VaR Platform – Briefing for Official Launch

Operations Division

Revised after incorporating questions from participants during briefings on 30 May, 1 & 2 June 2022

HKEX
香港交易所

Agenda

01 | Recap of VaR Platform

02 | Operational Difference between CCASS and VaR Platform

03 | Operational Arrangement after Official Launch of VaR Platform

04 | Pre-launch Preparation

05 | One-Off Transition Arrangement during 1st week of Official Launch

06 | Summary of upcoming activities

07 | Getting Ready for the Official Launch & Checklist

08 | Information for CPs

09 | Appendix

01 | Recap of VaR Platform

VaR Platform, is a new risk engine with new risk model (i.e. Value-at-Risk model), to be applied to HKSCC's Hong Kong market and is mandatory for ***all HKSCC Clearing Participants (CPs)***. VaR Platform will take over risk functions from CCASS, with a new infrastructure:

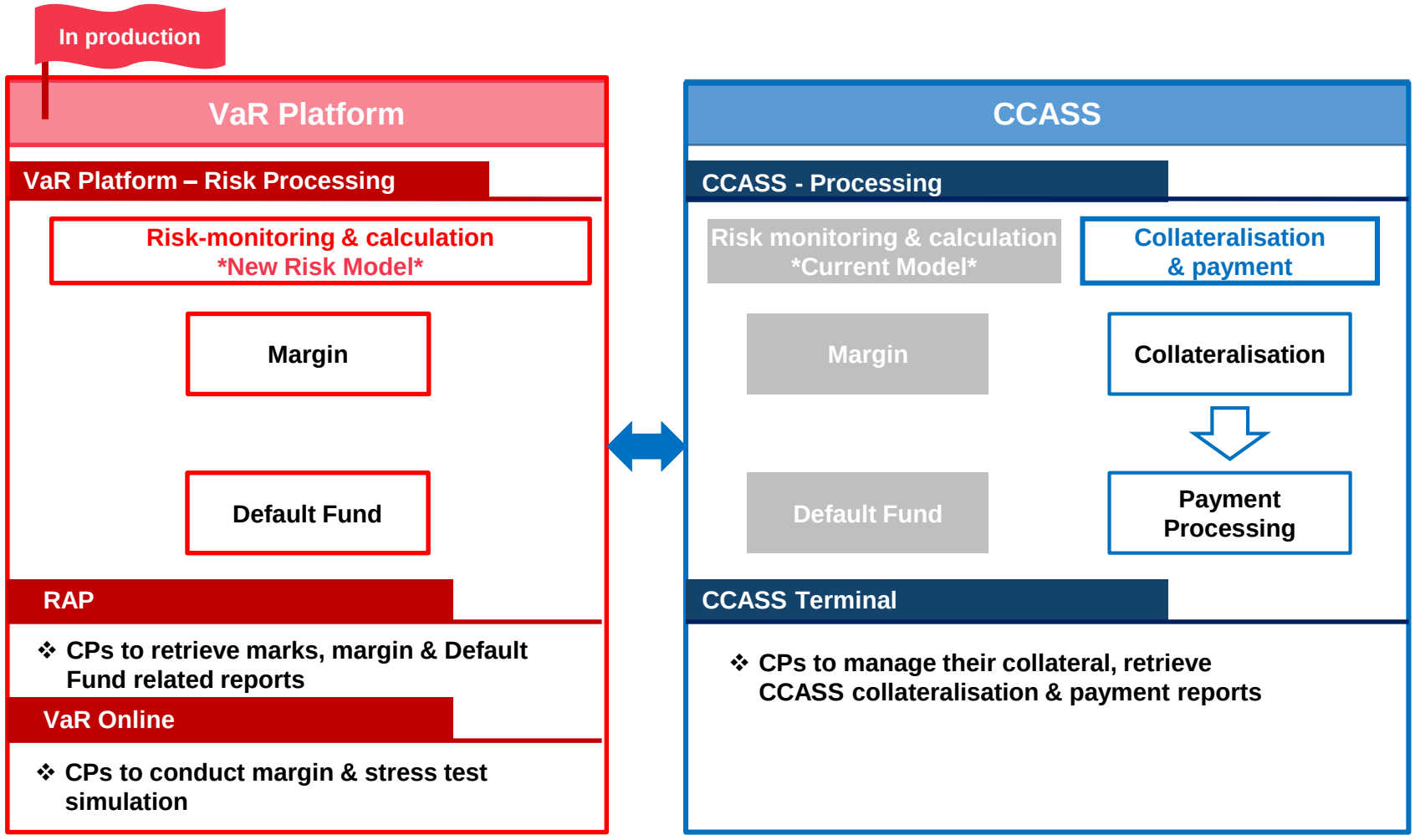
New Infrastructure

CCASS	Decommission risk functions[1] to VaR Platform
New VaR Platform	• New risk engine for risk monitoring & calculation for Hong Kong, Shanghai & Shenzhen markets • Margin, *applicable to Hong Kong securities market only* : flat margin rate ➡ portfolio margining • Stress Testing for Default Fund (DF), *applicable to Hong Kong securities market only* : 2 scenarios for ALL ➡ multiple product-specific scenarios per security
New Report Access Platform (RAP)	Centralised report platform for retrieval of VaR Platform reports & data files

Noted: 1. Including margin, marks and stress testing calculation and relevant reporting.

02 | Operational Difference between CCASS and VaR Platform

Upon Official Launch, on 13 Jun 2022, the new risk model will be in place, VaR Platform will takeover the risk monitoring & processing from CCASS.



CPs should refer to CCASS reports for the actual risk obligation payments

02 | Operational Difference between CCASS and VaR Platform

RAP

- Adopts Secure Shell (SSH) public-key authentication, key renewal every 2 years
- Secure file transfer protocol (SFTP) facility installed at RAP client workstations
- Reports & data files are in csv format available for 10 calendar days

VaR Online

- Browser based
  (Google Chrome version 100.0.4896.88)
- 2-Factor Authentication:
  1. self-defined password
  2. One Time Password (OTP)

✘ NO Broadcast Messages
- reports & margin requirements

CCASS

- Download reports / data files directly via CCASS
- Access with Smartcard & PIN

- Reports in txt format, data image in fixed length, only available for 3 settlement days

- Browser based
  (MS Edge)
  *** *NO longer support Internet Explorer (IE) 11 from 1 June 2022 onward* ***

- Access with Smartcard & PIN

- Broadcast Messages
  - ✓ report availability
  - ✘ Margin requirements projection

03 | Operational Arrangement after Official Launch of VaR Platform

- Margin
- Default Fund
- Northbound (CCCP Only)
- Changes to CCASS Reports & Functions
- VaR Reports via RAP & VaR Online

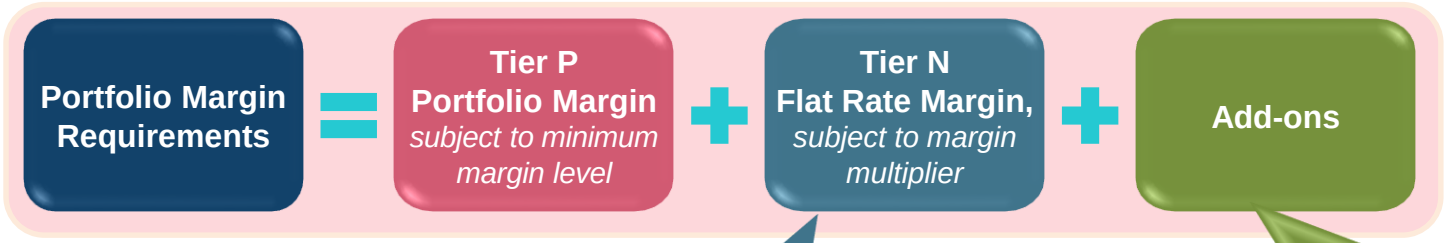
03 | Operational Arrangement after Official Launch of VaR Platform - Margin

Current Model

- Flat margin rate based on Hang Seng Index ("HSI") applied to **all** securities
- No risk offset among securities

New Model

- **Portfolio margining with 2-tier hybrid model**
- Margin requirement based on individual stock volatility
- Allows risk offset among selected securities
- Liquidation cost is considered



Flat rate = 12% *subject to change*

- Position Limit Add-on
- Default Fund Add-on
- Ad-hoc Add-on
- Corporate Action Add-on
- Liquidation Risk Add-on
- Structure Product Add-on

CPs should refer to the VaR Platform & CCASS reports for the up-to-date margin rates & margin multiplier

03 | Operational Arrangement after Official Launch of VaR Platform - Marks and Margin Requirement for Hong Kong Market

Daily Schedule

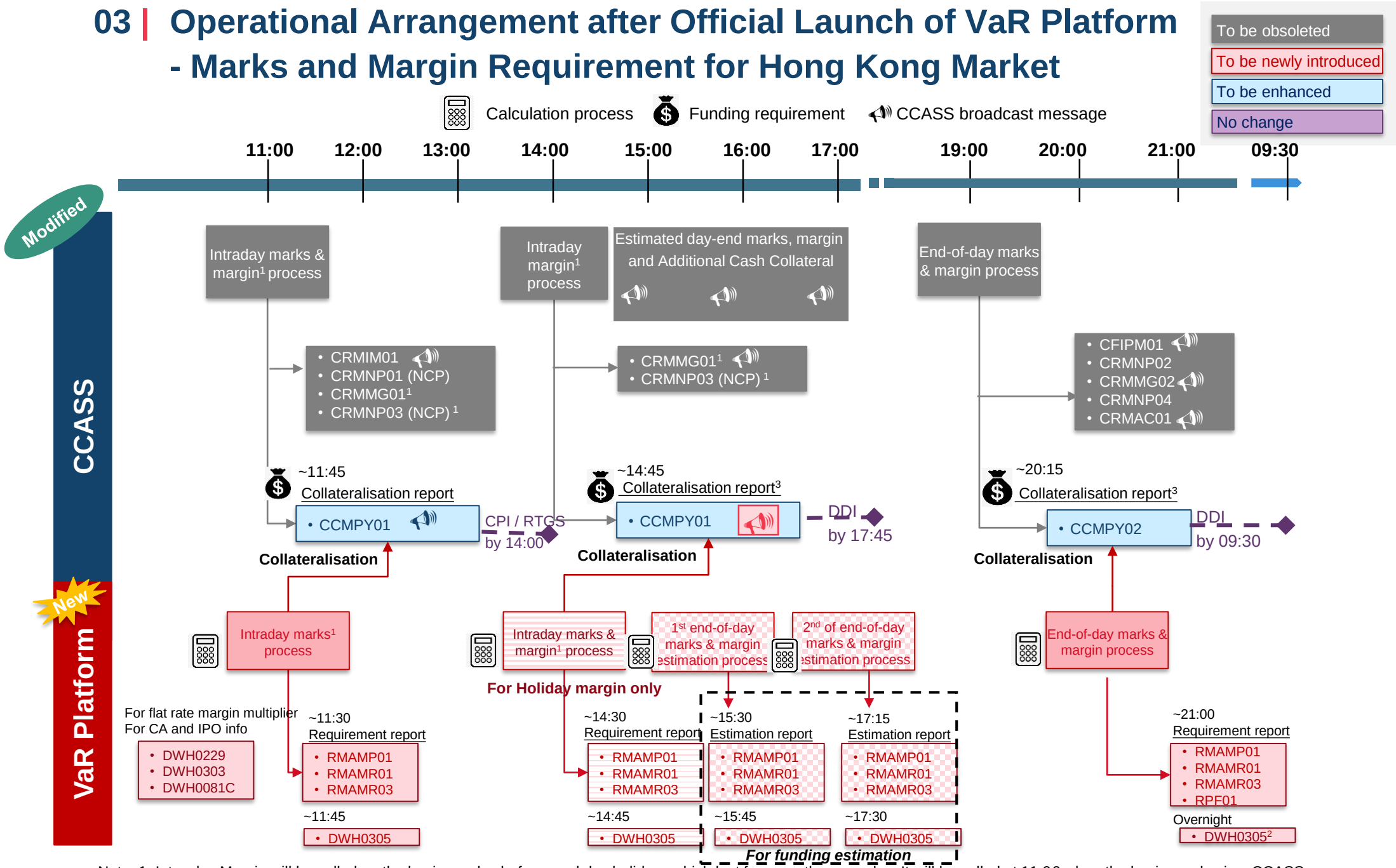
Margin

- ***11:00-11:30 Intra-day marks[1] process***
- ***14:00-14:30 Intra-day marks & margin[1] process***
- ***15:00-15:30 1st End-of-day marks & margin estimation process***
- ***16:45-17:15 2nd End-of-day marks & margin estimation process***
- ***20:30-21:00 End-of-day marks & margin process***

