



**Enhancement in the Pre-Trade Risk Management  
("PTRM") System in Derivatives Markets:**

**HKATS Risk Functions Enhancement ("PTRM 2.0")**

**Training Sessions**

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## Agenda

- 01 | Training Session Objective
- 02 | Market Rehearsal (“MR”) Scope
- 03 | Market Rehearsal Preparations
- 04 | Login and Connectivity
- 05 | Proposed Tests for MR
- 06 | Reports
- 08 | Best Practices
- 09 | Enhanced PTRM System Rollout Schedule and Arrangement
- 10 | Q&A



# Objectives

- **Ensure PTRM 2.0 connectivity for Market Rehearsal (“MR”) and Production Rollout**
  - Google Chrome version, Java version, Java Cache deletion, PC/ bandwidth requirements and login
- **Familiarize Participants on the existing Pre-Trade Risk Management System (“PTRM 1.0”) and the new PTRM 2.0 Prescribed Risk Controls (“PRCs”), including:**

Existing PRCs
Maximum Intraday Exposure Limits
Maximum Order Size Limits
Maximum Order Rate Limit
Emergency Buttons

New PRCs
Execution Throttle Limits
Intraday Position Limits
Maximum Block Trade Size Limits
Maximum Combo Size Limits

- **Familiarize Participants on the PTRM contingency measure – Disable HKATS Risk Functions (PTRM)**
- **Confirmation on the PTRM 2.0 MR results upon the successful completion**

**\*\*All proposed MR activities are subject to change**



# Target Audience

Nominated Persons	Proposed MR Duties
<ul style="list-style-type: none"> <li>PTRM Authorized Person(s)                             <ul style="list-style-type: none"> <li>- Risk Limit Manager users</li> <li>- Trading Units users</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>PTRM system operations</li> <li>Result verifications</li> </ul>
<ul style="list-style-type: none"> <li>Trading</li> </ul>	<ul style="list-style-type: none"> <li>Input orders and/or trades for testing the Prescribed Risk Controls</li> </ul>
<ul style="list-style-type: none"> <li>Information Technology</li> </ul>	<ul style="list-style-type: none"> <li>Support connectivity and resolve technical issues</li> </ul>
<ul style="list-style-type: none"> <li>OAPI Vendors/Developers</li> </ul>	
<ul style="list-style-type: none"> <li>Responsible Officer(s)/Delegates</li> </ul>	<ul style="list-style-type: none"> <li>Confirmation on MR results</li> </ul>

PTRM GUI Access Right	User Category
Risk Limit Manager – Amend risk limits, full access right to all Emergency Buttons including Unstop/Unblock	<ul style="list-style-type: none"> <li>Direct Clearing Participant (“DCP”) login session for setting Prescribed Risk Controls for their own Exchange Participant (“EP”) orders and trades they clear</li> <li>General Clearing Participant (“GCP”) login session for setting Prescribed Risk Controls for their Non-Clearing Participant (“NCP”) orders and trades they clear for</li> </ul>
Trading Units – Cannot amend risk limits, partial access right to Emergency Buttons by excluding Unstop/Unblock	<ul style="list-style-type: none"> <li>NCP login session for monitoring Prescribed Risk Controls</li> </ul>

For all PTRM 2.0 related information, please refer to PTRM Web Corner at [hkex.com.hk](http://hkex.com.hk) from below:

<b>PTRM Web Corner</b>	<a href="https://www.hkex.com.hk/Services/Trading/Derivatives/Overview/Trading-Mechanism/Pre-Trade-Risk-Management-(PTRM)-System-in-Derivatives-Markets?sc_lang=en">https://www.hkex.com.hk/Services/Trading/Derivatives/Overview/Trading-Mechanism/Pre-Trade-Risk-Management-(PTRM)-System-in-Derivatives-Markets?sc_lang=en</a>
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# Proposed Market Rehearsal Scope

Test Scope	Assigned Time for Testing	Remarks
Login and Connectivity	~30 Minutes	<ul style="list-style-type: none"> <li>Ensure the versions of OAPI programs, Google Chrome and Java version</li> <li>Login to PTRM GUI, HKATS Online and/or OAPI users (Use existing production IDs)</li> <li>Verify all PTLG structures, PTRM risk checks and their corresponding statuses</li> </ul>
Maximum Order Size Limits (Existing)	~15 Minutes	<ul style="list-style-type: none"> <li>Amend and breach the corresponding Max Order Size Limit</li> <li>Check the OAPI Return Code for the Max Order Size rejection - "User has exceeded Max. Order Size Limit [-850008]"</li> </ul>
Maximum Block Trade Size Limits – Optional (NEW!)	~15 Minutes	<ul style="list-style-type: none"> <li>Amend and breach the corresponding Max Block Trade Size (if applicable)</li> <li>Check the OPAI Return Code for the Max Block Trade Size rejection - "User has exceeded Max. Block Trade Size Limit [-850012]"</li> </ul>
Maximum Combo Size Limits– Optional (NEW!)		<ul style="list-style-type: none"> <li>Amend and breach the corresponding Max Combo Size Limit</li> <li>Check the OAPI Return Code for the Max Combo Size rejection - "User has exceeded Max. Order Size Limit [-850008]" (Same OAPI Return Code for Max Order Size rejection)</li> </ul>
Maximum Order Rate Limit (Existing)	~30 Minutes	<ul style="list-style-type: none"> <li>Amend, breach and unblock the corresponding Max Order Rate Limit (using MO31)</li> <li>Check the OAPI Return Code for the Max Order Rate rejection - "User has breached Max. Order Rate Limit [-850004]"</li> </ul>
Execution Throttle Limits (NEW!)	~30 Minutes	<ul style="list-style-type: none"> <li>Amend, breach and unblock the corresponding Execution Throttle Limit</li> <li>Check the OAPI Return Code for the Execution Throttle rejection - "User has exceeded Execution Throttle limit [-850010]"</li> </ul>
Maximum Intraday Exposure Limits (Existing)	~30 Minutes	<ul style="list-style-type: none"> <li>Amend, breach and unblock the corresponding Max Intraday Exposure Limit</li> <li>Check the OAPI Return Code for the Max Intraday Exposure rejection - "User has breached Max. Intraday Exposure [-850006]"</li> </ul>
Emergency Buttons – Mass Order Cancellation (Existing)	~15 Minutes	<ul style="list-style-type: none"> <li>Input orders and perform the PTRM Mass Order Cancellation</li> </ul>
Intraday Position Limits (NEW!)	~30 Minutes	<ul style="list-style-type: none"> <li>Amend, breach and unblock the corresponding Intraday Position Limit</li> <li>Check the OAPI Return Code for the Intraday Position Limit rejection - "User has exceeded Execution Throttle limit [-850014]"</li> </ul>
Emergency Buttons – Kill Switch and Stop (Existing)	~30 Minutes	<ul style="list-style-type: none"> <li>Input orders and perform PTRM Kill Switch, Stop and Unstop</li> <li>Check the OAPI Return Code for the rejection - "User is in a blocked pretrade risk state [-850002]"</li> </ul>
Disable Risk Check (Existing)	~30 Minutes	<ul style="list-style-type: none"> <li>PTRM GUI users will be logged out</li> <li>Input orders to verify all Prescribed Risk Controls are disabled</li> </ul>



PTRM 2.0 MR is tentatively to be conducted on 25<sup>th</sup> September 2021

## Preparation for Market Rehearsal – PTRM Authorized Person(s)

- **Ensure the designated PC for the PTRM GUI application is ready for the MR regarding to PC and bandwidth requirements:**

	Requirements
Processor	Intel Core i3 6 <sup>th</sup> Generation 3.2GHz or Higher
RAM	4 GB
Extra Storage	10GB
Network Adapter	100Mbps full-duplex
OS	Microsoft Windows 10 (64 bit)
Supporting Browser	Google Chrome browser version 89.0.4389.128 (Version to be advised and notified by HKEX to EPs from time to time)
Layered Software	JAVA 8
	See Java System Requirements: <a href="http://java.com/en/download/help/sysreq.xml">http://java.com/en/download/help/sysreq.xml</a>
Bandwidth Usage	Anti-virus software
	Approximately 1 Mbps of existing SDNET/2 or HKEX Service Network circuit per session <sup>1</sup>  Note: Higher bandwidth consumption per PTRM GUI connection is estimated when more tradables (i.e., Instrument Tradables as per the current Maximum Order Size Check) are defined in the PTLG.

- **Familiarised with the Java Cache deletion procedure**
- **Prior to MR, login to the production PTRM GUI as the designated production PTRM GUI PC will be used in MR**
- **Communicate with Trading (their NCPs if they are a GCP) regarding the rundown of the MR for their cooperative efforts in the order and trade inputs during the MR**

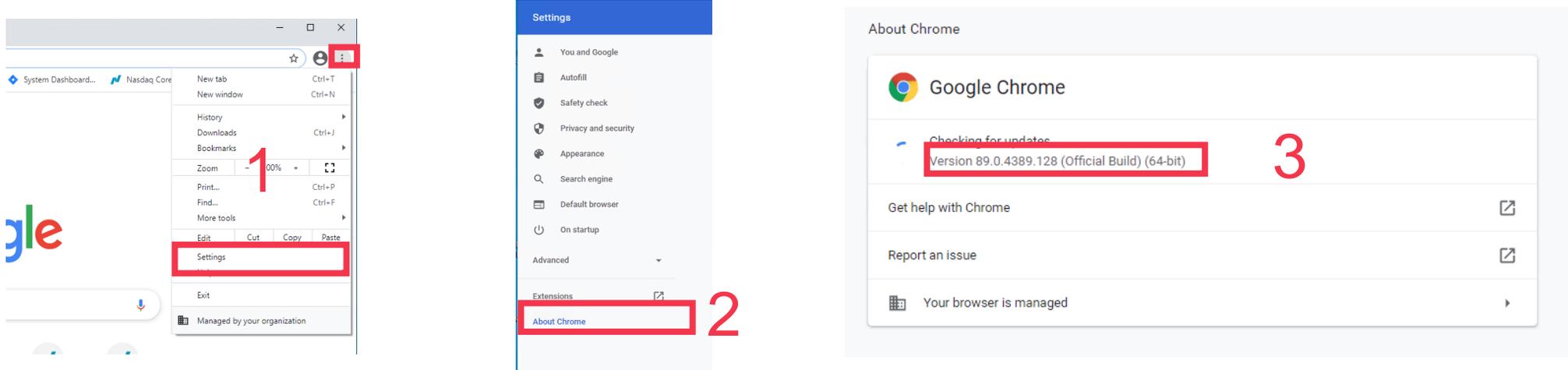
1. EPs are reminded to note that Intraday Position Limits consume a higher amount of bandwidth for updating the relevant risk limits and counters if a large number of Instrument Tradables is created for more granular controls. It is not advised to leave the "Edit Limits" or the "Position Limits" tabs open to avoid unnecessary consumption in the bandwidth. The more the Instrument Tradables being added, the higher the PTRM GUI bandwidth consumption and display latency will be observed. It is estimated that an extra of 1Mbps of bandwidth per 40 Instrument Tradables defined per PTLG will be consumed when leaving the "Edit Limits" or the "Position Limits" tab open.



