such change.	
111	Are all products subject to the same approach or do some products inherit the same range as other similar products? <i>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?</i>	
	There will be no trade price adjustments for: (a) transactions in strategies listed for trading by the Exchange; (b) trades involving implied orders as a result of strategy matching; (c) option trades, except those involving designated Option Contracts when the underlying cash market is open for trading; and (d) transactions where the trade price is determined relative to a predefined reference point.	
112	How often are these ranges reviewed to ensure they offer appropriate protection?	The ETPR is reviewed on a quarterly basis.
113	How often has the error trade policy been invoked in the past 12 months, and what were the circumstances for each?	Not publicly disclosed
114	Does the Exchange have a clearly defined dispute resolution forum in case of error trades?	
	☐ Yes ☒ No	
115	If yes, what is the forum and dispute resolution process	

Exchange Certification and Testing Environments		
The following questions pertain to Exchange Market Integrity Controls.		
116	Does the Exchange provide a certification environment for certifying vendor and proprietary trading systems?	☒ Yes ☐ No
117	If the Exchange provides a certification environment, which specific functions must be certified? <i>Check all that apply</i>	
117.a	Ability of the system to communicate with the exchange	☒
117.b	Specific trading functionality offered by the system	☒
117.c	Specific risk functionality offered by the system	☐
117.e	Other	Clearing Members for Post Trade activity.
118	Does the Exchange provide one certification environment for current production and another environment for the next version of production?	☒ Yes ☐ No
119	If yes, what is the availability of the certification environment?	Mon-Fri during business hours or on request can be arranged outside of this.
120	How closely does the certification environment mirror the production environment?	
120.a	Exact duplicate with mirrored synthetic market activity from production	☐
120.b	Exact duplicate without mirrored market activity, only activity from other certification activity	☒
120.c	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 ☒ No
122	If the Exchange offers a certification environment, which of the following tests can be performed in this environment? <i>Check all that apply</i>	
122.a	Unit testing	☒
122.b	Functional testing (integration, regression)	☒
122.c	Non-functional testing (load, stress, performance, scalability)	☒
122.d	Acceptance testing	☒
123	If the Exchange offers a certification environment, which of the following actions can be performed in this environment? <i>Check all that apply</i>	
123.a	Send a test order	☒
123.b	Send a cancel of the test order	☒
123.c	Test all order types (blocks, crosses, etc.)	☒
123.d	Receive confirmation of a cancellation of test order	☒
123.e	Receive confirmation of partial execution of the test order and cancellation	☒
123.f	Receive confirmation of full execution of the test order and cancellation	☒
123.g	Receive confirmation of rejection of the test order	☒
123.h	Receive confirmation of enabled risk controls working in the enviroment	☒
123.i	Test pre-trade risk control functionality	☒
124	How are certification and live environments segregated? <i>i.e., Are applicable orders (test or live) going over the same wires such that a configuration error can have a major impact?</i>	Fully independent systems including IP address, IDs and passwords.

General Information	
125	Does the Exchange provide information on the following to the public via website/exchange portal? <i>Check all that apply</i>

125.a	Risk control tools provided by the Exchange to Traders	☒
125.b	Risk control tools provided by the Exchange to Clearing Members/Sponsoring Firms	☒
125.c	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 ☐ No
127	Does the Exchange test and validate all Exchange provided risk control tools to ensure that they are operating properly?	☒ Yes ☐ No
128	Is there any additional information that you would like to provide on the Exchange's risk control tools?	