	Current Model	New Risk Model
1 Currency of marks & margin requirement and payment obligation	❖ Shows the original trading currency (e.g. HKD/ CNY/ USD)	❖ Converted to HKD equivalent *<Preferred Single Settlement Currency that CPs selected to settle all their marks and margin requirements remain unchanged>*
2 Day-end Marks & Margin Estimation	❖ Day-end marks & margin estimation via CCASS Broadcast Messages	❖ Day-end marks & margin estimation shifted to VaR report - MTM and Margin Requirement Report (RMAMR01, RMAMR03) available at around 15:30 and 17:15
3 Margin Multiplier (Tier N - flat rate margin)	❖ HKSCC to provide the margin multiplier information to CPs via emails/letters	❖ Refer to VaR Platform report "Daily Participant Margin Multiplier Report" (DWH0081C) ❖ Flat Rate margin multiplier will take effect on 2nd business day after the review date; while the report will be available for retrieval via RAP on next business day For example, for Flat Rate margin multiplier to be effective on official launch date, 13 June 2022, CPs should refer to the report retrieved from *date folder 10 June 2022*. ****On the report : Review Date: 9 June 2022; Effective Date: 13 June 2022****
4 Cash Prepayment Arrangement	❖ Margin refund to offset cash prepayment	❖ NO offsetting of margin refund for cash prepayment **** CPs who have setup CPI should note **** *When projecting & preparing funding for cash prepayment to be paid on 13 June 2022, ignore the margin amount displayed under section H "Refund of Margin as Part of Cash Prepayment" of Margin Payable Report (CRMMG02) generated on 10 June 2022*
5 Cash Collateral	❖ Excess cash collateral will be released during intra-day, where marks and margin are separated	❖ Excess cash collateral will ONLY be released during end-of-day margin payment ❖ CCMS-to-CCASS Cash Transfer function is be obsoleted ❖ "Marks & Margin" requirement will be combined and shown as **MARGN** instead of 'PDMKS' & 'ODMKS' separately under Posting/Collateralisation Result Report (CCMPY01/02)
6 Tolerance Limit	❖ HK$5 million (applicable to Marks only)	❖ HK$5 million (available to both Marks and Margin)
7 Marks Credit Limit	❖ Same as DF Basic Contribution	❖ Not available[2]
8 IM Credit	❖ HK$5 million	❖ HK$5 million **No change**

1. Intra-day Margin will be called on the business day before weekday holidays which last for more than one day. It will be called at 11:00 when the business day is a CCASS non-settlement day while it will be called at 14:00 when it is a CCASS settlement day.
2. Enhance default capital adequacy by isolation of DF resources

03 | Operational Arrangement after Official Launch of VaR Platform - Marks and Margin Requirement for Hong Kong Market



Note: 1. Intra-day Margin will be called on the business day before weekday holidays which last for more than one day. It will be called at 11:00 when the business day is a CCASS non-settlement day while it will be called at 14:00 when it is a CCASS settlement day.

2. End-of-day Series Price Report (DWH0305) will be generated overnight, CPs will be able to retrieve via RAP the next business day, as the operational hour of RAP is from 07:00 - 24:00 on each business day.

3. CPs should refer to collateralisation report for the funding requirement, while refer to Statement of Money Ledger (CSEMA08/CSEMS08) for money movement for marks and margin collected and refunded where applicable.

03 | Operational Arrangement after Official Launch of VaR Platform - Default Fund

Current Model

- 2 hypothetical systemic risk scenarios (proxy of HSI movement) applied to all securities
  - Market up scenario
  - Market down scenario

New Model

- Multiple (>300) product-specific scenarios per security
  - Historical, Hypothetical, Theoretical, Idiosyncratic

CPs should refer to the VaR Platform & CCASS reports for Default Fund information after the review

03 | Operational Arrangement after Official Launch of VaR Platform - Default Fund

Regular Schedule

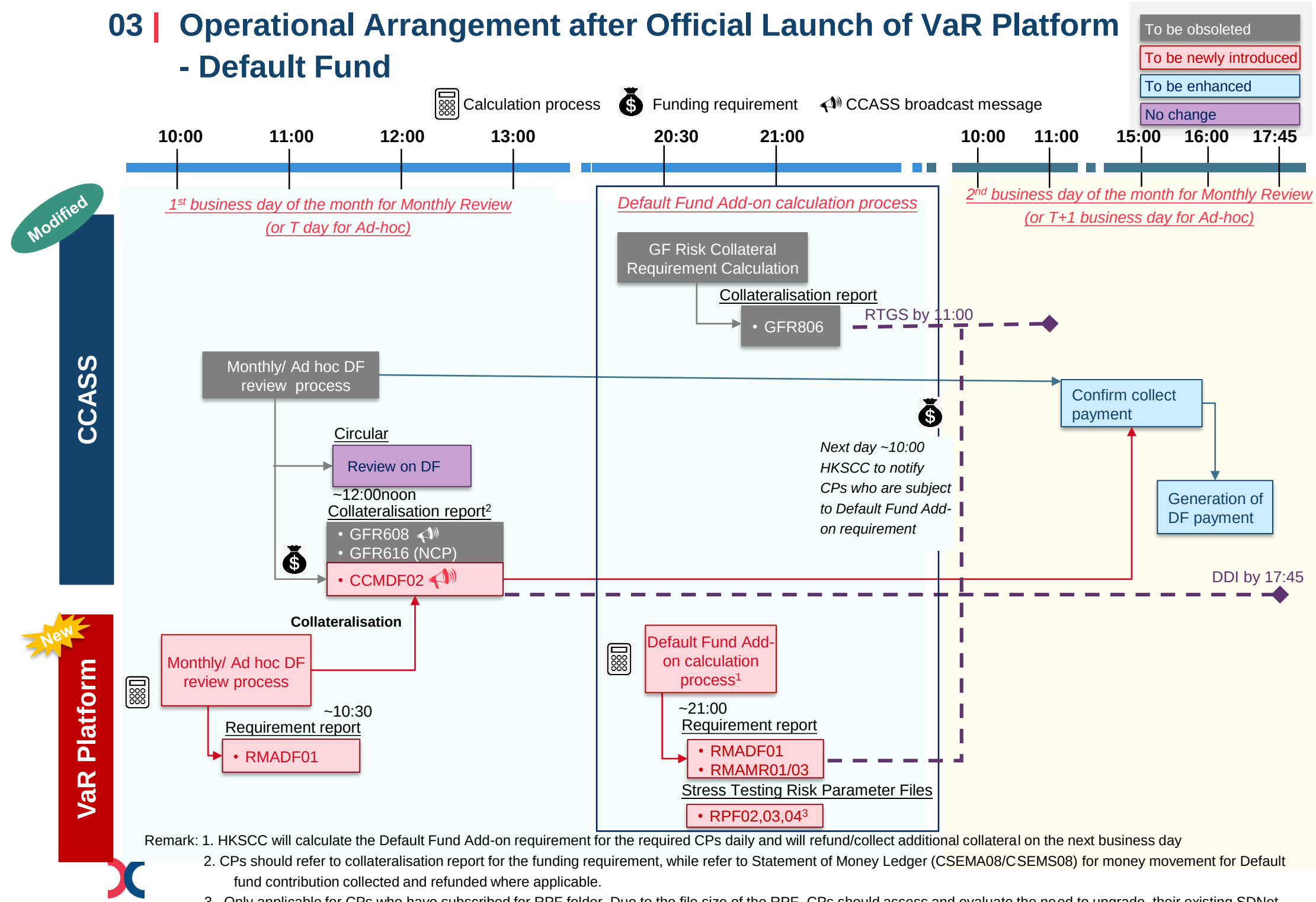
Default Fund

10:30
Completion of monthly/ ad hoc Default Fund review process
(1st business day of the month/ ad hoc review)

21:00
Completion of Default Fund Add-on calculation process

	Current Model	New Risk Model
1 Review Frequency	❖ Monthly at start-of-month ❖ Ad-hoc	❖ Monthly at start-of-month ❖ Ad-hoc No change
2 Notification - via Circular	❖ 1 business day after review	❖ 1 business day after review No change
3 Payment Deadline	❖ Next business day after review, by 5:45pm	❖ Next business day after review, by 5:45pm No change
4 DF Credit	❖ HK$1 million	❖ HK$1 million No change
5 DF Threshold	❖ HK$ 6.6 billion	❖ HK$7.3 billion
6 DF Report	❖ Monthly/ ad-hoc DF review: Refer to CCASS report "Statement of Guarantee Fund Contributions" (GFR608) available ~12:00 noon	❖ Monthly/ ad-hoc DF review: Refer to CCASS report "Statement of Default Fund Contribution" (CCMDF02) available ~12:00 noon
7 Available DF information	❖ Available for DCP & GCP (with NCP projection) ❖ For NCP projection, refer to CCASS report "NCP(s) Guarantee Fund Contribution Projection By Position" (GFR616) available ~12:00 noon	❖ Available for DCP & GCP (with NCP projection) ❖ For NCP projection, refer to VaR Platform report "Default Fund Requirement Report" (RMADF01) available ~10:30
8 Rename of Guarantee Fund Risk Collateral Requirement to Default Fund Add-on	❖ Guarantee Fund Risk Collateral ❖ Payment deadline – next day 11:00am	❖ Rename to "Default Fund add-on" = "Default Fund add-on requirements" shown in MTM and Margin Requirement Report (RMAMR01) ***minus*** "Collateral on-hand (OCF)" shown in Special-Use Collateral Balance Report (CCMSU04) ❖ Payment deadline – next day 11:00am ❖ *HKSCC will notify CPs, who are subject to payment of Default Fund add-on requirement*

03 | Operational Arrangement after Official Launch of VaR Platform - Default Fund



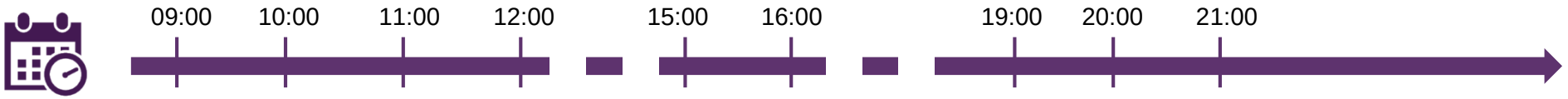
Remark: 1. HKSCC will calculate the Default Fund Add-on requirement for the required CPs daily and will refund/collect additional collateral on the next business day

2. CPs should refer to collateralisation report for the funding requirement, while refer to Statement of Money Ledger (CSEMA08/CSEMS08) for money movement for Default fund contribution collected and refunded where applicable.