# Login and Connectivity – Verify Google Chrome and Java Version

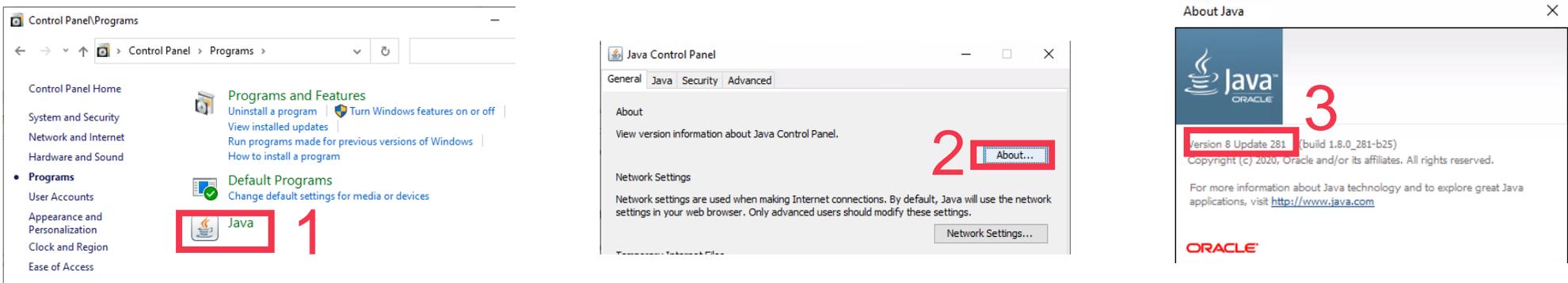
- **Verify Google Chrome version**

1. Select the icon as circled from below and select “Settings”
2. Select “About Chrome”
3. Verify the Google Chrome version as 89.0.4389.128



- **Verify Java version**

1. Go to Control Panel and select “Java”
2. Select “About...”
3. Verify the Java version as version 8

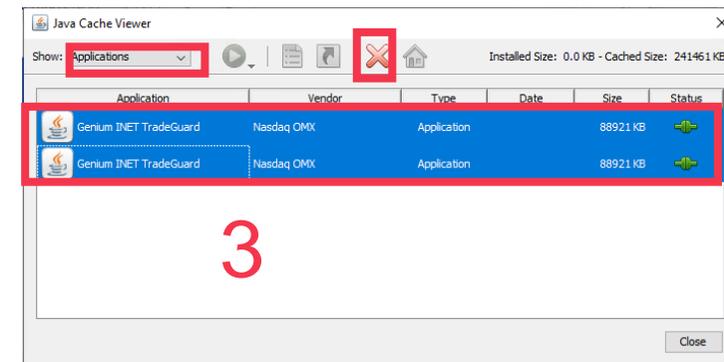
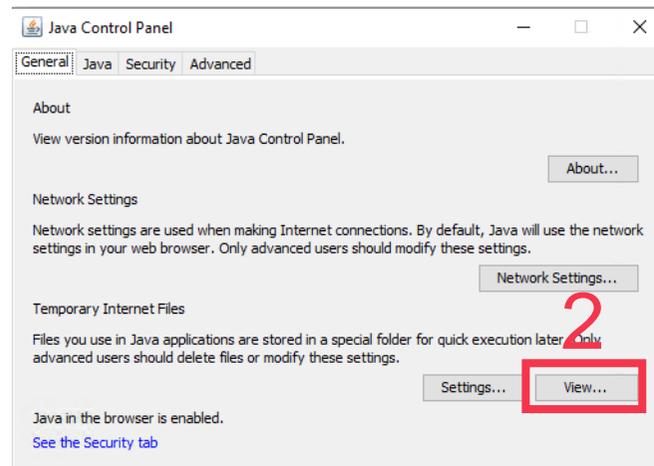
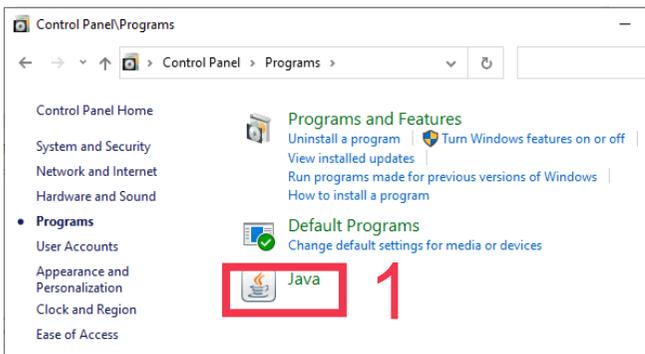


# Login and Connectivity – Java Cache Deletion

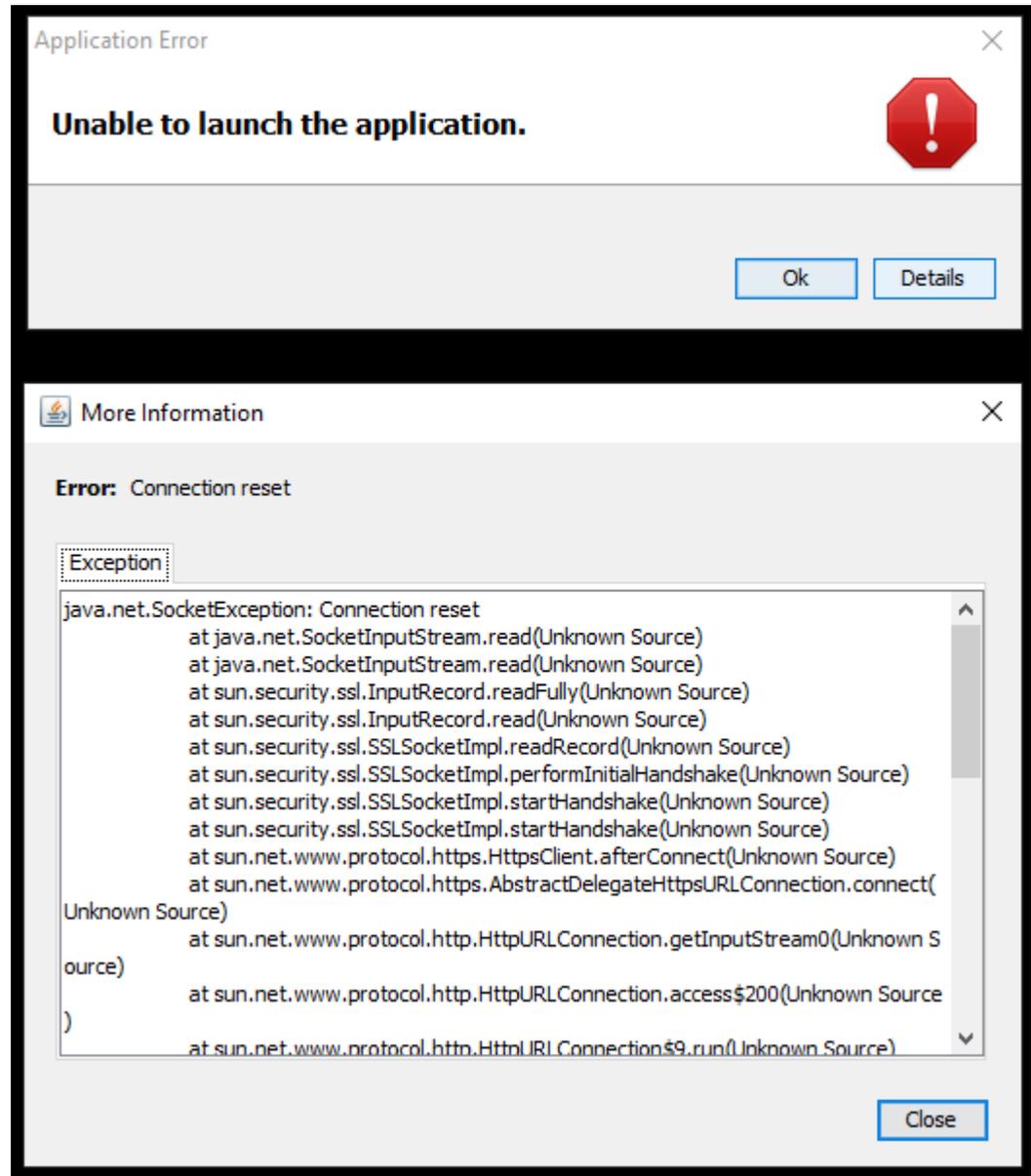
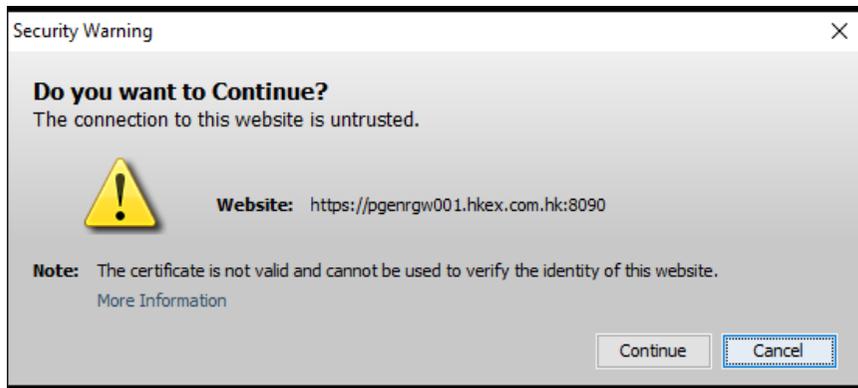
Actions	Events
Delete Java Cache	Before MR (To delete PTRM 1.0 Java Cache for PTRM 2.0)
	After MR (To delete PTRM 2.0 Java Cache for PTRM 1.0)
	Before Production Rollout (To delete PTRM 1.0 Java Cache for PTRM 2.0)

- **Delete Java Cache**

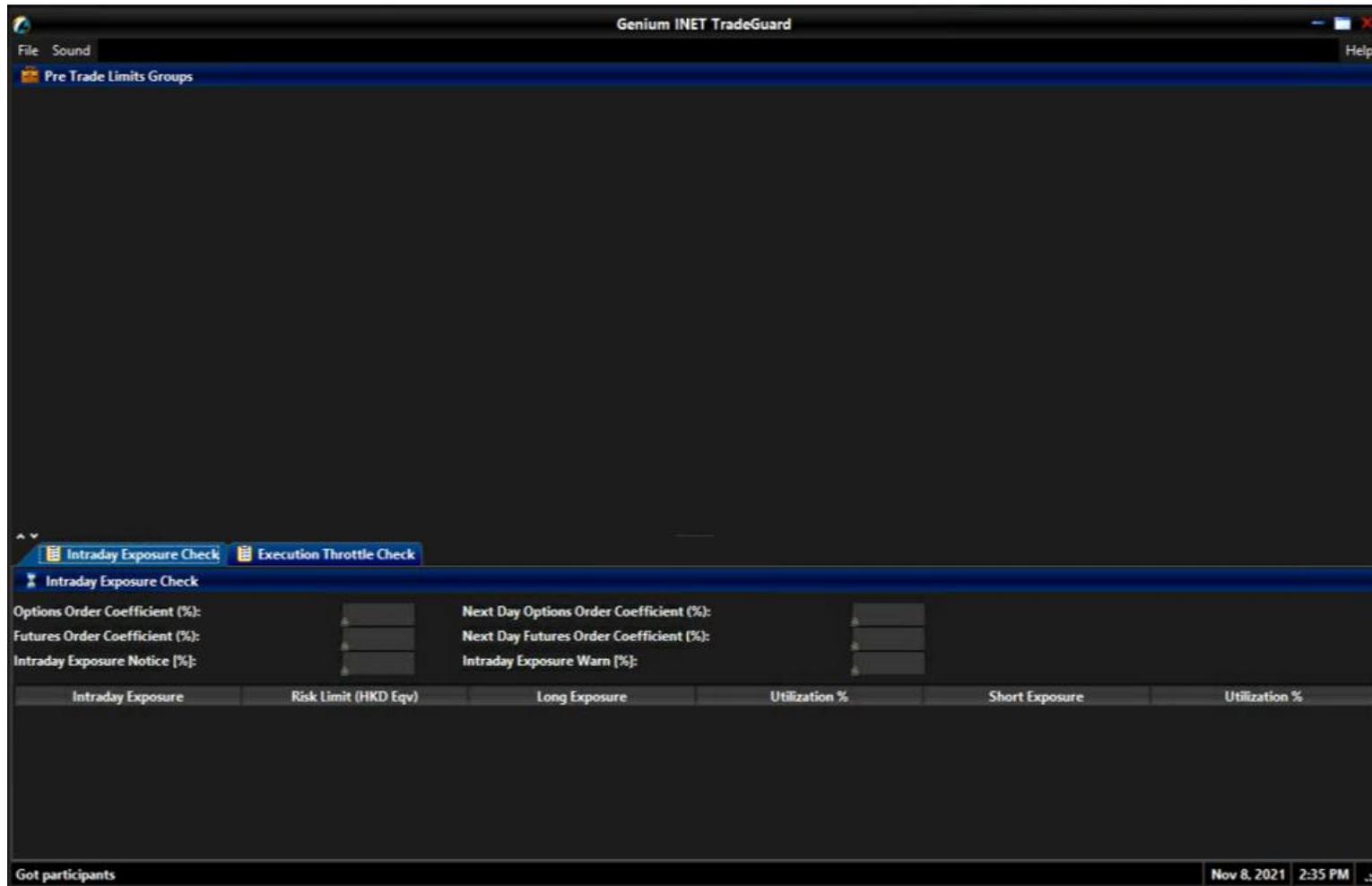
1. Go to Control Panel and select “Java”
2. Select “View...” under “Temporary Internet Files”
3. Select “Application” and highlight all existing Java Cache then press the delete icon