3. Only applicable for CPs who have subscribed for RPF folder. Due to the file size of the RPF, CPs should assess and evaluate the need to upgrade their existing SDNet before subscribing for the new RPF folder. Please refer to section 7 of the RAP Technical Guide for details.

03 | Operational Arrangement after Official Launch of VaR Platform - Northbound

Regular Schedule



Northbound
(for CCCP only)

09:00-09:30
Monthly MSCD process

11:30-12:00
Intra-day MSTD process

15:30-16:00
End-of day MSTD estimation process

19:30-20:00
End-of-day MSTD process

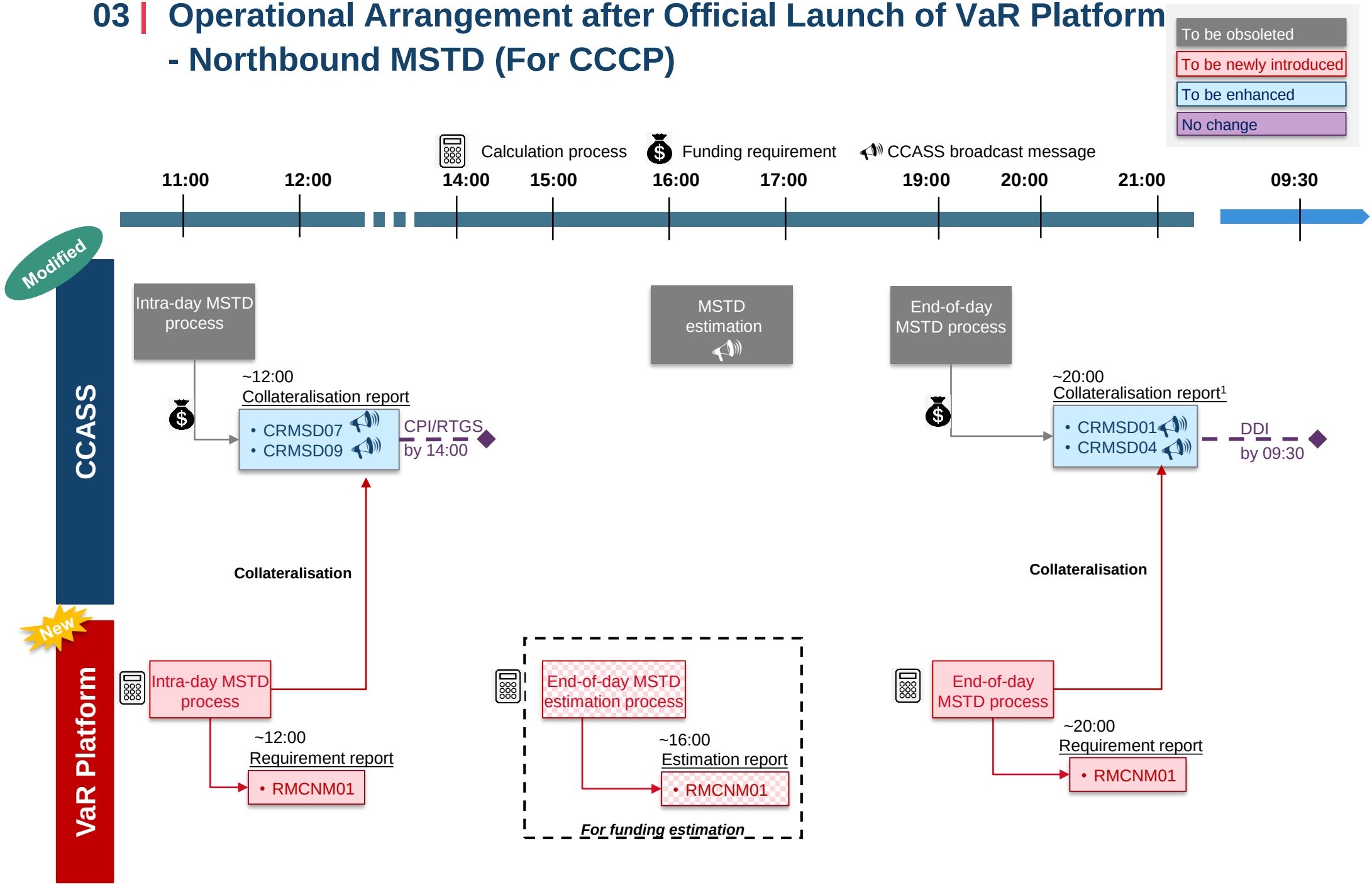
Daily Mainland Settlement Deposit (MSTD)

	Current Model	New Model
1 **Projection** - Distribution Channel	❖ Estimated MSTD projection via CCASS broadcast message	• MSTD projection shifted to VaR report • Risk - Northbound MSTD Requirement Report (RMCNM01)
2 **Payment Deadline**	❖ Daily MSTD – next day 9:30am	❖ Daily MSTD – next day 9:30am (No change)

Monthly Mainland Security Deposit (MSCD)

	Current Model	New Model
1 **Calculation Methodology**	❖ Monthly MSCD is calculated based on the sum of "daily **settlement** amount"	❖ Monthly MSCD is calculated based on the sum of "daily **trading** amount ❖ To be effective for July 2022 monthly MSCD calculation
2 **Payment Deadline**	❖ Next business day after monthly review, to be paid by 9:30 am	❖ Next business day after monthly review, to be paid by 9:30 am (No change)

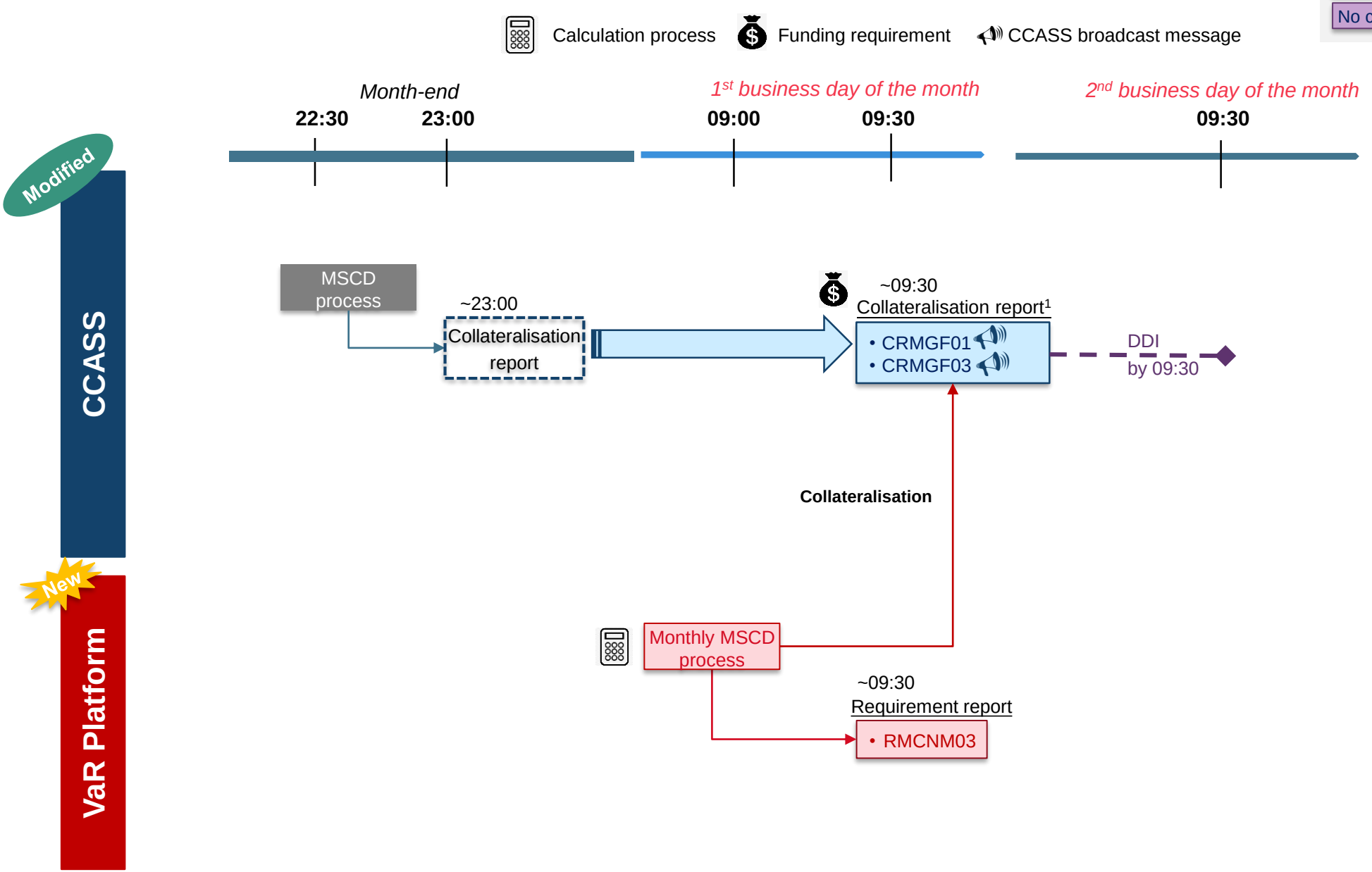
03 | Operational Arrangement after Official Launch of VaR Platform - Northbound MSTD (For CCCP)



Note: 1. CPs should refer to collateralisation report for the funding requirement, while refer to Statement of Money Ledger (CSEMA08/CSEMS08) for money movement for MSTD collected and refunded where applicable.

03 | Operational Arrangement after Official Launch of VaR Platform - Northbound MSCD (For CCCP)

To be obsoleted
To be newly introduced
To be enhanced
No change



Note: 1. CPs should refer to collateralisation report for the funding requirement, while refer to Statement of Money Ledger (CSEMA08/CSEMS08) for money movement for MSCD collected and refunded where applicable.

03 | Operational Arrangement after Official Launch of VaR Platform - Changes to CCASS Reports & Functions

New CCASS Reports – Default Fund	
CCASS Report	**Remarks**
• Statement of Default Fund Contribution (CCMDF02)	• Available around 12:00 noon after the monthly (1st business day of each month) or ad hoc Default Fund review • This new report will be available for selection via Report Profile function for Overnight Report Distribution (ONRD)
Modified CCASS Reports	
CCASS Report	**Remarks**
• Statement of Money Ledger (intra-day) (CSEMA08) • Statement of Money Ledger (day-end) (CSEMS08)	• Rename 'MARGIN & PENDING MARKS' account to 'MARKS & MARGIN' account • Remove 'OVERDUE POSITION MARKS' account to 'RESERVED' account • Modify the following money ledger descriptions CL CCMS Marks & Margin SH for intra-day / Mks & Mgn SH for IM CM CCMS Marks & Margin SH / MKS & MGN SH XI Marks & Mgn Collection for Chinaclear SB / MCM Deposit Instr XJ Marks & Mgn Refund for Chinaclear SB / MCM Refund Instr 81 Collection of Default Fund Contribution / Default Fund Collection 82 Refund of Default Fund Contribution / Default Fund Refund 92 Transfer from/to Marks & Margin A/C
• Posting / Collateralisation result Report (intra-day) (CCMPY01) • Posting / Collateralisation result Report (day-end) (CCMPY02) • Collateral Account Balance Report (CCMCA02)	• Remove the following ODMKS (due/overdue marks) PDMKS (pending marks)
• Participant Collateral Account Movement Report (CCMMV01) • Special–use Collateral Balance Report (CCMSU04) • Collateral Parameters Information List (CCMIR02) • Monthly Interest & Accommodation fee Report – Detail (CCMIA02)	• Default Fund contribution will be shown as Special-use movements / balance in various CCMS reports GRA Additional basic contribution for Default Fund (for HKSCC) GRD Dynamic contribution for Default Fund (for HKSCC) GRI Minimum basic contribution for Default Fund (for HKSCC) • Modified the collateral usage description of "EMG" to EOT Margins & Margin[1]

Note: 1. Not applicable to "Monthly Interest & Accommodation fee Report – Detail" (CCMIA02).

03 | Operational Arrangement after Official Launch of VaR Platform - Changes to CCASS Reports & Functions

Modified CCASS Reports - Northbound related (for CCCP only)	
CCASS Report	**Remarks**

• Mainland Settlement Deposit Payable Report (Shanghai) (CRMSD01)
• Mainland Settlement Deposit Payable Report (Shenzhen) (CRMSD04)
• Intra-day Mainland Settlement Deposit Payable Report (Shanghai) (CRMSD07)
• Intra-day Mainland Settlement Deposit Payable Report (Shenzhen) (CRMSD09)
	• Shifted to VaR Platform, removed the following info from CCASS reports:
	  • Buy Turnover in SH/SZ Securities
	  • Overdue Short Position in SH/SZ Securities
	  • SPSA Sell Turnover in SH/SZ Securities
	  • Settlement Deposit Rate (SH/SZ) (%)
	  • Minimum Amount
	  • Monthly MSTD Requirement per last Monthly Review

• Mainland Security Deposit Payable Report (Shanghai) (CRMGF01)
• Mainland Security Deposit Payable Report (Shenzhen) (CRMGF03)
CCASS broadcast messages will be issued upon the availability of report
	• Generation / calculation shifted from month end to 1st bank day of the month – to be collected via 09:30 via DDI, obligations with margin (include MTM)
	• Removed the following info:
	  • Daily average net settlement amount in SH/SZ Securities of previous 6 months
	  • Mainland Security Deposit Rate (SH/SZ)(%)
	  • Minimum Amount

03 | Operational Arrangement after Official Launch of VaR Platform - Changes to CCASS Reports & Functions

Obsolete CCASS Reports	
CCASS Report	**Remarks**
G Fund related • Statement of Guarantee Fund Contributions (GFR608) • Guarantee Fund Risk Collateral Requirement Report (GFR806) • NCP(s) Guarantee Fund Contribution Projection By Position (GFR616) (for GCP only)	• Information shifted to the following *CCASS report* • Statement of Default Fund Contribution (CCMDF02) *CCASS broadcast messages will be issued upon completion of the review and availability of report* *VaR reports:* • Risk – Stress Testing Report (RMAST01) • Default Fund Requirement Report (RMADF01)
Marks & margin related *****Corresponding CCASS broadcast ***** messages will also be obsolete • Marks and Collateral Collection Report (CFIPM01) • Intra-day Marks and Collateral Collection Report (CRMIM01) • Margin Payable Report (CRMMG02) • Intra-day Margin Payable Report (CRMMG01) • Additional Cash Collateral Payable Report (CRMAC01)	• Information shifted to the following VaR reports: • Marginable Position Report (RMAMP01) • MTM and Margin Requirement Report (RMAMR01) • MTM and Margin Requirement Report (Summary Version) (RMAMR03)
Marks & margin related (for GCPs only) • NCP Marks Projection Report (intra-day) (CRMNP01) • NCP Marks Projection Report (day-end) (CRMNP02) • NCP Margin Projection Report (intra-day) (CRMNP03) • NCP Margin Projection Report (day-end) (CRMNP04)	

Obsolete CCASS reports will be removed from
Report Profile function and Overnight Report Distribution (ONRD)

03 | Operational Arrangement after Official Launch of VaR Platform - Changes to CCASS Reports & Functions

Modified CCASS Function	
CCASS Function	**Remarks**
• Enquire Collateral Account Balance function	• Removed “PDMKS” & “ODMKS”, which will be combined into MARGN (collateral will be on-hold or earmarked under MARGN) • Removed “EOTMK”, which will be combined into EOTMG
• Enquire Collateral Account Movement • Enquire Interest Calculation Result / Accommodation fee	• Default Fund contribution will be shown as Special-use movements / balance in various CCMS reports GRA Additional basic contribution for Default Fund (for HKSCC) GRD Dynamic contribution for Default Fund (for HKSCC) GRI Minimum basic contribution for Default Fund (for HKSCC) • Modified the description of “EMG” to EOT Margins & Margin

Obsolete CCASS Function	
CCASS Function	**Remarks**
• Maintain CCMS-to-CCASS Cash Transfer functions	• Removed from CCASS, hence the user group “R” will also be removed

Obsolete CCASS Broadcast Messages – Projection related	
CCASS Broadcast Messages	**Remarks**

• Projections of
  • day-end marks and concentration collateral
  • margin requirements
  • periodic additional cash collateral requirement
	• Projection information shifted to VaR reports
	  • MTM and Margin Requirement Report (RMAMR01 and RMAMR03)

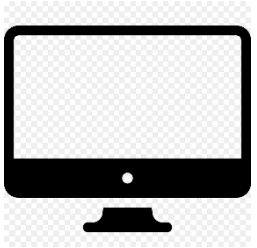
• Projection of MSTD requirement	• Projection information shifted to VaR report • Risk - Northbound MSTD Requirement Report (RMCNM01)

03 | Operational Arrangement after Official Launch of VaR Platform - VaR Reports via RAP & VaR Online

Retrieve VaR Platform Reports via RAP for verification

Margin	Default Fund	Northbound *(For CCCP only)*
• Marginable Position Report (RMAMP01) • MTM and Margin Requirement Report (RMAMR01) • MTM and Margin Requirement Report (Summary Version) (RMAMR03) • Corporate Action Event Report (DWH0229) • Series Price Report (DWH0305) • IPO Indicator (DWH0303) • Participant Margin Multiplier Report (DWH0081C) *Only applicable to CPs who subscribed for RPF folder:* • Margin Risk Parameter File (RPF01)	• Default Fund Requirement Report (RMADF01) • Risk – Stress Testing Report (RMAST01) *Only applicable to CPs who subscribed for RPF folder:* • Stress Testing Risk Parameter Files (RPF02, RPF03, RPF04)	• Risk - Northbound MSTD Requirement Report (RMCNM01) • Risk - Northbound MSCD Requirement Report (RMCNM03)

VaR Online



Subject to CPs operational needs, conduct margin & stress test simulation

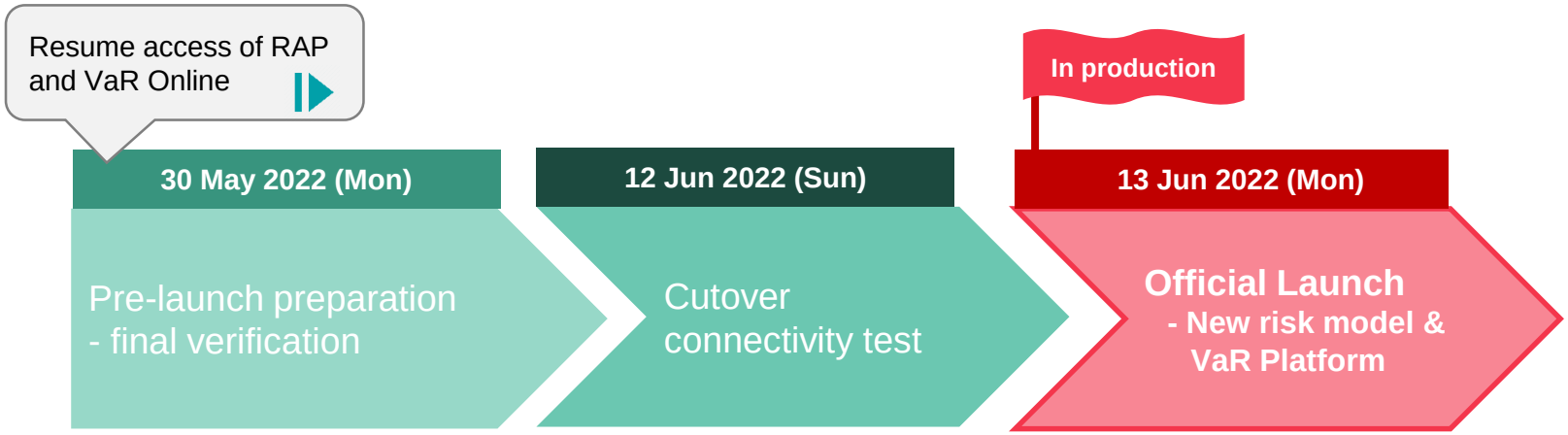
CPs can make use of VaR Platform Reports (via RAP) & VaR Online for their risk obligation estimation and projection

04 | Pre-launch Preparation

- From 30 May 2022 onwards
- Cutover connectivity on 12 June 2022 (Sunday)

04 | Pre-launch Preparation - overview

CPs to conduct final verification on your internal operational & system readiness before the official launch on **13 June 2022**.



04 | Pre-launch Preparation (Cont'd)

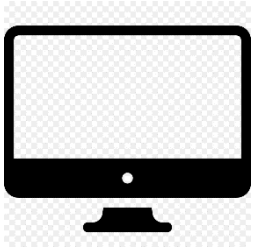
Final Verification (30 May 2022 onwards)

- Full set of VaR Platform reports available to retrieve via RAP, CPs should conduct final check to ensure your responsible operational teams & systems are ready for the launch on **13 June 2022**

Retrieve VaR Platform Reports via RAP for verification

Margin	Default Fund	Northbound *(For CCCP only)*
• Marginable Position Report (RMAMP01) • MTM and Margin Requirement Report (RMAMR01) • MTM and Margin Requirement Report (Summary Version) (RMAMR03) • Corporate Action Event Report (DWH0229) • Series Price Report (DWH0305) • IPO Indicator (DWH0303) • Participant Margin Multiplier Report (DWH0081C) *Only applicable to CPs who subscribed for RPF folder:* • Margin Risk Parameter File (RPF01)	• Default Fund Requirement Report (RMADF01) • Risk – Stress Testing Report (RMAST01) *Only applicable to CPs who subscribed for RPF folder:* • Stress Testing Risk Parameter Files (RPF02, RPF03, RPF04)	• Risk - Northbound MSTD Requirement Report (RMCNM01) • Risk - Northbound MSCD Requirement Report (RMCNM03)

VaR Online



Subject to CPs operational needs, conduct margin & stress test simulation

VaR Platform reports generated during this period is for preparation purpose only,
New risk model will only be effective from **13 June 2022** onwards.