# Incorrect Java Cache (Using Java Cache of PTRM 1.0 to PTRM 2.0 GUI)



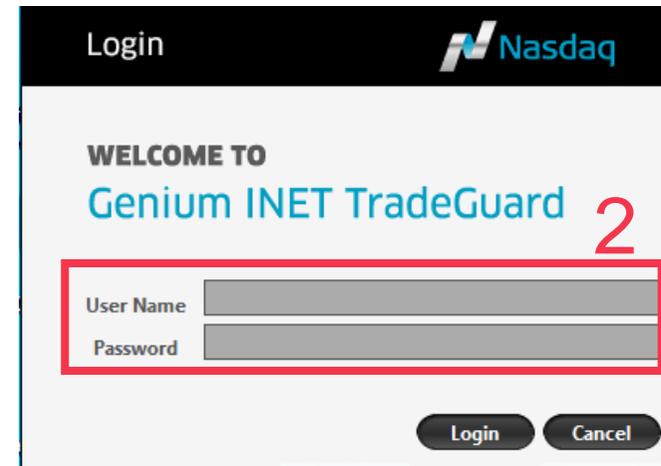
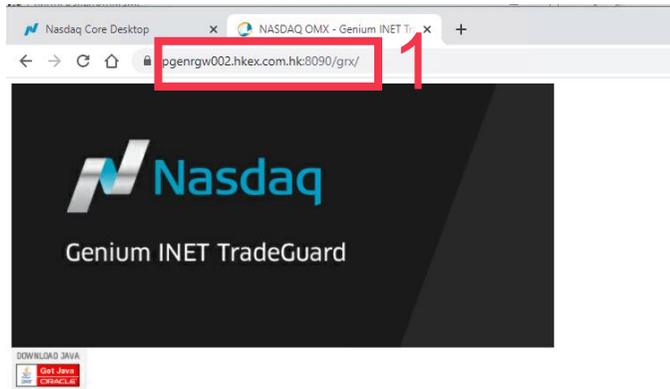
# Incorrect Java Cache (Using Java Cache of PTRM 2.0 to PTRM 1.0 GUI)



# Login and Connectivity – After Java Cache Deletion

- **Download the PTRM GUI application and login**

1. Insert URL with **the pre-assigned Gateway and Port<sup>1</sup>** as below and click on the icon to download the PTRM GUI Application
2. Login as following:
  - For MR: Use existing Production Login ID and MR Password, e.g., 388testing\$
  - For Production Rollout: Use existing Production Login ID and Production Password



Web Server Gateway for PTRM GUI Connection	IP Address	Port Number	URL <sup>2</sup>	Remarks
PGENRGW001	10.151.14.101	8090 to 8093	<a href="https://pgenrgw001.hkex.com.hk:8090/grx">https://pgenrgw001.hkex.com.hk:8090/grx</a> <a href="https://pgenrgw001.hkex.com.hk:8091/grx">https://pgenrgw001.hkex.com.hk:8091/grx</a> <a href="https://pgenrgw001.hkex.com.hk:8092/grx">https://pgenrgw001.hkex.com.hk:8092/grx</a> <a href="https://pgenrgw001.hkex.com.hk:8093/grx">https://pgenrgw001.hkex.com.hk:8093/grx</a>	Primary Site Gateway
PGENRGW002	10.151.14.102	8090 to 8093	<a href="https://pgenrgw002.hkex.com.hk:8090/grx">https://pgenrgw002.hkex.com.hk:8090/grx</a> <a href="https://pgenrgw002.hkex.com.hk:8091/grx">https://pgenrgw002.hkex.com.hk:8091/grx</a> <a href="https://pgenrgw002.hkex.com.hk:8092/grx">https://pgenrgw002.hkex.com.hk:8092/grx</a> <a href="https://pgenrgw002.hkex.com.hk:8093/grx">https://pgenrgw002.hkex.com.hk:8093/grx</a>	Primary Site Gateway
SGENRGW001	10.152.14.101	8090 to 8093	<a href="https://sgenrgw001.hkex.com.hk:8090/grx">https://sgenrgw001.hkex.com.hk:8090/grx</a> <a href="https://sgenrgw001.hkex.com.hk:8091/grx">https://sgenrgw001.hkex.com.hk:8091/grx</a> <a href="https://sgenrgw001.hkex.com.hk:8092/grx">https://sgenrgw001.hkex.com.hk:8092/grx</a> <a href="https://sgenrgw001.hkex.com.hk:8093/grx">https://sgenrgw001.hkex.com.hk:8093/grx</a>	Secondary Site Gateway
SGENRGW002	10.152.14.102	8090 to 8093	<a href="https://sgenrgw002.hkex.com.hk:8090/grx">https://sgenrgw002.hkex.com.hk:8090/grx</a> <a href="https://sgenrgw002.hkex.com.hk:8091/grx">https://sgenrgw002.hkex.com.hk:8091/grx</a> <a href="https://sgenrgw002.hkex.com.hk:8092/grx">https://sgenrgw002.hkex.com.hk:8092/grx</a> <a href="https://sgenrgw002.hkex.com.hk:8093/grx">https://sgenrgw002.hkex.com.hk:8093/grx</a>	Secondary Site Gateway



1. For the pre-assigned Gateway and Port of the respective PTRM login, please contact [hkatssupport@hkex.com.hk](mailto:hkatssupport@hkex.com.hk) or +852 2211 6360 to enquire  
 2. The Hostname Table are attached in Appendix 1

# Pre-Trade Limit Group<sup>1</sup>

HKCTOM  
HKAAA  
[1]HKCTOM\_HKAAA\_BASE 0 0 0 75 50 200 1 0

Intraday Exposure Check Execution Throttle Check Order Exposure Reference Users Email Alerts Edit Limits Position Limits

Intraday Exposure Check

Options Order Coefficient (%): 100 Next Day Options Order Coefficient (%): 100  
 Futures Order Coefficient (%): 100 Next Day Futures Order Coefficient (%): 100  
 Intraday Exposure Notice [%]: 50 Intraday Exposure Warn [%]: 75

Intraday Exposure	Risk Limit (HKD Eqv)	Long Exposure	Utilization %	Short Exposure	Utilization %
Gross Futures	181,000,000	0	0.0%	0	0.0%
Net Futures	106,000,000	0	0.0%	0	0.0%
Gross Options	1,915,000,000	0	0.0%	0	0.0%
Net Options	495,000,000	0	0.0%	0	0.0%

- (For PTRM Risk Limit Manager/ Trading Units) Highlight the PTLG as above to access corresponding Risk Limits

1. Order Rate Limits for the PTLG
2. Other Prescribed Risk Control by the Function Tabs

PTRM Risk Limit Manager Users	Trading Units Users
<ul style="list-style-type: none"> <li>• For DCPs and/or;</li> <li>• GCPs</li> </ul>	<ul style="list-style-type: none"> <li>• For Eps and/or;</li> <li>• NCPs</li> </ul>
<p>Functionality:</p> <ul style="list-style-type: none"> <li>• Monitor and amend PTRM Risk Limits</li> <li>• Execute Emergency Buttons for its respective Exchange Participants under its clearing services</li> </ul>	<p>Functionality:</p> <ul style="list-style-type: none"> <li>• Monitor PTRM Risk Limits - <b>unable</b> to amend Risk Limits</li> <li>• Execute Emergency Buttons for its own Exchange Participant only - <b>unable</b> to perform Unblock/ Unstop</li> </ul>



# PTRM 1.0 Layout

The screenshot displays the Genium INET TradeGuard interface. At the top, there is a menu bar with 'File', 'Sound', and 'Help'. Below it is a 'Pre Trade Limits Groups' section with a table of participants and their limits. A red box highlights a row in this table, with a red '1' next to it. Below the table are three tabs: 'Order Size Limits', 'Intraday Exposure Check', 'Users', and 'Email Alerts'. The 'Order Size Limits' tab is selected and highlighted with a red box, with a red '2' next to it. The 'Intraday Exposure Check' tab is also highlighted with a red box, with a red '3' next to it. The 'Order Size Limits' tab shows a table of tradable instruments and their maximum order sizes.

Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate
HK								
HK								
HKCI	0	0	0	75	50	5,000	1	0
HKCI	0	0	0	75	50	5,000	1	0
HK								
HKCI	0	0	0	75	50	1,000	1	0
HKCI	0	0	0	75	50	1,000	1	0

Tradable	Calculation	Max Order Size
EAN - FUTURES	QUANTITY	1,000
EMN - FUTURES	QUANTITY	1,000
FI02 FUTURES	QUANTITY	1,000
HGT - FUTURES	QUANTITY	0
HHI FUTURES	QUANTITY	5,000
HHN - FUTURES	QUANTITY	0
HHT - FUTURES	QUANTITY	0
HNT - FUTURES	QUANTITY	0

PTRM 1.0 Risk Checks	
1	Maximum Order Rate Limits (Limit and Period) and the counter
2	Maximum Order Size Limits Tab
3	Maximum Intraday Exposure Check Tab



# PTRM 2.0 Layout

The screenshot displays the 'Pre Trade Limits Groups' window with a table of participants and their limits. A red box labeled '1' highlights the 'Order Rate Limit' and 'Order Rate Period' columns for the [8]HKC participant. Below this, a row of tabs is visible, with red boxes and numbers 2 through 6 highlighting: 'Intraday Exposure Check' (2), 'Execution Throttle Check' (3), 'Order Exposure Reference' (4), 'Edit Limits' (5), and 'Position Limits' (6). The 'Edit Limits' tab is active, showing a table with columns for Tradable, Calculation, Max Order Size, Max Block Trade, Open Buy, Open Sell, Traded Bought, Traded Sold, Traded Net, Total Buy, Total Sell, Total Net Buy, Total Net Sell, Block Trade, and Block Trade.

Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Pos Limits Warn %	Pos Limits Notice %	Order Rate Limit	Order Rate Period	Order Rate
[8]HKC	0	0	0	75	50	100	1	0
[7]HKC	0	0	0	75	50	922,337,203,005,477	300	0

Tradable	Calculation	Max Order Si...	Max Block Tr...	Open Buy	Open Sell	Traded Bought	Traded Sold	Traded Net	Total Buy	Total Sell	Total Net Buy	Total Net Sell	Block Trade ...	Block Trade ...
HSI FUTURES	QUANTITY	500	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...
STOCK CALL ...	QUANTITY	500	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...
STOCK PUT ...	QUANTITY	500	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...
HHI FUTURES	QUANTITY	500	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...
HSI T01	QUANTITY	150	N/A											
SOM TMC	QUANTITY	150	N/A											
HHI T01	QUANTITY	150	N/A											

PTRM 2.0 Features	
1	Maximum Order Rate Limits (Limit and Period) and the counter (Existing)
2	Maximum Intraday Exposure Check Tab (Existing)
3	Maximum Execution Throttle Check Tab (New)
4	Order Exposure Reference Tab (New)
5	Edit Limits Tab (New) (For Maximum Order Size, Maximum Combo Size, Maximum Block Trade Size and Intraday Position Limits)
6	Position Limits Tab (New) *Counters for Intraday Position Limits



# Illustration



# Picking a PTLG for the Proposed Tests – Base PTLG

The screenshot displays the 'Pre Trade Limits Groups' interface. A tree view on the left shows a hierarchy of participants: HKC, HKC, [41]HKC (BASE), and [7]HKC (DMA). A 'Select user' dialog box is open, showing a 'User Picker' table with the following data:

Name	Participant
4116	HKI
4101	HKI

The dialog box also features 'Select user' and 'Cancel' buttons. The background interface includes a table with columns for 'Breaches', 'Warnings', and 'Notices', and a bottom navigation bar with options like 'Intraday Exposure Check', 'Execution Throttle Check', 'Order Exposure Reference', 'Users', 'Email Alerts', 'Edit Limits', and 'Position Limits'.



Trading ID 4116 and/or 4101 shall be used for the tests

# Picking a PTLG for the Proposed Tests – Non-base PTLG

**Pre Trade Limits Groups**

Participants Pre Trade Limits Group	Breaches	Warnings	Notices
HK			
HK			
[41]HK BASE	0	0	0
[7]HKC DMA	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0

[Intraday Exposure Check](#)
[Execution Throttle Check](#)
[Order Exposure Reference](#)
[Users](#)
[Email Alerts](#)
[Edit Limits](#)
[Position Limits](#)

**Users**

Name
5143
7506

**Next Day Changes**

Name

Trading ID 5143 and/or 7506 shall be used for the tests



# Proposed Maximum Order Size Limit Tests<sup>1</sup>

**1) (For PTRM Risk Limit Manager) Check the risk limits and Tradable(s) migrated to the PTRM 2.0 from PTRM 1.0 in “Edit Limits” tab as follows:**

- All PTRM 1.0 Maximum Order Size Tradables will be retained and can be checked at “Edit Limits” tab
- All PTRM 1.0 Maximum Order Size Limits will be retained and can be checked at “Edit Limits” tab

Tradable	Calculat...	Max Order...	Max Block Tr...	Open Buy	Open Sell	Traded Bought	Traded Sold	Traded Net	Total Buy	Total Sell	Total Net Buy	Total Net Sell	Block Trade B...	Block Trade S...
HHI - FUTURES	QU...	300	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,6...	922,337,203,...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...
STOCK CALL OPTION	QU...	300	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,6...	922,337,203,...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...
STOCK PUT OPTION	QU...	300	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,6...	922,337,203,...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...
HSI FUTURES	QU...	300	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,6...	922,337,203,...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...

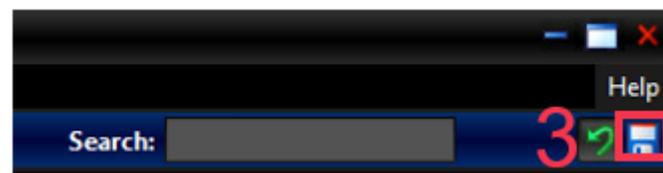
**2) (For PTRM Risk Limit Manager) Change Maximum Order Size of “HSI FUTURES” or “STOCK CALL OPTION”/ “STOCK PUT OPTION” on Edit Limits Tab into 30 lots**

- Please be reminded this action can only be performed by Risk Limit Manager
- Select the desired Tradables and change the limit to 30 at the “Maximum Order Size” column as follows

**3) (For PTRM Risk Limit Manager) Save changes on the limit modification**

- Press the save button on the top right corner of the window for the limit modification to be effective immediately

Tradable	Calculat...	Max Order...	Max Block Tr...	Open Buy	Open Sell
HHI FUTURES	QU...	300	922,337,203,...	922,337,203,...	922,337,203,...
HSI FUTURES	QU...	30	922,337,203,...	922,337,203,...	922,337,203,...
STOCK CALL OPTION	QU...	30	922,337,203,...	922,337,203,...	922,337,203,...
STOCK PUT OPTION	QU...	30	922,337,203,...	922,337,203,...	922,337,203,...



**4) (For Trading) Enter a > 30-lot HSI FUTURES (HEX Call or Put Options) order that exceeds its corresponding Maximum Order Size Limit**

- Make sure the Trading ID that enters the order belongs to the corresponding PTLG
- HKATS Online/ OAPI Program shall receive the following OAPI return code message: “User has exceeded max. order size limit [-850008]”

**5) (For Trading) Enter a < 30-lot HSI FUTURES (HEX Call or Put Options) order**

- HKATS Online/ OAPI Program shall successfully submit the order into the order book



1. For the tentative MR script, please refer to Appendix 4

# Proposed Maximum Block Trade Size Limits Test<sup>1</sup> (Optional for EP without Block Trade Functions)

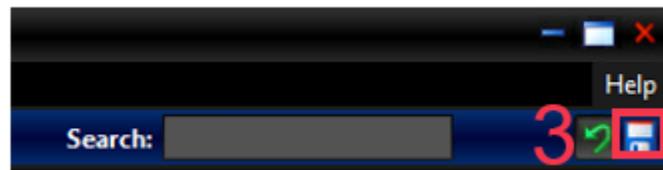
- (For PTRM Risk Limit Manager) Check the risk limits and Tradable(s) migrated to the PTRM 2.0 from PTRM 1.0 in “Edit Limits” tab as follows:**
  - All PTRM 1.0 Maximum Order Size Tradables will be retained and equipped with Max Block Trade Size Limits which can be checked at “Edit Limits” tab
  - All Maximum Block Trade Size limits will be defaulted at “922,337,203,685,477”

Tradable	Calculation	Max Order...	Max Block Tr...	Open Buy	Open Sell	Traded Bought	Traded Sold	Traded Net	Total Buy	Total Sell	Total Net Buy	Total Net Sell	Block Trade ...	Block Trade ...
HSI FUTURES	QUANTITY	300	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477
STOCK CALL ...	QUANTITY	300	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477
STOCK PUT ...	QUANTITY	300	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477
HHI FUTURES	QUANTITY	300	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477

**Tradables** **Max Block Trade Limit**

- (For PTRM Risk Limit Manager) Change Maximum Block Trade Size of “HSI FUTURES” or “STOCK CALL OPTION”/ “STOCK PUT OPTION” in “Edit Limit” tab into 100 lots**
  - Please be reminded this action can only be performed by Risk Limit Manager
- (For PTRM Risk Limit Manager) Save changes on the limit modification**
  - Press the save button on the top right corner of the window for the limits to be effective immediately

Tradable	Calculat...	Max Order...	Max Block Tr...	Open Buy	Open Sell	Traded Bought
HSI FUTURES	QU...	300	100	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477
STOCK CALL OPTION	QU...	300	100	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477
STOCK PUT OPTION	QU...	300	100	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477
HHI FUTURES	QU...	300	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477	922,337,203,685,477



- (For Trading) Enter a >100-lot HSI Futures (HEX Call or Put Options) Block Trade (T1) that exceeds its corresponding Maximum Block Trade Size Limit**
  - Make sure the Trading ID that enters the Block Trade belongs to the corresponding PTLG
  - HKATS Online/ OAPI Program shall receive the following OAPI return code message: “User has exceeded max. Block Trade Size limit [-850012]”
- (For Trading) Enter a < 100-lot HSI Futures (HEX Call or Put Options) Block Trade**
  - HKATS Online/ OAPI Program shall successfully submit the Block Trade

**\*\* Please be reminded testing for Maximum Block Trade Size Limits is only applicable to HKATS Online users or OAPI programs that are equipped with Block Trade Reporting function (e.g., MO75, MO76, MO77)**



# Proposed Maximum Combo Size Limit Test<sup>1</sup>

**1) (For PTRM Risk Limit Manager) Identify the Combo Tradable “HSI T01” in the “Edit Limits” tab**

- The Maximum Order Size Limit for the Combo Tradable “HSI T01” is defaulted at “922,337,203,685,477”
- “HSI T01” is the Combo Tradable for the HSI Futures time spread: HSI U1/V1 (Sep 21/Oct 21) when the spot month is Sep 21

Tradable	Cal...	Max Order Size	Max Block Tra...	Open Buy	Open Sell	Traded Bought	Traded Sold	Traded Net	Total Buy	Total Sell	Total Net Buy	Total Net Sell	Block Tra...	Block Tra...
HSI T01	...	922,337,203,685,477	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HSI T01	...	922,337,203,685,477	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

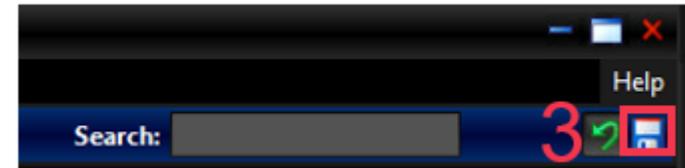
**2) (For PTRM Risk Limit Manager) Change Maximum Order Size of “HSI T01” in the “Edit Limit” tab to 1 lot**

- Please be reminded this action can only be performed by Risk Limit Manager

**3) (For PTRM Risk Limit Manager) Save changes on the limit modification**

- Press the save button on the top right corner of the window for the limits to be effective immediately

Tradable	Cal...	Max Order Size	Max Block Tra...	Open Buy	Open Sell	Traded
HSI T01	...	1	N/A	N/A	N/A	N/A
RCI FUTURES	...	500	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,33...
CNY FUTURES	...	500	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,33...



**4) (For Trading) Enter a > 1-lot HSI U1/V1 limit order that exceeds its corresponding Maximum Order Size Limit**

- Make sure the Trading ID that enters the order belongs to the corresponding PTLG
- HKATS Online/ OAPI Program shall receive the following OAPI return code message: “User has exceeded max. order size limit [-850008]”



1. For adding new Combo Tradables, please refer to Appendix 2  
 2. For the tentative MR script, please refer to Appendix 6

# Illustration



# Proposed Maximum Order Rate Test<sup>1</sup>

**1) (For PTRM Risk Limit Manager) Check the Maximum Order Rate Limits at the corresponding PTLG row as follows:**

- All PTRM 1.0 Maximum Order Rate Limit and Order Rate Period settings are retained

Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Pos Limits Warn %	Pos Limits Notice %	Order Rate Limit	Order Rate Period	Order Rate
[0]HKC	0	0	0	75	50	500	300	0

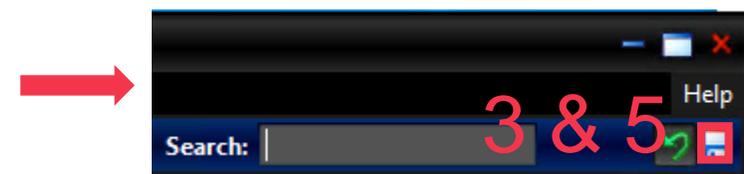
**2) (For PTRM Risk Limit Manager) Change the Order Rate Period to 240**

- Please be reminded this action can only be performed by Risk Limit Manager

**3) (For PTRM Risk Limit Manager) Save changes on the limit modification**

- Press the save button on the top right corner of the window for the limit modification to be effective immediately and the Order Rate counter shall be reset

Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Pos Limits W...	Pos Limits N...	Order Rate ...	Order Rate ...	Order Rate
[0]HKCNAT_HKNAT_BASE	0	0	0	75	50	1	240	0



**4) (For PTRM Risk Limit Manager) Change the Order Rate limit to 1**

- Please be reminded this action can only be performed by Risk Limit Manager

**5) (For PTRM Risk Limit Manager) Save changes on the limit modification**

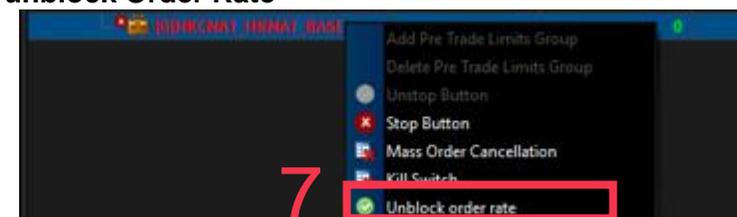
- Press the save button on the top right corner of the window for the limit modification to be effective immediately

**6) (For Trading) Enter 3 HSI Futures (HEX Call or Put Options) limit orders within 240 seconds**

- Make sure the Trading ID that enters the order belongs to the corresponding PTLG
- The third order should be rejected and the corresponding PTLG should be blocked
- HKATS Online/ OAPI Program shall receive the following OAPI return code message: "User has breached max. order rate limit [-850004]"

**7) (For PTRM Risk Limit Manager) Change the Order Rate Limit to 1,000 then save changes to unblock Order Rate**

- Highlight the blocked PTLG and right-click to choose "Unblock order rate" after save changes



1. For the tentative MR script, please refer to Appendix 7

# Proposed Execution Throttle Limits Test<sup>1</sup>

## 1) (For PTRM Risk Limit Manager) Check the risk limits of Execution Throttle as follows:

- Execution Throttle Limits will be defaulted at “922,337,203,685,477” HKD
- Execution Throttle Period will be defaulted at “600” seconds

Intraday Exposure	Risk Limit (HKD Eqv)	Long Exposure	Utilization %	Short Exposure	Utilization %
Gross Futures Per Time	922,337,203,685,477	0	0.0%	0	0.0%
Gross Options Per Time	922,337,203,685,477	0	0.0%	0	0.0%

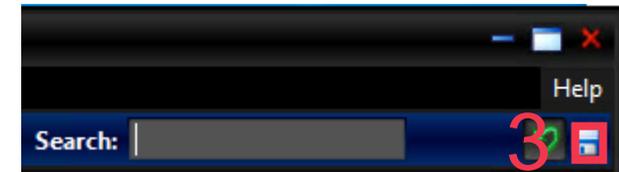
## 2) (For PTRM Risk Limit Manager) Change the Gross Futures Per Time (Gross Options Per Time for Stock Options) Limit into 1

- Please be reminded this action can only be performed by Risk Limit Manager

## 3) (For PTRM Risk Limit Manager) Save changes on the limit modification

- Press the save button on the top right corner of the window for the limit modification to be effective immediately
- The corresponding Gross Futures Per Time Long & Short Exposure counters (Gross Options Per Time for Stock Options) will be reset to 0

Intraday Exposure	Risk Limit (HKD Eqv)	Long Exposure	Utilization %
Gross Futures Per Time	1	0	
Gross Options Per Time	1	0	