04 | Pre-launch Preparation (Cont'd)

Cutover Connectivity Test (12 June 2022, Sunday)

- *Current network configuration & connection* to CCASS, RAP & VaR Online *remain unchanged* upon Official Launch of VaR Platform
- Subject to CPs internal technical setup, reconfiguration may be required for production connection to RAP & VaR Online, a cutover connectivity test will be held on 12 June 2022, Sunday for CPs to verify their connectivity to CCASS, RAP and VaR Online

Cutover Connectivity Test, 12 June 2022 (Sunday) : 12:00 noon to 1:00 p.m.		
Time	**Activities**	**Expected results**
12:00 noon – 1:00 p.m.	**Connectivity to RAP** • Access RAP to verify connectivity	• An error message "Connection Refused" will be displayed
	Connectivity to VaR Online (if applicable) • Access VaR Online to verify connectivity via https://rmcd.hkexposttrade.com.hk	• An error message "Authentication Failure" will be displayed
	Connectivity to CCASS • Logon to CCASS using the production Smartcard and password via https://www.ccass.com • Logout from CCASS after the message is displayed	• A message "Function not available" will be displayed

*CPs should note this is a cutover connectivity test, there will be **NO** report retrieval, online access during the connectivity test. Also, **NO** support on account unlock for VaR DA or password reset for CCASS DA.*

CPs who wish to conduct cutover connectivity test on 12 June 2022 (Sunday), should register via Client Connect, details to be announced in the upcoming circular in due course.

05 | Transition Arrangement during first week of Official Launch

- Margin alignment on 13 June 2022
- Default Fund alignment on 14 & 15 June 2022

05 | One-off Transition Arrangement during first week of Official Launch - Margin alignment on 13 June 2022

Current Model → *One-off transition* → New Risk Model

WHY

To align the margin requirements when transiting from “current model” to “new risk model”, HKSCC will collect the the deficit / release the surplus of margin on the launch day, 13 June 2022 (Monday).

	Margin Requirements before launch on 10 June 2022 (Friday)	One-off Margin Alignment	Actual payment by 14:00 on 13 June 2022
	Flat rate margin *VS* New margin requirements	$ *VS* $	One-time margin alignment / Regular intraday marks
1	$ < $	***To-be-top-up*** *Collect together with intra-day marks by 14:00 on 13 June 2022, Monday*	Margin Alignment + Marks
2	$ = $	NIL	Marks
3	$ > $	***To-be-refunded*** *Utilized during day-end collateralization on 13 June 2022*	Marks

05 | One-off Transition Arrangement during first week of Official Launch - Margin alignment on 13 June 2022

Current Flat-Rate Model → *One-off transition* → New Risk Model

13 Jun 2022 (Monday)

HOW

Morning ~11:45

Refer to CCASS report
"Posting / Collateralisation Result Report" (CCMPY01)
for **the actual payment obligation**
of marks and margin alignment (if any)

ACTION

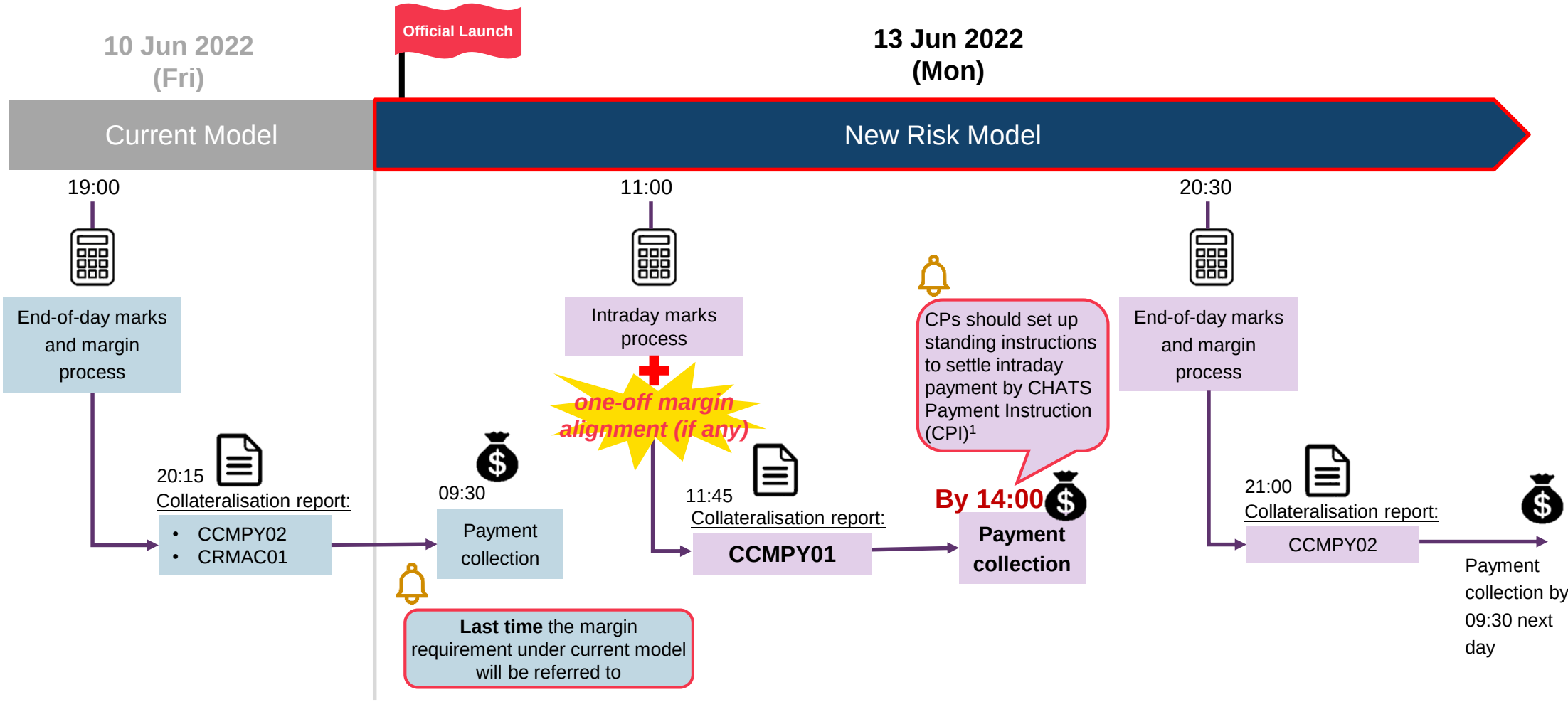
By 14:00

Complete payment for **Margin Alignment** + **Marks**

CPs are obliged to fulfil their risk obligation.
Intra-day risk obligations must be paid by 14:00.

In case of failure to settle any payment obligations on time, including the one-off transitional arrangement as mentioned above, will constitute an event of default and HKSCC may take default actions against the relevant CPs if it is considered appropriate

05 | One-off Transition Arrangement during first week of Official Launch - Margin alignment on 13 June 2022



1. CPs can setup CPI via “Standing Instruction to HKSCC for Settlement of Intra-day Marks, Intra-day Margin and Intra-day Mainland Settlement Deposit by CPI” (eService: AC 15) via Client Connect, which would take around 1 to 2 weeks to be effective.

05 | One-off Transition Arrangement during first week of Official Launch - Default Fund alignment on 14 & 15 June 2022

Current Model → *One-off transition* → New Risk Model

WHY

To align the Default Fund requirements when transiting from "current model" to "new risk model", HKSCC will conduct ad hoc Default Fund review on 2nd day after the official launch, 14 June 2022 (Tuesday) and collect the deficit / release the surplus of Default Fund on 3rd day, 15 June 2022 (Wednesday)

HOW

14 Jun 2022 (Tuesday)

10:00

Default Fund threshold increased from 6.6 billion to **7.3 billion**

Ad-hoc default fund review process calculated based on new risk model

~12:00 noon

Refer to CCASS report "Statement of Default Fund Contributions" (CCMDF02) for **actual payment obligation** of Default Fund contribution

ACTION

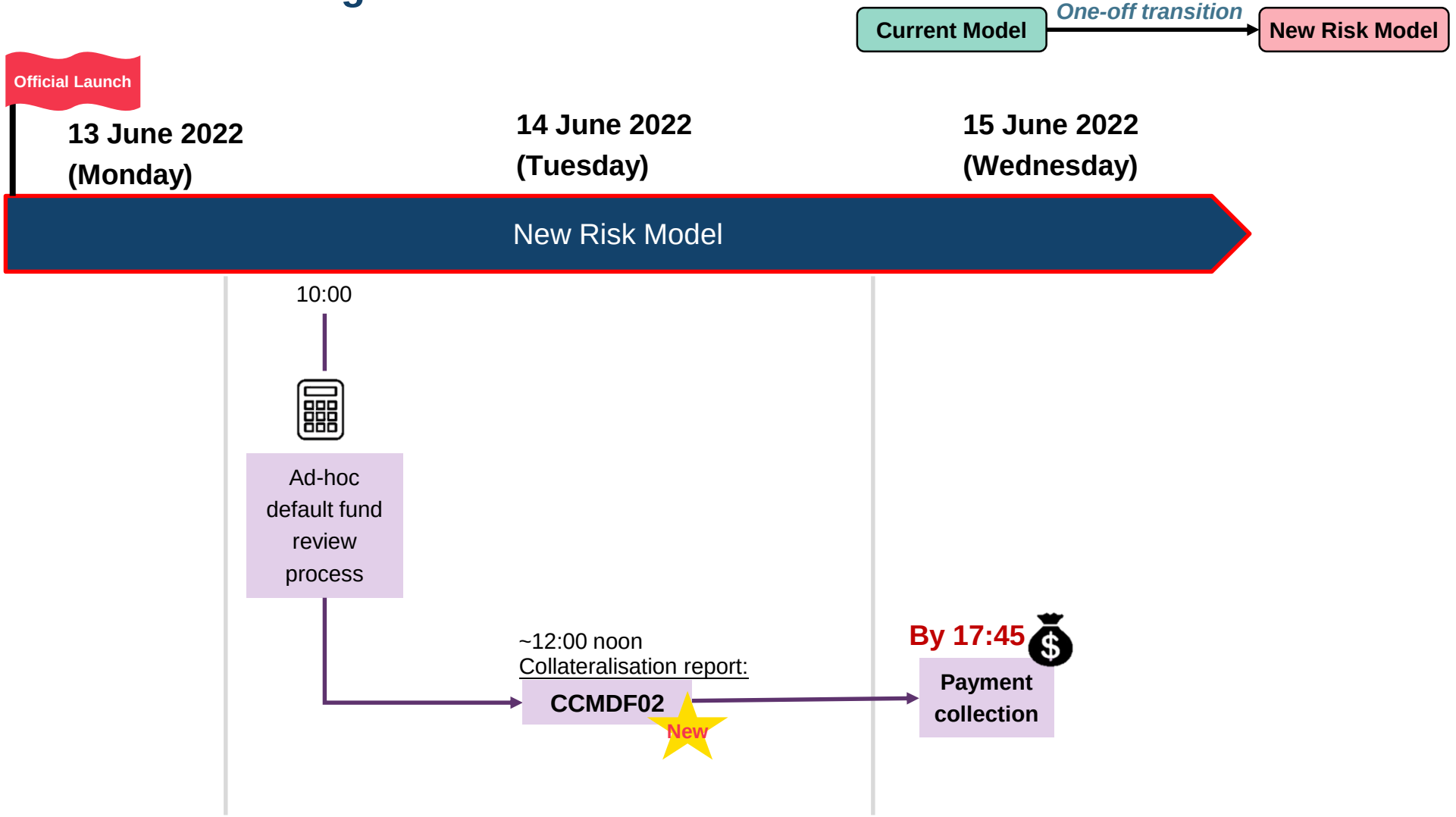
15 Jun 2022 (Wednesday), by 17:45

Complete payment for Default Fund Alignment

CPs are obliged to fulfil their risk obligation.
Default Fund obligations must be paid by 17:45

In case of failure to settle any payment obligations on time, including the one-off transitional arrangement as mentioned above, will constitute an event of default and HKSCC may take default actions against the relevant CPs if it is considered appropriate

05 | One-off Transition Arrangement during first week of Official Launch - Default Fund alignment on 14 & 15 June 2022



06 | Summary of upcoming activities

Following is the holistic view of the planned activities for CPs to prepare for the official launch.