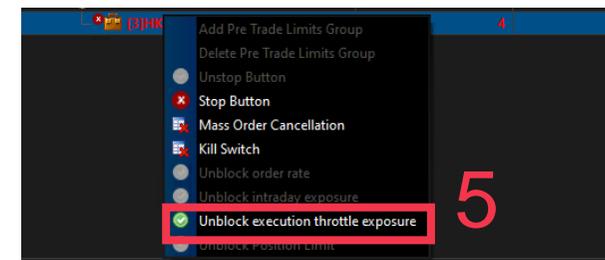


## 4) (For Trading) Execute 1 lot of HSI Futures (HEX Call or Put Options) then enter 1 HSI Futures (HEX Call or Put Options) limit order

- Please make sure the Trading ID that enters the orders belongs to the corresponding PTLG
- The last order will be rejected as the corresponding PTLG is in a breached state
- HKATS Online/ OAPI Program shall receive the following OAPI return code message: “User has exceeded max Execution throttle limit [-850010]”

## 5) (For PTRM Risk Limit Manager) Change the Execution Throttle Limits to 3,000,000 then save changes to unblock Execution Throttle

- Highlight the blocked PTLG and right-click to choose “Unblock Execution Throttle” after save changes



1. For the tentative MR script, please refer to Appendix 8

# Proposed Maximum Intraday Exposure Limits Test<sup>1</sup>

## 1) (For PTRM Risk Limit Manager) Check the Maximum Intraday Exposure Limits at the “Intraday Exposure Check” tab:

- All PTRM 1.0 Maximum Intraday Exposure Limits are retained

Intraday Exposure	Risk Limit (HKD Eqv)	Long Exposure	Utilization %	Short Exposure	Utilization %
Gross Futures	50,000,000	0	0.0%	0	0.0%
Net Futures	50,000,000	0	0.0%	0	0.0%
Gross Options	50,000,000	0	0.0%	0	0.0%
Net Options	50,000,000	0	0.0%	0	0.0%

**Maximum Intraday Exposure Limits**

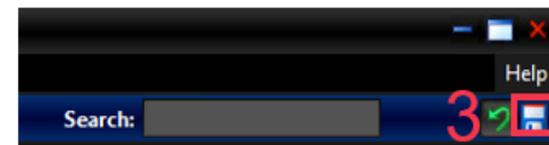
## 2) (For PTRM Risk Limit Manager) Change the Gross Futures Limit into 1

- Please be reminded this action can only be performed by Risk Limit Manager

## 3) (For PTRM Risk Limit Manager) Save changes on the limit modification

- Press the save button on the top right corner of the window for the limit modification to be effective immediately

Intraday Exposure	Risk Limit (HKD Eqv)	Long Exposure	Utilization %
Gross Futures	1	0	0.0%
Net Futures	922,337,203,685,477	0	0.0%
Gross Options	922,337,203,685,477	0	0.0%
Net Options	922,337,203,685,477	0	0.0%

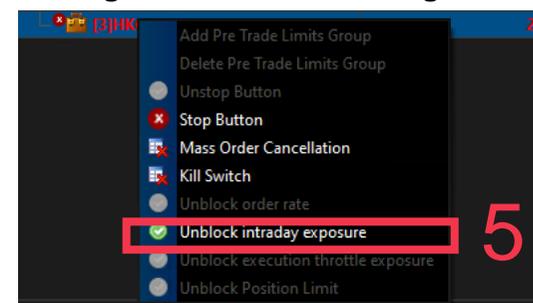


## 4) (For Trading) Enter 1 HSI Futures (HEX Call or Put Options) limit order

- Please make sure the Trading ID that enters the orders belongs to the corresponding PTLG
- The order will be rejected as the corresponding PTLG is in a breached state
- HKATS Online/ OAPI Program shall receive the following OAPI return code message: “User has exceeded max Intraday Exposure [-850006]”

## 5) (For PTRM Risk Limit Manager) Change the Gross Futures Limits into 3,000,000 higher than the existing value then save changes to unblock Intraday Exposure Limit

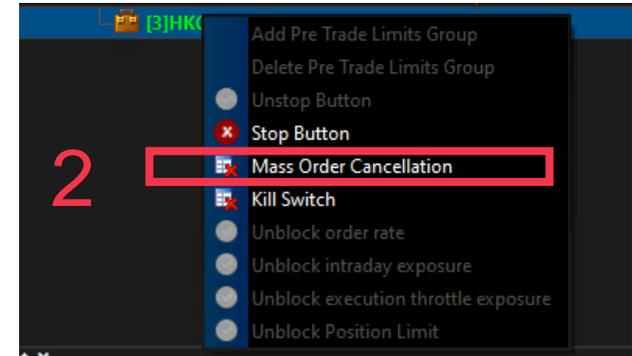
- Highlight the blocked PTLG and right-click to choose “Unblock exposure” after save changes



1. For the tentative MR script, please refer to Appendix 9

# Proposed Emergency Buttons Test – Mass Order Cancellation<sup>1</sup>

- 1) (For Trading) Enter 1 HSI Futures (HEX Call or Put Options) limit order
  - Please make sure the Trading ID that enters the orders belongs to the corresponding PTLG
- 2) (For PTRM Risk Limit Manager/ Trading Units) Execute “Mass Order Cancellation”
  - Highlight the corresponding PTLG and right-click to choose “Mass Order Cancellation”
- 3) (For PTRM Risk Limit Manager/ Trading Units) Check the “Order Exposure Reference” counters in Order Exposure Reference Tab
  - All Order Exposure Reference counters (Open Long/ Open Short Exposure) are reset to 0 after the execution of Mass Order Cancellation



A screenshot of the 'Order Exposure Reference' tab in a software application. The table shows the following data:

Intraday Exposure	Open Long Exposure	Open Short Exposure
Gross Futures	34,960,672	0
Gross Options	43,099,782	0

After Executing Mass Order Cancellation Function



A screenshot of the 'Order Exposure Reference' tab in a software application, showing the exposure values after the mass order cancellation function. A large red number '3' is overlaid on the left side of the table.

Intraday Exposure	Open Long Exposure	Open Short Exposure
Gross Futures	0	0
Gross Options	0	0



1. For the tentative MR script, please refer to Appendix 10

# Illustration



# Proposed Intraday Position Limits Test<sup>1</sup>

## 1) (For PTRM Risk Limit Manager) Check the Intraday Position Limits as follows:

- All PTRM 1.0 Maximum Order Size Tradables will be retained and equipped with 11 Intraday Position Limits<sup>2</sup> which can be checked at the “Edit Limits” tab
- All 11 Intraday Position Limits are defaulted at “922,337,203,685,477”

Tradable	Calcul...	Max Order...	Max Bloc...	Open Buy	Open Sell	Traded Bought	Traded Sold	Traded Net	Total Buy	Total Sell	Total Net Buy	Total Net Sell	Block Trade Bought	Block Trade Sold
HSI FUTURES	Q...	300	922,337,2...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,6...	922,337,203,...	922,337,203,68...	922,337,203...	922,337,203,685...	922,337,203,...	922,337,203,685,...	922,337,203,685,...
STOCK CALL OPTI...	Q...	300	922,337,2...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,6...	922,337,203,...	922,337,203,68...	922,337,203...	922,337,203,685...	922,337,203,...	922,337,203,685,...	922,337,203,685,...
STOCK PUT OPTI...	Q...	300	922,337,2...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,6...	922,337,203,...	922,337,203,68...	922,337,203...	922,337,203,685...	922,337,203,...	922,337,203,685,...	922,337,203,685,...
HHI FUTURES	Q...	300	922,337,2...	922,337,203,...	922,337,203,...	922,337,203,...	922,337,203,6...	922,337,203,...	922,337,203,68...	922,337,203...	922,337,203,685...	922,337,203,...	922,337,203,685,...	922,337,203,685,...

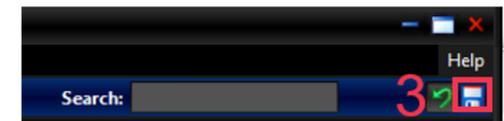
## 2) (For PTRM Risk Limit Manager) Change “Open Buy” (or “Open Sell”) of “HSI FUTURES” or “STOCK CALL OPTION”/“STOCK PUT OPTION” in Edit Limits Tab into 1 lot

- Please be reminded this action can only be performed by Risk Limit Manager

## 3) (For PTRM Risk Limit Manager) Save changes on the limit modifications

- Press the save button on the top right corner of the window for the limit modifications to be effective immediately

Tradable	Cal...	Max Order ...	Max Block Tra...	Open Buy	Open Sell	Traded Bought	Traded Sold
HSI FUTURES	...	922,337,203,...	922,337,203,6...	1	1	922,337,203,6...	922,337,203,6...
STOCK CALL OPTION	...	922,337,203,...	922,337,203,6...	1	1	922,337,203,6...	922,337,203,6...
STOCK PUT OPTION	...	922,337,203,...	922,337,203,6...	1	1	922,337,203,6...	922,337,203,6...
HHI FUTURES	...	922,337,203,...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...	922,337,203,6...

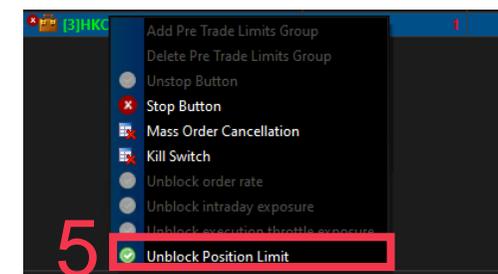


## 4) (For Trading) Enter 3 HSI Futures (HEX Stock Call/ Put Options) buy limit orders (or sell) consecutively without execution to breach its corresponding Intraday Position Limit

- Please make sure the Trading ID that enters the orders belongs to the corresponding PTLG
- The third order will be rejected as the corresponding product type “HSI FUTURES” (“STOCK CALL OPTION”/“STOCK PUT OPTION”) is in a breached state
- HKATS Online/ OAPI Program shall receive the following OAPI return code message: “User has exceeded max Position Limit [-850014]”

## 5) (For PTRM Risk Limit Manager) Change the “Open Buy” (or “Open Sell”) into 300 then save changes to unblock Intraday Position Limits

- Highlight the blocked PTLG and right-click to choose “Unblock Position Limit” after save changes



1. For the tentative MR script, please refer to Appendix 11
2. For detailed formula of each counter, please refer to next slide

# Intraday Position Limits Formula

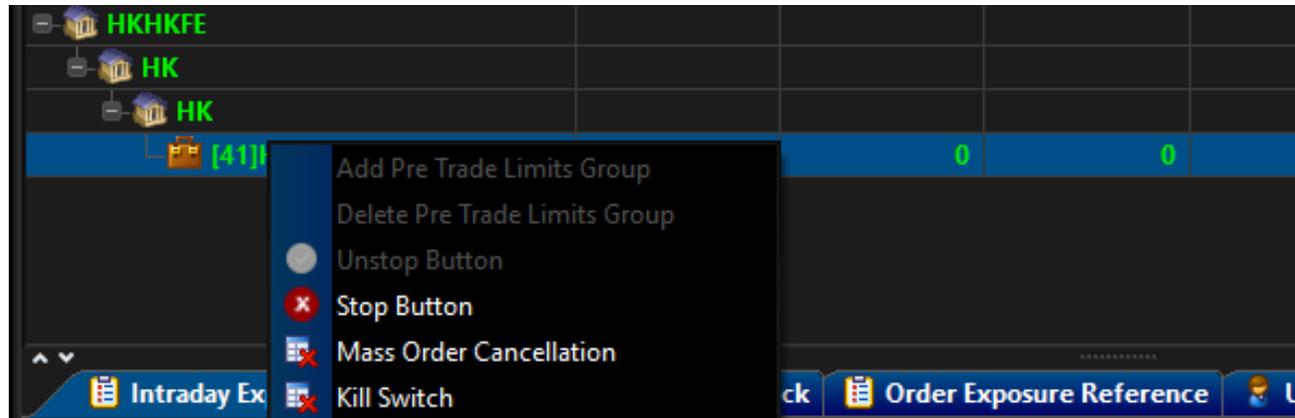
Intraday Position Limits Counters	Formula
Open Buy	The current number of open contracts on the buy side (Exclude Block Trade)
Open Sell	The current number of open contracts on the sell side (Exclude Block Trade)
Traded Bought	The current number of traded contracts on the buy side (Exclude Block Trade)
Traded Sold	The current number of traded contracts on the sell side (Exclude Block Trade)
Total Buy	Open Buy + Traded Bought (Exclude Block Trade)
Total Sell	Open Sell + Traded Sold (Exclude Block Trade)
Traded Net	Absolute value of (Traded Bought – Traded Sold)
Total Net Buy	Open Buy + Traded Bought – Traded Sold (Exclude Block Trade)
Total Net Sell	Open Sell + Traded Sold – Traded Bought (Exclude Block Trade)
Block Trade Bought <sup>1</sup>	The current number of traded block trade contracts on the buy side
Block Trade Sold <sup>1</sup>	The current number of traded block trade contracts on the sell side