Access to RAP and VaR Online is resumed

Mon		Tues	Wed		Thurs	Fri	Sat	Sun
May	30	31	Jun	1	2	3	4	5
Today Pre-launch preparation & final verification								
6		7	8		9	10	11	12
Pre-launch preparation & final verification						END		Cutover connectivity test
★ 13		14	15		16	17	18	19
Official Launch – new risk model								
*** One-off Transition Arrangement ***								
Collection of Margin Alignment		Ad hoc review of Default Fund Alignment	Collection of Default Fund Alignment					

Current network configuration & connection to CCASS, RAP & VaR Online **remain unchanged** upon Official Launch of VaR Platform

07 | Getting Ready for the Official Launch & Checklist

CPs should have already done:
❒ 1. Setup RAP and verified connectivity
❒ 2. Studied and understood the new operational and payment flows under the new risk model and VaR Platform
❒ 3. Aware of how to locate the payment obligation information and when to pay the risk obligations
❒ 4. Modified and verified your internal system processes and operational flows, if applicable

Check List before 13 June 2022
❒ 1. Do you know VaR Platform and new risk model will be effective on **13 June 2022** ?
❒ 2. Have you set up standing instructions to settle intra-day risk payment by CHATS Payment Instruction (CPI) with eService AC15[1] with ClientConnect?
❒ 3. Have you performed final check on your internal system processes; operational flow as well as funding preparation for the launch of VaR Platform and effective of new risk model from **13 June 2022** onwards?
Technical Readiness
❒ 4. Do you know the current network setting and configuration for CCASS, RAP and/or VaR Online connection **remain unchanged** upon the official launch of VaR Platform (13 June 2022, Monday)?
❒ 5. Do you need to re-configure your internal network for RAP or VaR Online connection from development state to production state ? If so, have you register for the cutover connectivity verification session on 12 June (Sunday)?
Operational Readiness
❒ 6. Have you ensure your operational / risk management personnel familiarise with the operational arrangement with VaR Platform and new risk model?
❒ 7. Have you study the VaR Platform Official Launch Information Package and make necessary preparation ?
❒ 8. Have you ensure your responsible personnel understand the margin and Default Fund alignment arrangement during the first 3 days upon the effective of new risk model, i.e. 13 to 15 June 2022?
❒ 9. Do you know the information of day-end marks and margin requirement estimation, and day-end MSTD requirement estimation have been shifted to VaR reports, instead of enquiring CCASS Broadcast Messages?

Note : 1. eService AC15 would takes 1 to 2 weeks to be effective. For CPs yet to setup CPI with their designated banks (DB), please do setup CPI with DB first; then submit & complete eService AC 12; before submitting eService AC15. Usually DB needs 3 to 4 weeks to setup CPI

07 | Getting Ready for the Official Launch & Checklist

Check List on 13 June 2022
– 1st day new risk model & VaR Platform become effective

❒ 1. Have you arranged responsible personnel to ensure your modified operational & system processes are in place and ready for the new risk model as well as VaR Platform ?

One-off Margin Alignment - payment

❒ 2. Have you arranged to download CCASS report "Posting / Collateralisation Result Report" (CCMPY01) at around *11:45* for the **actual payment obligation** of marks and margin alignment (if any) ?

❒ 3. Have you arranged to preparing funding and ensure the **actual payment obligation** can be completed ***by 14:00*** ?

❒ ***4. Are you aware that in case of any failure to settle any payment obligations on time, including those for one-off transitional arrangement, i.e. Margin, will constitute an event of default and HKSCC may take default actions against the relevant CPs if it is considered appropriate?***

Check List on 14 & 15 June 2022
– 2nd & 3rd days with Default Fund Alignment

Ad hoc Default Fund Review (14 June 2022, Tuesday)

❒ 1. Have you arranged to download CCASS report "Statement of Default Fund Contributions" (CCMDF02) at around 12:00 noon, for **the actual payment obligation** of Default Fund contribution ?

One-off Default Fund Alignment - payment (15 June 2022, Wednesday)

❒ 2. Have you arranged to prepare funding and ensure the **Default Fund Alignment obligation** can be completed ***by 17:45*** ?

❒ ***3. Are you aware that in case of any failure to settle any payment obligations on time, including those for one-off transitional arrangement, i.e. Default Fund, will constitute an event of default and HKSCC may take default actions against the relevant CPs if it is considered appropriate?***

08 | Information for CPs

INFORMATION

The VaR Platform official launch related materials are available on the HKEX website, please visit the website regularly for the latest information:

- *VaR Platform Official Launch Information Package (to be available on 6 June 2022)*
- *VaR Platform Webcorner*

CONTACT

For VaR Platform related enquiries, please contact VaR Platform via:

- Email: NG_PostTrade@hkex.com.hk
- VaR Platform Hotline: 2211 6828 (from 9:00 a.m. to 6:00 p.m. , Mondays to Fridays, excluding public holidays)

Starting from 13 June 2022 (Monday), CCASS Hotline will cover enquiries in relation to HKSCC Post Trade functions including that of VaR Platform*; while VaR Platform Hotline will be retired from 4 July 2022 (Monday).*

You can contact CCASS Hotline for VaR Platform related enquiries *(from 13 June 2022 onwards)*:

- Email: ClearingPS@hkex.com.hk
- CCASS Hotline: 2979 7111 (from 9:00 a.m. to 6:00 p.m. , Mondays to Fridays, excluding public holidays)

Q & A Session

Appendices

01 | Infrastructure under VaR Platform

02 | New Risk Model

03 | Margin Model

04 | Stress Testing for Default Fund (“DF”)

05 | Daily Operational Schedules

06 | List of Impacted CCASS Reports and the Corresponding VaR Platform Reports

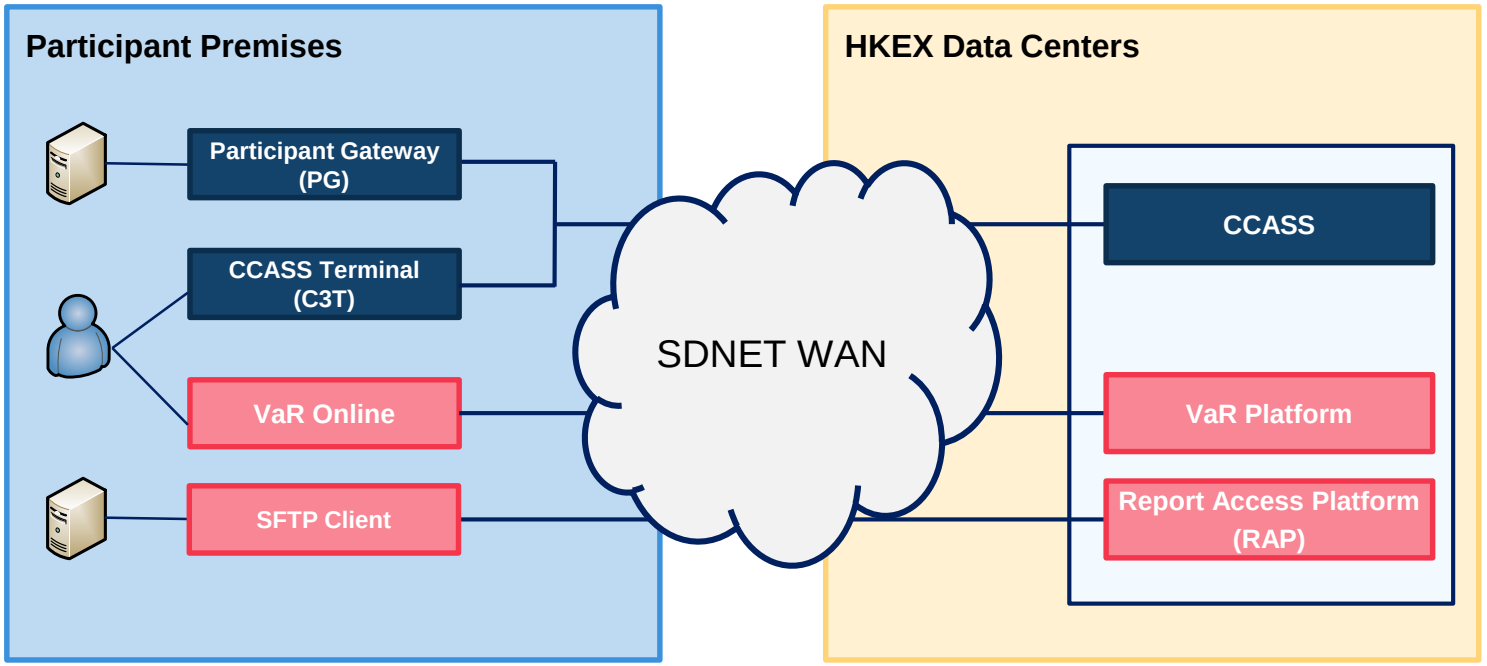
07 | Normal Day with Holiday Operational Arrangement

08 | Contingency Arrangement in case of VaR Platform Failure

09 | VaR Online

10 | Technical Information - RAP & VaR Online

Appendix 01 | Infrastructure under VaR Platform



Appendix 02 | Overview of New Risk Model

	Current Model	New Model
Margin Model	➢ Single margin rate based on Hang Seng Index ("HSI") applied to **all** securities ➢ No risk offset among securities	➢ 2-tier hybrid model ➢ Margin requirement based on individual stock volatility ➢ Allows risk offset among selected securities ➢ Liquidation cost is considered
Stress Testing for Default Fund	➢ Up and down scenarios applied to **all** securities to generally cover systemic risk	➢ Multiple product-specific scenarios applied to **each** security

HKSCC adopts methodology-centric enhancements in the new model

Appendix 03 | Margin Model

Portfolio margin requirement

	Tier P	Tier N
1 Constituents	■ Hang Seng Composite Index ("HSCI") LargeCap and MidCap constituent stocks and related DW / CBBC ■ All equity indices ETFs and related DW / CBBC	■ All non-Tier P instruments (e.g. GEM stocks, SmallCap / MicroCap stocks)
2 Methodology	■ VaR-based Portfolio Margining, subject to minimum margin level	■ Flat rate margin, subject to margin multiplier (where appropriate)