Intraday Position Limits count the exposure in term of the accumulated number of contracts by product tradables



1. For Non-Base PTLGs, all consumption on “Block Trade Bought” and “Block Trade Sold” will be counted to the corresponding Base PTLG Block Trade

# Emergency Buttons



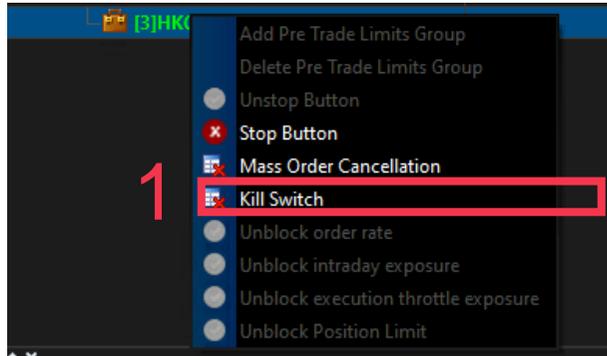
Stop	<ul style="list-style-type: none"> <li>To stop a PTLG from order entering</li> <li>Allow order cancellation</li> </ul>
Unstop	<ul style="list-style-type: none"> <li>To allow again the order entering for a stopped PTLG</li> <li>Can only be performed by Risk Limit Manager</li> </ul>
Unblock (for Order Rate, Intraday Exposure Limit and Execution Throttle)	<ul style="list-style-type: none"> <li>To unblock a subsequently blocked PTLG after a limit breach</li> <li>Can only be performed by Risk Limit Manager</li> </ul>
Unblock (for Intraday Position Limits)	<ul style="list-style-type: none"> <li>To unblock a subsequently blocked a Product Type/ Class after a limit breach</li> <li>Can only be performed by Risk Limit Manager</li> </ul>
Mass Order Cancellation	<ul style="list-style-type: none"> <li>To cancel all outstanding orders of a PTLG</li> </ul>
Kill Switch	<ul style="list-style-type: none"> <li>To cancel all outstanding orders of a PTLG and stop the PTLG from order entering</li> </ul>



# Proposed Emergency Button Test – Kill Switch<sup>1</sup>

## 1) (For PTRM Risk Limit Manager/ Trading Units) Execute “Kill Switch” to stop the PTLG from trading and cancel all outstanding orders

- Highlight the corresponding PTLG and right-click to choose “Kill Switch”
- The corresponding PTLG is blocked and all outstanding orders are cancelled

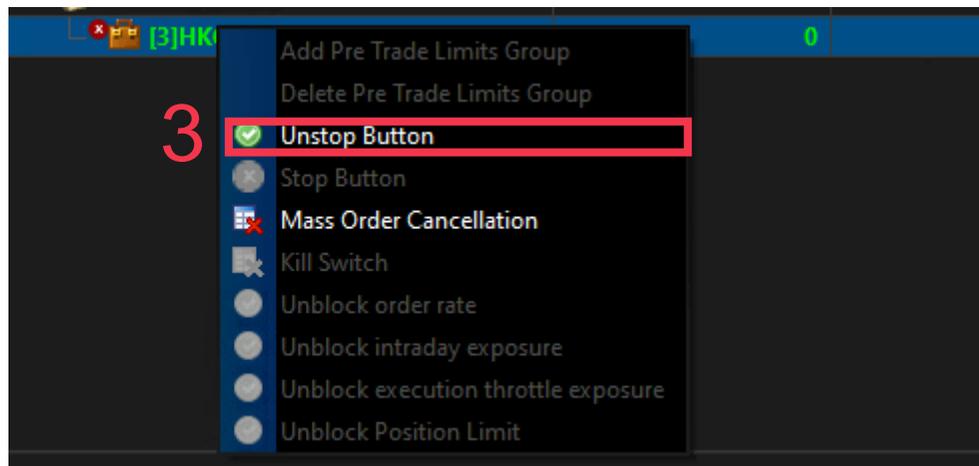


## 2) (For Trading) Enter 1 HSI Futures (HEX Call or Put Options) limit order

- The order will be rejected as the corresponding PTLG is in a breached state
- HKATS Online/ OAPI Program shall receive the following OAPI return code message: “User is in a blocked pretrade risk state [-850002]”

## 3) (For PTRM Risk Limit Manager/ Trading Units) Execute “Unstop” to resume the trading activities of the corresponding PTLG

- Highlight the corresponding PTLG and right-click to choose “Unstop”

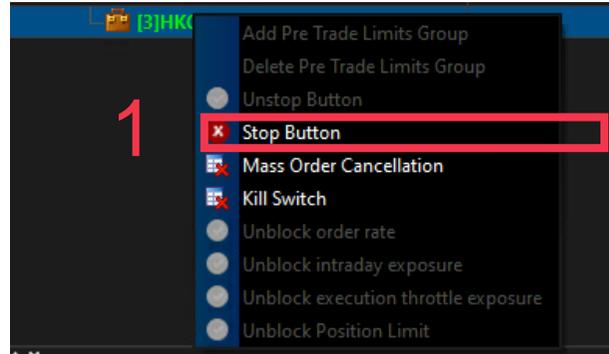


1. For the tentative MR script, please refer to Appendix 12

# Proposed Emergency Button Test – Stop<sup>1</sup>

## 1) (For PTRM Risk Limit Manager/ Trading Units) Execute “Stop” to stop the PTLG from sending subsequent orders

- Highlight the corresponding PTLG and right-click to choose “Stop”
- The corresponding PTLG is blocked



## 2) (For Trading) Enter 1 HSI Futures (HEX Call or Put Options) limit order

- The order will be rejected as the corresponding PTLG is in a breached state
- HKATS Online/ OAPI Program shall receive the following OAPI return code message: “User is in a blocked pretrade risk state [-850002]”

**\*\* (For PTRM Risk Limit Manager) Do not unstop the PTLG. The PTLG should be stopped for the next test**



# Illustration



# PTRM Contingency Measure - Disable HKATS Risk Functions (PTRM) <sup>1</sup>

- **In case of a PTRM system failure, the Exchange may disable the PTRM system to avoid a potential trading disruption**
- **In the event of the Exchange disabling the PTRM system, Exchange Participants shall note the followings:**
  - HKATS Online/ OAPI Program shall receive a corresponding HKATS Market Message on the arrangement
  - All PTRM GUI login sessions will be logged out from the system
  - All risk limits of PTRM Prescribed Risk Control in place **will not** be effective
  - All Emergency Buttons (including Mass Order Cancellation, Kill Switch, Stop Button and Unstop Button) **will not** be available until the resumption of the PTRM system
  - All previous blocked and/or stopped PTLGs statuses **will not** be effective
  - Trading will continue as normal

## Proposed Market Rehearsal Actions – Disable HKATS Risk Functions (PTRM)

- 1) (For PTRM Risk Limit Manager) Check the corresponding PTLG is in a stopped/ blocked state**
- 2) (For PTRM Risk Limit Manager) Check the corresponding PTRM GUI login session after the Exchange announce Disable HKATS Risk Functions (PTRM)**
  - All PTRM GUI login sessions will be logged out from the system
- 3) (For Trading) Enter 1 HSI Futures (HEX Call or Put Options) limit order after the Exchange announce Disable HKATS Risk Functions (PTRM)**
  - HKATS Online/ OAPI Program shall receive a corresponding HKATS Market Message on the arrangement
  - The order will be accepted even the corresponding PTLG is in a stopped/blocked state



## PTRM Reports

- **There is no changes in the report distribution channel of the following two PTRM reports:**
  - RX\_AUDIT
  - RX\_UTIL
- **RX\_AUDIT - Audit Report**
  - Records all actions performed by the PTRM GUI login sessions
- **RX\_UTIL - Utilization Report**
  - Records the maximum utilization of all risk limits (e.g., Order Size Limits, Order Rate Limit, Intraday Exposure Limits, Execution Throttle Limits and Intraday Position Limits)
- **Both reports are proposed to be made available and distributed to the corresponding PTRM Authorised Persons and/or other designates after the MR**



# Sample of RX\_UTIL Report

Timestamp	Exchange Participant	Trading Member	PTLG	Tradeable/RiskGroup	RiskType	Max Utilization	Max Utilization %	Max Utilization Time
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	MAX_SIZE	0	0%	N/A
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	MAX_SIZE	100	33%	20211115-14:30:55.616
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	MAX_BLOCK_TRADE_SIZE	1000	50%	20211115-15:30:55.616
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	MAX_BLOCK_TRADE_SIZE	0	0%	N/A
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	OPEN_BUY	0	0%	N/A
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	OPEN_BUY	200	20%	20211115-16:00:55.616
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	OPEN_SELL	10	1%	20211115-11:59:55.616
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	OPEN_SELL	0	0%	N/A
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	TRADED_BOUGHT	0	0%	N/A
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	TRADED_BOUGHT	150	20%	20211115-11:59:55.616
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	TRADED_SOLD	0	0%	N/A
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	TRADED_SOLD	10	1%	20211115-11:59:55.616
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	TRADED_NET	0	0%	20211115-11:59:55.616
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	TRADED_NET	150	20%	20211115-16:00:55.616
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	TOTAL_BUY	0	0%	N/A
20211116-03:30:55.616	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	TOTAL_BUY	200	1%	20211115-16:00:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	TOTAL_SELL	10	1%	20211115-11:59:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	TOTAL_SELL	0	0%	N/A
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	TOTAL_NET_BUY	0	1%	20211115-11:59:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	TOTAL_NET_BUY	100	10%	20211115-16:00:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	TOTAL_NET_SELL	10	1%	20211115-11:59:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	TOTAL_NET_SELL	200	10%	20211115-16:00:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	BLOCK_TRADE_BOUGHT	1000	0%	20211115-15:30:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	BLOCK_TRADE_BOUGHT	0	10%	N/A
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	SOMC	BLOCK_TRADE_SOLD	1000	0%	20211115-15:30:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	HSIF	BLOCK_TRADE_SOLD	0	10%	N/A
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	ORDER_RATE	10	30%	20211115-11:30:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	NET_FUTURES_LONG	50002412	20%	20211115-16:00:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	NET_FUTURES_SHORT	50002412	20%	20211115-16:00:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	GROSS_FUTURES_LONG	50002412	20%	20211115-16:00:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	GROSS_FUTURES_SHORT	0	0%	N/A
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	NET_OPTIONS_LONG	293852	15%	20211115-11:59:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	NET_OPTIONS_SHORT	293852	15%	20211115-11:59:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	GROSS_OPTIONS_LONG	0	0%	N/A
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	GROSS_OPTIONS_SHORT	293852	15%	20211115-11:59:55.616
20211116-03:30:55.617	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	GROUP	GROSS_FUTURES_LONG_PER_TIME	5000000	6%	20211115-15:20:55.616

Clearing Participants

Corresponding PTLG

Corresponding Risk Check Counters

Time of Maximum Utilization

Exchange Participants

Maximum Utilization

Corresponding Tradables

Maximum Utilization %



# Sample of RX\_AUDIT Report

A	B	C	D	E	F	G	H	I	J	K	L
Timestamp	Exchange Participant	Trading Member	PTLG	Category	User	Action	Effective	Item	Old Value	New Value	Event Level
20211115-13:14:16.998	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Intraday	PTLG	HKCTOM_HKAAA_BASE	HKCTOM_HKAAA_BASE	
20211115-13:14:16.998	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Intraday	MAX_SIZE (SOMC)	922337203685477		300
20211115-13:14:16.998	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Intraday	MAX_SIZE (SOMP)	922337203685477		300
20211115-13:14:16.998	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Intraday	MAX_SIZE (HSIF)	922337203685477		300
20211115-13:14:16.998	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Intraday	MAX_SIZE (HHIF)	922337203685477		300
20211115-13:41:46.726	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Supervisory Action	P_CTOM001		Intraday	Block PTLG			
20211115-13:41:48.435	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Reject	AAA001		Intraday				
20211115-13:42:01.640	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Supervisory Action	P_CTOM001		Intraday	Unblock PTLG			
20211115-13:42:04.275	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Action Categories	P_CTOM001		Intraday	Block PTLG			
20211115-13:42:04.280	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Action Categories	P_CTOM001		Intraday	Block PTLG			
20211115-13:42:08.329	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Action Categories	AAA001		Intraday	Block PTLG			
20211115-13:42:15.320	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Supervisory Action	P_CTOM001		Intraday	Unblock PTLG			
20211115-13:42:20.611	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Supervisory Action	P_CTOM001		Intraday	Bulk Cancel			
20211115-13:42:44.375	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Intraday	PTLG	HKCTOM_HKAAA_BASE	HKCTOM_HKAAA_BASE	
20211115-13:42:44.375	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Intraday	Gross Fut Per Time Limit	922337203685477		130339
20211115-13:42:44.375	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001		Intraday	Gross Fut Per Time Limit	null	null	BREACH
20211115-13:42:44.375	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001		Intraday	Gross Fut Per Time Limit	null	null	BREACH
20211115-13:42:51.683	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Breach	AAA001		Intraday				BREACH
20211115-13:42:51.683	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Breach	AAA001		Intraday				BREACH
20211115-13:42:52.288	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Reject	AAA001		Intraday				BREACH
20211115-15:26:24.510	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	PTLG	HKCTOM_HKAAA_BASE	HKCTOM_HKAAA_BASE	
20211115-15:26:24.510	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Fut Coeff	100		50
20211115-15:26:24.510	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Opt Coeff	100		50
20211115-15:26:43.589	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	PTLG	HKCTOM_HKAAA_BASE	HKCTOM_HKAAA_BASE	
20211115-15:26:43.589	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Breach Emails	TRUE	FALSE	
20211115-15:26:43.589	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Warning Emails	TRUE	FALSE	
20211115-15:26:43.589	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Notice Emails	TRUE	FALSE	
20211115-15:49:10.196	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	PTLG	HKCTOM_HKAAA_BASE	HKCTOM_HKAAA_BASE	
20211115-15:49:10.196	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Fut Coeff		100	50
20211115-15:49:10.196	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Opt Coeff			50
20211115-15:49:14.340	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	PTLG	HKCTOM_HKAAA_B	AAA_BASE	
20211115-15:49:14.340	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Breach Emails	TRUE	FALSE	
20211115-15:49:14.340	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Warning Emails	TRUE	FALSE	
20211115-15:49:14.340	HKCTOM	HKAAA	HKCTOM_HKAAA_BASE	Ref Data	P_CTOM001	Update	Next Day	Notice Emails	TRUE	FALSE	

Clearing Participants

Exchange Participants

Time of the action

Corresponding PTLG

User of the Action

Corresponding Items

Effective Date

Value of the actions



# Sample of RX\_AUDIT Report (Continued)

L	M	N	O	P	Q
Event Level	Event Risk Type	Event Order ID	Event Side	Event OrderBookID	Reject Code
		00000000:00000000		149622690	RX_PRETRADE_USER_BLOCKED
		00000000:00000000		149622690	RX_PRETRADE_USER_BLOCKED
					<b>Rejection Code</b>
...					
BREACH					
BREACH					
BREACH	GROSS_FUTURES_SHORT_PER_TIME	6812E003:0000B2XX	SELL	149622690	
BREACH	GROSS_FUTURES_LONG_PER_TIME	6812E003:0000B2XX	BUY	149622690	
		00000000:00000000		149622690	RX_PRETRADE_EXE_THROTTLE

**Breached Risk Check**

**Rejection Code**

**Actions event Level**

**Supplementary References**



# Enhanced PTRM System Rollout Schedule and Arrangement

The key dates for the rollout of PTRM 2.0 are as follows:

Date	Activity
09 July 2021 (In Progress)	New testing environment for the verification of the new PTRM OAPI return codes
25 <sup>th</sup> September 2021 (Tentative)	MR
30 <sup>th</sup> October 2021 (Tentative)	Production Rollout

\*\*EPs can find the detailed functions and rollout schedule from the materials below:

[HKATS Risk Functions Enhancement Information Paper](#)

[HKATS Risk Functions Enhancement Briefing Materials](#)



## Best Measures

1. Login to PTRM GUI at least once prior to MR
2. Ensure the communications among PTRM Authorized Person(s), trading staffs, information service providers (if applicable) and IT support team have been established before the MR
3. Understand the Java Cache deletion procedures
4. Understand the verification procedures of Java and Google Chrome version
5. Login to the PTRM GUI and HKATS as early as possible according to the rundown on the day of MR
6. Ensure that the MR checklist and rundown are properly followed
7. Fill in and return the Confirmation Form to the Exchange through email after the successful MR completion
8. Do not reboot or shut down your dedicated PC for HKATS Online workstation or PTRM even if it appears to be “hanging”. Please call the HKATS Hotline (+852 2211 6360) immediately in this regard



# Checklist

	Items to be checked	✓
<b>(A) Before MR</b>		
1	Have you read and understood this Training Session Material and Information Package (to be provided in due course)?	
2	Have you discussed with your Trading, IT support, OAPI vendor and information service provider (if applicable) on the coordination and preparation for the MR? <b>(For PTRM Authorized Person(s))</b>	
3	Have you discussed with your PTRM Authorized Person(s) on the coordination and preparation for the MR? <b>(For Responsible Officer and Trading)</b>	
4	Have you discussed with your Exchange Participants (Non-Clearing Participants) on the coordination and preparation for the MR? <b>(For General Clearing Participants)</b>	
5	Have you discussed with your GCPs on the coordination and preparation for the MR? <b>(For Non-Clearing Participants)</b>	
6	Have you coordinated with your internal IT support, system vendor or information service provider (if applicable) and for their supports in the connectivity for Trading and PTRM?	
7	Have you arranged with your Responsible Officer(s) and/or other designates for the Confirmation Form submission?	
8	Have you ensured the network settings for the connectivity of HKATS Online, OAPI program(s) and PTRM GUI are ready for the MR?	
9	Have you confirmed with the assigned gateways and ports of your corresponding PTRM GUI login sessions? If not, please contact <a href="mailto:HKATSSupport@hkex.com.hk">HKATSSupport@hkex.com.hk</a> for confirmation.	
10	Have you logged in to PTRM GUI in production environment and delete all related Java Cache prior to MR?	
11	Have you made an arrangement on the PTRM GUI, HKATS Online and OAPI login IDs to be used during the MR?	
12	Have you ensured market data source will be available for the MR?	
13	Have you made backups of production data before executing the MR?	
<b>(B) After MR</b>		
1	Have your Responsible Officers and/or other designates submitted MR Confirmation Form?	
2	Have you backed up all relevant log files for subsequent review?	
3	Have you cleaned up all testing data and <u>all JAVA Caches</u> ?	



# Q&A Session

For further information, please visit [hkexgroup.com](http://hkexgroup.com) | [hkex.com.hk](http://hkex.com.hk)



## PTRM Enquiry

For further questions regarding the PTRM system

Please call HKATS Hotline: +852 2211 6360

or Email: [HKATSSupport@hkex.com.hk](mailto:HKATSSupport@hkex.com.hk)

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# Appendix 1

Information for updating host table:		
10.151.14.101	pgenrgw001.hkex.com.hk	pgenrgw001 PGENRGW001
10.151.14.102	pgenrgw002.hkex.com.hk	pgenrgw002 PGENRGW002
10.152.14.101	sgenrgw001.hkex.com.hk	sgenrgw001 SGENRGW001
10.152.14.102	sgenrgw002.hkex.com.hk	sgenrgw002 SGENRGW002



# Appendix 2 - Creation of Combo Tradable or TMC Tradable

1. Similar to the existing procedures to add a new tradable for Maximum Order Size Limits which will be tomorrow effective. An user has to choose “add” from “Next Day Changes” panel as below

Tradable	Calculation	Max Order Size	Max Block Trade ...	Open Buy	Open Sell	Traded Bought	Traded Sold	Traded Net	Total Buy	Total Sell	Total Net Buy	Total Net Sell	Block Trade Boug...	Block Trade Sold
CUS - FUTURES	QUANTITY	200	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...
STOCK CALL OPT...	QUANTITY	200	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...
STOCK PUT OPTI...	QUANTITY	200	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...
HSI FUTURES	QUANTITY	300	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...
HHI FUTURES	QUANTITY	300	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...	922,337,203,685,...

2. Select your desired market and pick “Combo Class”/ “Combo Type” in “Class/Type” then pick the corresponding time spread as follow

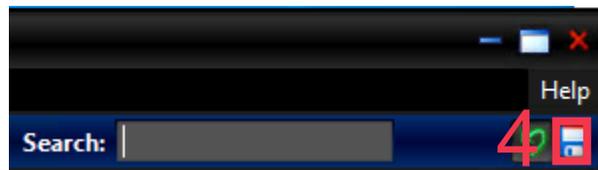


3. The selected Combo Tradable will appear in the “Next Day Changes” panel as follow

Tradable	Calculation	Max Order Size	Max Block Tra...	Open Buy	Open Sell	Traded Bought	Traded Sold	Trad
HSI FUT TIME SPREA...	QUAN...	922,337,203,...	N/A	N/A	N/A	N/A	N/A	

4. Save changes on the limit modification

- Press the save button on the top right corner of the window for the tradable to be effective by tomorrow



# Appendix 3 – Proposed MR Script for Connectivity and PTRM GUI Layout Checking

Actions	Expected Results/ Observations
<ul style="list-style-type: none"> <li>• <b>Delete all Java caches</b> at the PTRM GUI PC; and</li> <li>• <b>Login to the PTRM GUI</b> by using the existing production PTRM GUI User and the password <b>388testing\$</b> (For PTRM operations); and</li> <li>• <b>Login to the OAPI application</b> by using the existing production OAPI User and the password <b>388testing\$</b> (For order input); or</li> <li>• <b>Login to the HKATS Online</b> by using the existing production HKATS Online User and the password <b>388testing\$</b> (For order input)</li> <li>• Check/Synchronize system clock of your workstation (if necessary)</li> </ul> <p><b>[Important]</b></p> <ul style="list-style-type: none"> <li>• All General Clearing Participants (“GCPs”) shall login to the Risk Limit Manager PTRM GUI (with full access right) to perform the following PTRM operations on behalf of their Non-Clearing Participants (“NCPs”)               <ol style="list-style-type: none"> <li>1. To modify and save change risk limits;</li> <li>2. To unblock after a limit breach;</li> </ol> </li> <li>• All NCPs shall input orders according to the rundown and login to the Trading Units PTRM GUI (with partial access right) to perform the following PTRM operations:               <ol style="list-style-type: none"> <li>1. To stop a PTLG according to the rundown</li> <li>2. To perform Mass Cancel</li> <li>3. To perform Kill Switch</li> <li>4. To receive and check the PTRM OAPI return codes</li> </ol> </li> <li>• All Direct Clearing Participants (“DCP”) shall login to the Risk Limit Manager PTRM GUI (with full access right) to perform all PTRM operations by themselves</li> <li>• <b>No PTRM email alerts will be provided during the MR</b></li> </ul>	<p><b>[PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>• Verify if all Pre-Trade Limit Group (“PTLG”) structures previously created and their respective settings are retained.</li> <li>• Verify if the following Tabs for each PTLG are shown on the PTRM GUI:               <ul style="list-style-type: none"> <li>➤ Intraday Exposure Check, Execution Throttle Check, Order Exposure Reference, Users, Email Alerts, Edit Limits, Position Limit</li> </ul> </li> <li>• The risk limits and settings for the following Tabs shall be retained as per 28<sup>th</sup> August 2021:               <ul style="list-style-type: none"> <li>➤ Intraday Exposure Check, Users, Email Alerts, Edit Limits (For the column of Max. Order Size only)</li> </ul> </li> <li>• “Order Rate Limit” and “Order Rate Period” on the PTLG row shall be retained as per 28<sup>th</sup> August 2021</li> <li>• The following new risk shall be set at 922,337,203,685,477:               <ol style="list-style-type: none"> <li>1. Risk Limits in Execution Throttle Check Tab</li> <li>2. Risk limits in the following columns of Edit Limits Tab:                   <ul style="list-style-type: none"> <li>➤ Max Block Trade Size, Open Buy, Open Sell, Traded Bought, Traded Sold, Trade Net, Total Buy, Total Sell, Total Net Buy, Total Net Sell, Block Trade Bought, Block Trade Sold</li> </ul> </li> </ol> </li> </ul>



# Appendix 4 – Proposed MR Script for Maximum Order Size Limit

Actions	Expected Results/ Observations
<p><b>[Maximum Order Size Check]</b></p> <ul style="list-style-type: none"> <li>At <b>PTRM GUI</b>, change Max Order Size of “HSI FUTURES” in Edit Limit Tab into 30 lots then save changes*</li> <li>Enter a limit order (either bid at 29000 or ask at 29100) of 31 lots in HSIU1</li> </ul> <p><b>[Make sure the OAPI/ HKATS Online User used for order input here is assigned for the corresponding PTLG in PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>Enter a limit order (either bid at 29000 or ask at 29100) of 30 lots or lower in HSIU1</li> </ul> <p>For EPs who possess trading right in the Stock Options market only, please use <b>“STOCK CALL OPTION”</b> and <b>HEX380.00I1</b> for order input (either bid at 120 or ask at 121)</p> <p>* <u>The action can only be performed by Risk Limit Manager</u></p>	<p><b>[PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>Order with 31 lots should be rejected</li> </ul> <p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>The following PTRM OAPI return code message shall be received: <b>“User has exceeded max. order size limit [-850008]”</b></li> </ul>