A hybrid approach consists of portfolio margining (Tier P) and flat rate (Tier N)

Appendix 03 | Margin Model (Cont'd)

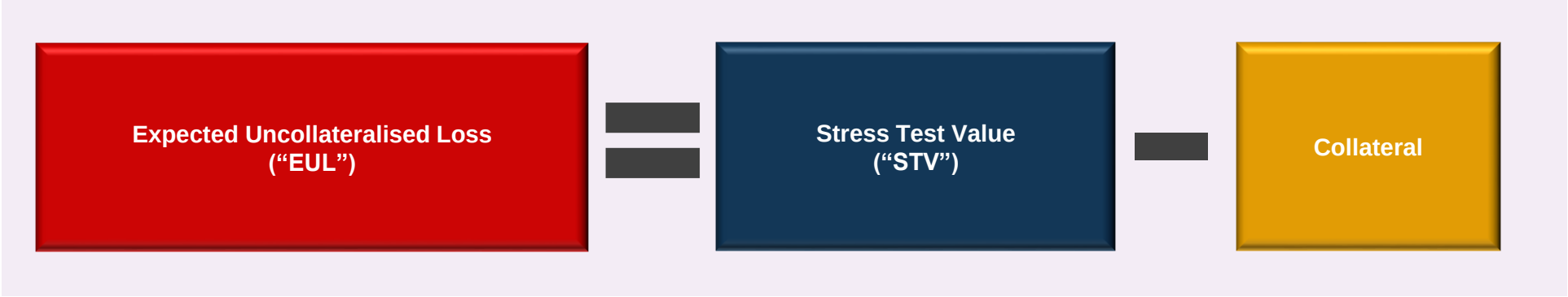
Add-ons

		Current Model	New Model – Tier P	New Model – Tier N
IM Add-on	1 Corporate Action Add-on[1]	■ Covered under the single margin rate e.g. 7% and concentration collateral	■ Rights / open offer / Distribution in specie	■ Rights / open offer / Distribution in specie
	2 Liquidation Risk Add-on		■ Portfolio level ■ Instrument level	■ ~2% higher of Long / Short
	3 Structured Product Add-on		■ Applicable to long positions	■ Not applicable
Existing	4 Position Limit Add-on	■ Overall CNS exceeds 4 x Liquid Capital	■ Overall CNS exceeds 4 x Liquid Capital	No change
	5 Default Fund Add-on	■ CP's Net Projected Loss exceeds 50% DF threshold[2]	■ CP's Net Projected Loss exceeds 50% DF threshold	No change
	6 Ad-hoc Add-on[3]	■ Ad-hoc risk component related to individual CP	■ Ad-hoc risk component related to individual CP	No change

(1) Also known as "Corporate Action Position Margin"
(2) DF Threshold is the maximum DF size(s) prescribed by the clearing house(s) with reference to the highest DF size in the past 10 years, subject to review from time to time.
(3) Also known as "Upfront Cash Collateral"

Appendix 04 | Stress Testing for Default Fund ("DF")

DF sizing and allocation



	Current Model	New Model
1 **EUL**	■ 2 hypothetical systemic risk scenarios (proxy of HSI movement) applied to **all** securities ➢ Market up scenario ➢ Market down scenario	■ Multiple (>300) product-specific scenarios applied to **each** security ➢ Historical, Hypothetical, Theoretical, Idiosyncratic
2 **DF size**	■ 1st + 5th largest CP exposure ■ 60-day look-back period	■ 1st + 5th largest CP exposure ■ 60-day look-back period No change
3 **Pro-rata % of each CP for DF allocation**	■ **CNS** position based	■ **Risk** based i.e. stress test value net of its own collateral (EUL)

DF size is determined and allocated based on a more risk based approach in the new model

Appendix 04 | Stress Testing for Default Fund ("DF") (Cont'd)

Operation-related arrangements

	Current Model	New Model
1 **Review frequency**	■ Monthly at start-of-month ■ Ad-hoc	■ Monthly at start-of-month ■ Ad-hoc No change
2 **Collection**	■ 1 business day after review	■ 1 business day after review No change
3 **DF credit**	■ HK$1 million	■ HK$1 million No change
4 **Periodic DF projection / report**(1)	■ ~12:00 noon during monthly DF review and ad-hoc DF review	■ ~10:30 am during monthly DF review and ad-hoc DF review ■ Flexibility to simulate Stress Test Value ("STV") intra-day
5 **DF report information**	■ Available for DCP and GCP (with NCP projection)	■ Available for DCP and GCP (with NCP projection) No change

Most existing operational arrangements remain unchanged in the new model

(1) Report available time subject to system finalisation

Appendix 05 |
Daily Operational Schedules

Appendix 05 | Daily Operational Schedules - Marks and Margin of Hong Kong Market

Daily Process – Normal Day

	Time	VaR Platform	VaR Reports available via RAP	CCASS
Intra-day Marks[1] Requirement	~11:00 – 11:30	Intra-day marks process for requirement		
	~11:30		1.Marginable Position Report (RMAMP01) 2.MTM and Margin Requirement Report (RMAMR01) 3.MTM and Margin Requirement Report (Summary Version) (RMAMR03) 4.Series Price Report (DWH0305)[2]	
Funding Requirement	~11:45			CCASS conduct collateralisation and payment processes: 1. Posting / Collateralisation Result Report (CCMPY01)
Payment Deadline	14:00			***** CPs to pay via CPI / Bank Transfer *****

	Time	VaR Platform	VaR Reports available via RAP	CCASS
Intra-day Marks and Margin[1] Requirement	~14:00 – 14:30	Intra-day marks and margin process for requirement		
	~14:30		1.Marginable Position Report (RMAMP01) 2.MTM and Margin Requirement Report (RMAMR01) 3.MTM and Margin Requirement Report (Summary Version) (RMAMR03) 4.Series Price Report (DWH0305)[2]	
Funding Requirement	~14:45			CCASS conduct collateralisation and payment processes: 1.Posting / Collateralisation Result Report (CCMPY01)
Payment Deadline	17:45			***** CPs to pay via DDI *****

Note: 1. Intra-day Margin will be called on the business day before weekday holidays which last for more than one day. It will be called at 11:00 when the business day is a CCASS non-settlement day while it will be called at 14:00 when it is a CCASS settlement day.
2. Series Price Report (DWH0305) for intra-day will be generated ~15mins after the availability of margin reports.

Appendix 05 | Daily Operational Schedules - Marks and Margin of Hong Kong Market

Daily Process – Normal Day

	Time	VaR Platform	VaR Reports available via RAP	CCASS
End-of-day Marks & Margin Estimation	(1st) ~15:00–15:30 (2nd) ~16:45–17:15	End-of-day marks and margin estimation process for requirement		
	(1st) ~15:30 (2nd) ~17:15		1.Marginable Position Report (RMAMP01) 2.MTM and Margin Requirement Report (RMAMR01) 3.MTM and Margin Requirement Report (Summary Version) (RMAMR03) 4.Series Price Report (DWH0305)[1]	

	Time	VaR Platform	VaR Reports available via RAP	CCASS
End-of-day Marks & Margin Requirement	~20:30 – 21:00	End-of-day marks and margin process for requirement		
	~21:00		Reports available: 1.Marginable Position Report (RMAMP01) 2.MTM and Margin Requirement Report (RMAMR01) 3.MTM and Margin Requirement Report (Summary Version) (RMAMR03) 4.Series Price Report (DWH0305)[1] 5. Margin Risk Parameter File (RPF01)[2]	
Funding Requirement	~20:15			CCASS conduct collateralisation and payment processes: 1.Posting / Collateralisation Result Report (CCMPY02)
Payment Deadline	Next day 09:30			***** CPs to pay via DDI *****

Note: 1. Series Price Report (DWH0305) for estimation will be generated ~15mins after the availability of margin reports; while the end-of-day report will be generated overnight and CPs will be able to retrieve via RAP the next business day, as the operational hour of RAP is from 07:00 - 24:00 on each business day.
2. Applicable to CPs who have subscribed for Risk Parameter Files (RPF) folder only.

Appendix 05 | Daily Operational Schedules - Default Fund Review

Monthly & Ad hoc Default Fund Review

	Time	VaR Platform	VaR Reports available via RAP	CCASS
Monthly/ Ad hoc Default Fund Review Requirement	~10:00 – 10:30	Monthly/ ad hoc Default Fund review for requirement		
	~10:30		Reports available: 1.Default Fund Requirement Report (RMADF01)	
Funding Requirement	~12:00			CCASS conduct collateralisation and payment processes: 1. Statement of Default Fund Contribution (CCMDF02)
Payment Deadline	Next day 17:45			***** CPs to pay via DDI *****

	Time	VaR Platform	VaR Reports available via RAP	CCASS
Default Fund Add-on Requirement	~20:30 – 21:00	Default Fund Add-on for requirement		
	~21:00		1.Default Fund Requirement Report (RMADF01) 2.MTM and Margin Requirement Report (RMAMR01) 3.MTM and Margin Requirement Report (Summary Version) (RMAMR03)	CCASS conduct collateralisation: 1. Special-Use Collateral Balance Report (CCMSU04) – *available via ONRD*
Funding Requirement	Next day ~10:00		• HKSCC will notify CPs, who are subject to payment of Default Fund add-on requirement • Default Fund add-on to be paid = "Default Fund add-on requirements" shown in MTM and Margin Requirement Report (RMAMR01) ***minus*** "Collateral on-hand (OCF)" shown in Special-Use Collateral Balance Report (CCMSU04)	
Payment Deadline	Next day 11:00			***** CPs to pay via Bank Transfer *****

Appendix 05 | Daily Operational Schedules - Northbound MSTD (for CCCP only)

Daily Process – Normal Day

	Time	VaR Platform	VaR Reports available via RAP	CCASS
Intra-day MSTD Requirement	~11:30 – 12:00	Intra-day MSTD process for requirement		
	~12:00		1.Risk - Northbound MSTD Requirement Report (RMCNM01)	
Funding Requirement	~12:00			CCASS conduct collateralisation and payment processes: 1. Intra-day Mainland Settlement Deposit Payable Report (SH/SZ) (CRMSD07/09)
Payment Deadline	14:00			***** CPs to pay via CPI / Bank Transfer *****

	Time	VaR Platform	VaR Reports available via RAP	CCASS
End-of-day MSTD Estimation	~15:30 – 16:00	End-of-day MSTD estimation process for requirement		
	~16:00		1.Risk - Northbound MSTD Requirement Report (RMCNM01)	

	Time	VaR Platform	VaR Reports available via RAP	CCASS
End-of-Day MSTD Requirement	~19:30 – 20:00	End-of-day MSTD process for requirement		
	~20:00		1.Risk - Northbound MSTD Requirement Report (RMCNM01)	
Funding Requirement	~20:00			CCASS conduct collateralisation and payment processes: 1.Mainland Settlement Deposit Payable Report (SH/SZ) (CRMSD01/04)
Payment Deadline	Next day 09:30			***** CPs to pay via DDI *****

Appendix 05 | Daily Operational Schedules - Northbound MSCD (for CCCP only)