# Appendix 5 – Proposed MR Script for Maximum Block Trade Size Limit

Actions	Expected Results/ Observations
<p><b>Optional - [Maximum Block Trade Size Check]</b></p> <ul style="list-style-type: none"> <li>At <b>PTRM GUI</b>, change Max Block Trade Size of “HSI FUTURES” in Edit Limit Tab into 100 lots then save changes*</li> <li>Enter a T1 Block Trade at a price of 29000 of 101 lots in HSIU1</li> </ul> <p><b>[Make sure the OAPI/ HKATS Online User used for block trade input here is assigned for the corresponding PTLG in PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>Enter a T1 Block Trade at a price of 29000 of 100 lots in HSIU1</li> </ul> <p>For EPs who possess trading right in the Stock Options market only, please use “<b>STOCK CALL OPTION</b>” and <b>HEX380.0011</b> for Block Trade input (price at 120)</p> <p>* <u>The action can only be performed by Risk Limit Manager</u></p>	<p><b>[PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>Block trade with 101 lots should be rejected</li> </ul> <p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>The following PTRM OAPI return code message shall be received:  <b>“User has exceeded Max. Block Trade limit [-850012]”</b></li> </ul>



# Appendix 6 – Proposed MR Script for Maximum Combo Size Limit

Actions	Expected Results/ Observations
<p><b>Optional - [Maximum Combo Size Check]</b></p> <ul style="list-style-type: none"> <li>At <b>PTRM GUI</b>, change Max Order Size of “HSI T01” in Edit Limit Tab into 30 lots then save changes*</li> <li>Enter a limit order (either bid at 0 or ask at 10) of 31 lots in HSIU1/V1</li> </ul> <p><b>[Make sure the OAPI/ HKATS Online User used for order input here is assigned for the corresponding PTLG in PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>Enter a limit order (either bid at 0 or ask at 10) of 30 lots or lower in HSIU1/V1</li> </ul> <p>* <u>The action can only be performed by Risk Limit Manager</u></p>	<p><b>[PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>Combo order with 31 lots should be rejected</li> </ul> <p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>The following PTRM OAPI return code message shall be received:  “User has exceeded max. order size limit [-850008]”</li> </ul>



# Appendix 7 – Proposed MR Script for Maximum Order Rate Limits

Actions	Expected Results/ Observations
<p><b>[Maximum Order Rate Check]</b></p> <p><b>Note: Please use MO31 for order placement</b></p> <ul style="list-style-type: none"> <li>At PTRM GUI, change Order Rate Period in the PTLG row into 240 then save changes*</li> <li>At PTRM GUI, change Order Rate Limit in the PTLG row into 1 then save changes*</li> <li>Enter 3 limit order consecutively (either bid at 29000 or ask at 29100) of 1 lot each in HSIU1 within 240 seconds</li> </ul> <p><b>[Make sure the OAPI/ HKATS Online User used for order input here is assigned for the corresponding PTLG in PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>The order is rejected</li> <li>The corresponding PTLG is blocked</li> <li>To unblock, raise the Order Rate Limit back into 1,000 then save changes*</li> <li>Right click on the PTLG then choose '<b>Unblock order rate</b>'*</li> </ul> <p>For EPs who possess trading right in the Stock Options market only, please <b>HEX380.0011</b> for order input (either bid at 120 or ask at 121)</p> <p>* The action can only be performed by Risk Limit Manager</p>	<p><b>[PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>The last order should be rejected</li> <li>The “Order Rate” risk counter on the corresponding PTLG row should be updated accordingly</li> </ul> <p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>The following PTRM OAPI return code message shall be received:  <b>“User has exceeded max. order rate limit [-850004]”</b></li> </ul>



# Appendix 8 – Proposed MR Script for Execution Throttle Limits

Actions	Expected Results/ Observations
<p><b><u>Exchange Participants shall cooperate with the Exchange to facilitate the MR by following strictly the steps below to avoid trading with all the bids and asks in the market of HSIZ1</u></b></p> <p><b><u>[Execution Throttle Check]</u></b></p> <ul style="list-style-type: none"> <li>• At <b>PTRM GUI</b>, change <i>Gross Futures Limit Per Second</i> in the Execution Throttle Check Tab into a 1 then save changes*</li> <li>• Both <i>Long &amp; Short Exposure counter of Gross Futures Limit Per Second</i> will be reset to 0</li> <li>• Execute 1 trade in HSIZ1 (either buy at 29100 or sell at 29000)</li> </ul> <p><b>[Make sure the OAPI/ HKATS Online User used for order input here is assigned for the corresponding PTLG in PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>• The corresponding PTLG should be blocked</li> <li>• Enter 1 limit order in HSIZ1 (either buy at 29100 or sell at 29000)</li> <li>• The order is rejected</li> <li>• To unblock, raise Gross Futures Limit Per Second into 3,000,000 then save changes*</li> <li>• Right click on the PTLG then choose ‘Unblock Execution Throttle’**</li> </ul> <p>For EPs who possess trading right in the Stock Options market only, please use <b><u>HEX380.0011</u></b> for order input (either buy at 121 or sell at 120)</p> <p>*The action can only be performed by Risk Limit Manager</p>	<p><b>[PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>• The last order should be rejected</li> <li>• The risk counters in the “Execution Throttle Check” Tabs should be updated accordingly</li> </ul> <p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>• The following message shall be received: <b><u>“User has exceeded Execution Throttle limit [-850010]”</u></b></li> </ul>



# Appendix 9 – Proposed MR Script for Maximum Intraday Exposure Limits

Actions	Expected Results/ Observations
<p><b>[Maximum Intraday Exposure Check]</b></p> <ul style="list-style-type: none"> <li>At <b>PTRM GUI</b>, change the existing <u>Gross Futures Limit</u> in the Intraday Exposure Check Tab into a level lower than the existing <u>Gross Futures Long</u> or the <u>Gross Futures Short</u> exposure (whichever is higher) then save changes*</li> <li>The corresponding PTLG is blocked</li> <li>Enter 1 limit order (either bid at 29000 or ask at 29100) in HSIU1</li> </ul> <p><b>[Make sure the OAPI/ HKATS Online User used for order input here is assigned for the corresponding PTLG in PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>The order is rejected</li> <li>To unblock, raise <u>Gross Futures Limit</u> into a level at least 3,000,000 higher than the existing Gross Futures Limit value then save changes*</li> <li>Right click on the PTLG then choose '<u>Unblock Intraday exposure</u>'*</li> </ul> <p>For EPs who possess trading right in the Stock Options market only, please use <b>HEX380.0011</b> for order input (either bid at 120 or ask at 121)</p> <p>*<u>The action can only be performed by Risk Limit Manager</u></p>	<p><b>[PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>The order should be rejected after the PTLG is blocked</li> <li>The risk counters in the “Intraday Exposure Check” Tabs should be updated accordingly</li> </ul> <p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>The following PTRM OAPI return code message shall be received: <i><u>“User has exceeded max. Intraday Exposure [-850006]”</u></i></li> </ul>



# Appendix 10 – Proposed MR Script for Emergency Buttons Test – Mass Cancel

Actions	Expected Results/ Observations
<p><b><u>Emergency Buttons</u></b></p> <p><b>[Mass Cancel]</b></p> <ul style="list-style-type: none"> <li>• Enter a limit of 1 lot in HSIU1 without execution</li> <li>• At PTRM GUI, right click on the corresponding PTLG then choose “Mass Order Cancellation”</li> <li>• Check the relevant order book, all outstanding orders shall be cancelled</li> </ul> <p>For EPs who possess trading right in the Stock Options market only, please use <b><u>HEX380.0011</u></b> for order input</p>	<p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>• All outstanding orders shall be cancelled after triggering the Mass Cancel.</li> </ul>



# Appendix 11 – Proposed MR Script for Intraday Position Limits

Actions	Expected Results/ Observations
<p><b><u>Position Limits</u></b></p> <ul style="list-style-type: none"> <li>• At PTRM GUI, change either Open Buy (or Open Sell) in the Edit Limits Tab for HSI FUTURES into 2 lots then save changes*</li> <li>• Enter 3 buy (or sell) limit orders consecutively of 1 lot each in HSIU1 without execution</li> <li>• <b>[Make sure the OAPI/ HKATS Online User used for order input here is assigned for the corresponding PTLG in PTRM GUI]</b></li> <li>• The last order is rejected.</li> <li>• The corresponding tradable is blocked</li> <li>• To unblock, raise Open Buy (or Open Sell) for HSI FUTURES into 300 then save changes*</li> <li>• Right click on the PTLG then choose ‘Unblock Position Limit’</li> </ul> <p>For EPs who possess trading right in the Stock Options market only, please use <b>“<u>STOCK CALL OPTION</u>”</b> and <b><u>HEX380.0011</u></b> for order input</p> <p><u>*The action can only be performed by Risk Limit Manager</u></p>	<p><b>[PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>• The last order should be rejected</li> <li>• The risk counters in the “Position Limits” Tabs should be updated accordingly</li> </ul> <p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>• The following message shall be received: <b><u>“User has exceeded Position Limit [-850014]”</u></b></li> </ul>



# Appendix 12 – Proposed MR Script for Emergency Button Test – Kill Switch and Stop

Actions	Expected Results/ Observations
<p><b><u>Emergency Buttons</u></b></p> <p><b>[Kill Switch]</b></p> <ul style="list-style-type: none"> <li>• Enter a limit order of 1 lot in HSIU1 without execution</li> <li>• <b>[Make sure the OAPI/ HKATS Online User used for order input here is assigned for the corresponding PTLG in PTRM GUI]</b></li> <li>• At PTRM GUI, right click on the corresponding PTLG then choose “Kill Switch”</li> <li>• The corresponding PTLG is blocked</li> <li>• Check the relevant order book and all outstanding orders shall be cancelled</li> <li>• Enter a limit order (either bid at 29000 or ask at 29100) of 1 lot in HSIU1</li> <li>• The order is rejected</li> <li>• To unblock, right click on the corresponding PTLG then choose “Unstop”</li> </ul> <p><b>[Stop]</b></p> <ul style="list-style-type: none"> <li>• At PTRM GUI, right click on the corresponding PTLG then choose “Stop”</li> <li>• The corresponding PTLG is blocked</li> <li>• Enter a limit order (either bid at 29000 or ask at 29100) of 1 lot in HSIU1</li> <li>• The order is rejected</li> <li>• <b><u>DO NOT UNBLOCK THE PTLG</u></b></li> </ul> <p>For EPs who possess trading right in the Stock Options market only, please use <b><u>HEX380.0011</u></b> for order input (either bid at 120 or ask at 121)</p>	<p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>• The following message shall be received for the order rejections corresponding to the triggers of Kill Switch and Stop:  <b><i><u>“User is in a blocked pretrade risk state [-850002]”</u></i></b></li> </ul>



# Appendix 13 – Proposed MR Script for Disable Risk Checks

Actions	Expected Results/ Observations
<p><b><u>Disable PTRM Risk Function (PTRM)</u></b></p> <p><u>At 17:25</u></p> <ul style="list-style-type: none"> <li>• HKEX disable the PTRM system</li> </ul> <p><u>At 17:30</u></p> <ul style="list-style-type: none"> <li>• Enter a limit order (either bid at 29000 or ask at 29100) of 1 lot in HSIU1</li> <li>• The order is accepted</li> </ul> <p>For EPs who possess trading right in the Stock Options market only, please use <b><u>“STOCK CALL OPTION”</u></b> and <b><u>HEX380.0011</u></b> for order input (either bid at 120 or ask at 121)</p>	<p><b>[PTRM GUI]</b></p> <ul style="list-style-type: none"> <li>• All PTRM GUI Users (Risk Limit Manager and Trading Units) will be logged out from the PTRM system</li> <li>• All PTRM Emergency Buttons will not be accessible</li> <li>• All PTRM risk checks will be disabled</li> </ul> <p><b>[OAPI/ HKATS Online]</b></p> <ul style="list-style-type: none"> <li>• All OAPI/HKATS Online user connections will not be affected</li> <li>• Order and trade inputs are allowed even the corresponding PTLG was in a blocked state</li> </ul>