Monthly Process

	Time	VaR Platform	VaR Reports available via RAP	CCASS
Monthly MSCD Requirement	~09:00 – 09:30	Monthly MSCD process for requirement		
	~09:30		1.Risk - Northbound MSCD Requirement Report (RMCNM03)	
Funding Requirement	~09:30			CCASS conduct collateralisation and payment processes: 1. Mainland Security Deposit Payable Report (SH/SZ) (CRMGF01/03)
Payment Deadline	Next day 09:30			***** CPs to pay via DDI*****

Appendix 06 |
List of Impacted CCASS Reports and the Corresponding VaR Platform Reports

Appendix 06 | List of Impacted CCASS Reports and the Corresponding VaR Platform Reports

Margin Reports, to be retrieved via RAP:

RAP Folder	Report	Time Available upon Official Launch	Description
Inbox	Marginable Position Report (RMAMP01)	**Each business day** 1. ~11:30 (Intraday marks[1] process) 2. ~14:30 (Intraday marks & margin[1] process) 3. ~15:30 (1st end-of-day marks and margin estimation process) 4. ~17:15 (2nd end-of-day marks and margin estimation process) 5. ~21:00 (End-of-day marks and margin process)	Marginable positions incorporated in the corresponding margin calculation, and supplementary information at position level
Inbox	MTM and Margin Requirement Report (RMAMR01)		MTM and margin requirement together with the margin component details
Inbox	MTM and Margin Requirement Report (Summary Version) (RMAMR03)		A summary version of RMAMR01

Corresponding reports in CCASS

[Obsoleted upon official launch]

- Marks and Collateral Collection Report (CFIPM01)
- Intra-day Marks and Collateral Collection Report (CRMIM01)
- Margin Payable Report (CRMMG02)
- Intra-day Margin Payable Report (CRMMG01)
- Guarantee Fund Risk Collateral Requirement Report (GFR806)
- Additional Cash Collateral Payable Report (CRMAC01)
- NCP Marks Projection Report (intra-day) (CRMNP01) (for GCP only)
- NCP Marks Projection Report (day-end) (CRMNP02) (for GCP only)
- NCP Margin Projection Report (intra-day) (CRMNP03) (for GCP only)
- NCP Margin Projection Report (day-end) (CRMNP04) (for GCP only)

[Modified upon official launch]

- Posting / Collateralisation result Report (intra-day) (CCMPY01)
- Posting / Collateralisation result Report (day-end) (CCMPY02)

Note: 1. Intra-day Margin will be called on the business day before weekday holidays which last for more than one day. It will be called at 11:00 when the business day is a CCASS non-settlement day while it will be called at 14:00 when it is a CCASS settlement day.

Appendix 06 | List of Impacted CCASS Reports and the Corresponding VaR Platform Reports

Margin related Reports, to be retrieved via RAP:

RAP Folder	Report	Time Available upon Official Launch	Description
Common	Corporate Action Event Report (DWH0229)	**Each business day** ~10:00	Corporate action events of Hong Kong market that may lead to marginable position adjustment
Common	Series Price Report (DWH0305)	**Each business day** 1. ~11:45 (Intraday mark[1] process) 2. ~14:45 (Intraday marks & margin[1] process) 3. ~15:45 (1st end-of-day marks and margin estimation process) 4. ~17:30 (2nd end-of-day marks and margin estimation process) 5. Overnight[2] (End-of-day marks and margin process)	Instrument prices and exchange rates for Hong Kong market's margin calculation
Common	IPO Indicator (DWH0303)	**Each business day** ~09:00	IPO stocks that are newly listed that will impact the margin calculation
Inbox	Daily Participant Margin Multiplier Report (DWH0081C)	**Each business day** ~09:00	Current and to-be effective multiplier
RPF[3]	Margin Risk Parameter File (RPF01)	**Each business day** ~21:00	Contains key risk parameters required for calculation of MTM and margin requirement for Hong Kong market

Noted: 1. Intra-day Margin will be called on the business day before weekday holidays which last for more than one day. It will be called at 11:00 when the business day is a CCASS non-settlement day while it will be called at 14:00 when it is a CCASS settlement day.

2. End-of-day Series Price Report (DWH0305) will be generated overnight, CPs will be able to retrieve via RAP the next business day, as the operational hour of RAP is from 07:00 - 24:00 on each business day.

3. Only applicable for CPs who have subscribed for RPF folder. Due to the file size of the RPF, CPs should assess and evaluate the need to upgrade their existing SDNet before subscribing for the new RPF folder. Please refer to section 7 of the RAP Technical Guide for details.

Appendix 06 | List of Impacted CCASS Reports ages and the Corresponding VaR Platform Reports

Default Fund Reports, to be retrieved via RAP:

RAP Folder	Report	Time Available upon Official Launch	Description	Corresponding reports in CCASS
Inbox	Risk – Stress Testing Report (RMAST01)	**Each business day** ~21:00	STV calculated based on the returns of stress scenarios defined by HKEX for Hong Kong market	N/A
Inbox	Default Fund Requirement Report (RMADF01)	**On the first business day of each month** ~10:30 (Monthly DF review/ ad hoc) **Each business day** ~21:00 (Default Fund add-on calculation process)	Monthly or ad hoc default fund requirement	***[New report – available after official launch]*** • Statement of Default Fund Contributions (CCMDF02) ***[Obsoleted upon official launch]*** • Statement of Guarantee Fund Contributions (GFR608) • Guarantee Fund Risk Collateral Requirement Report (GFR806) • NCP(s) Guarantee Fund Contribution Projection By Position (GFR616) (for GCP only)
RPF[1]	Stress Testing Risk Parameter Files (RPF02, RPF03, RPF04)	**Each business day** ~21:00	Contains key risk parameters for calculation of STV for Hong Kong market	N/A

Noted: 1. Only applicable for CPs who have subscribed for RPF folder. Due to the file size of the RPF, CPs should assess and evaluate the need to upgrade their existing SDNet before subscribing for the new RPF folder. Please refer to section 7 of the RAP Technical Guide for details.

Appendix 06 | List of Impacted CCASS Reports and the Corresponding VaR Platform Reports

Northbound related Reports to be retrieved via RAP:

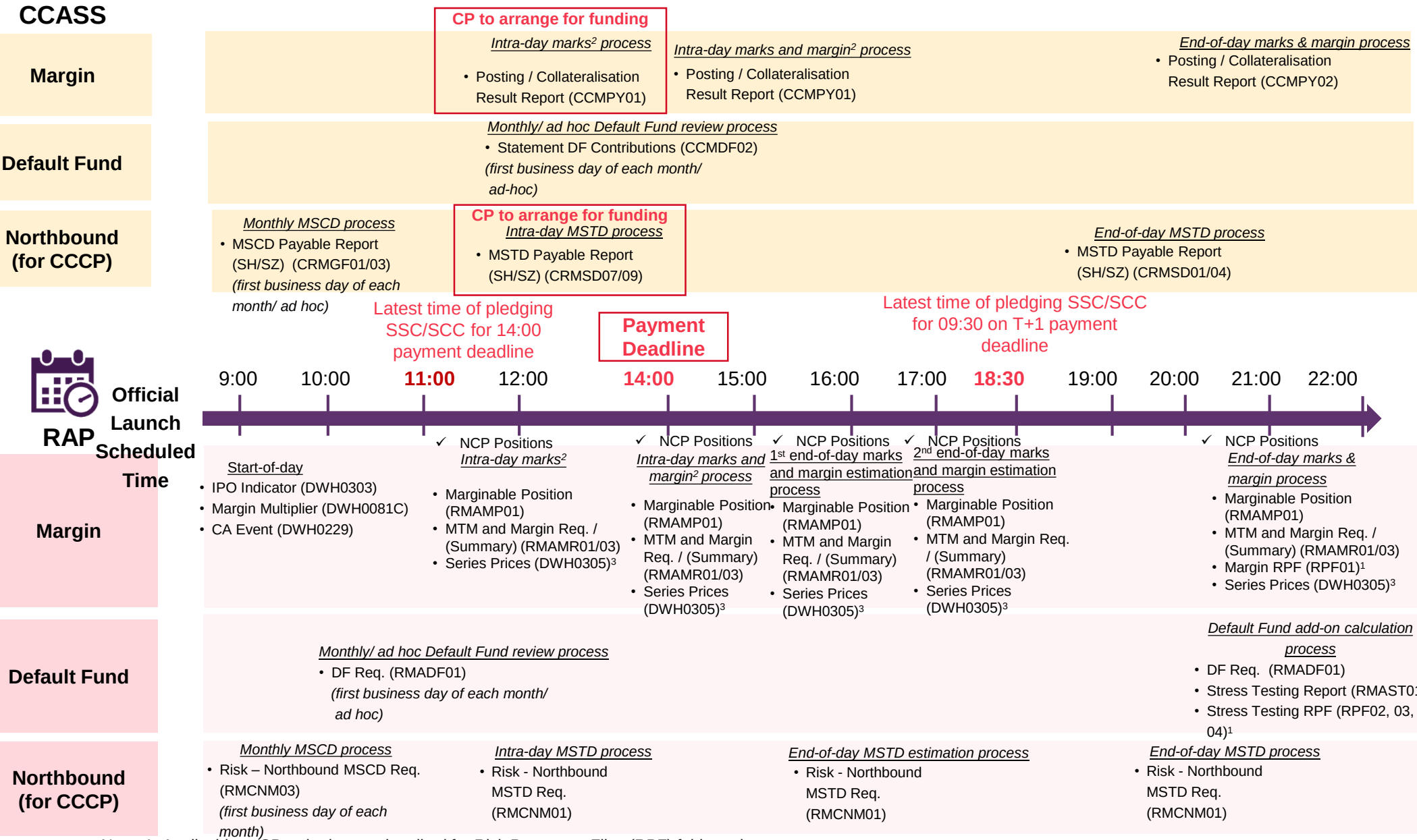
(Only applicable to the China Connect Clearing Participants (CCCP))

RAP Folder	Report	Time Available upon Official Launch	Description	Corresponding reports in CCASS
Inbox	Risk – Northbound MSTD Requirement Report (RMCNM01)	**Each business day** 1. ~12:00 (Intra-day MSTD process) 2. ~16:00 (End-of-day MSTD estimation process) 3. ~20:00 (End-of-day MSTD process)	MSTD requirement of CCCP for Northbound China Connect markets	***[Modified upon official launch]*** • Mainland Settlement Deposit Payable Report (Shanghai) (CRMSD01) • Mainland Settlement Deposit Payable Report (Shenzhen) (CRMSD04) • Intra-day Mainland Settlement Deposit Payable Report (Shanghai) (CRMSD07) • Intra-day Mainland Settlement Deposit Payable Report (Shenzhen) (CRMSD09)
Inbox	Risk – Northbound MSCD Requirement Report (RMCNM03)	~09:30 on the first business day of each month	MSCD requirement of CCCP for Northbound China Connect markets	***[Modified upon official launch]*** • Mainland Security Deposit Payable Report (Shanghai) (CRMGF01) • Mainland Security Deposit Payable Report (Shenzhen) (CRMGF03)

Appendix 07 |
Normal Day with Holiday Operational Arrangement

Appendix 07 | Normal Day with Holiday Operational Arrangement

Below is the detail schedule of full day repots throughout the day in logical time:

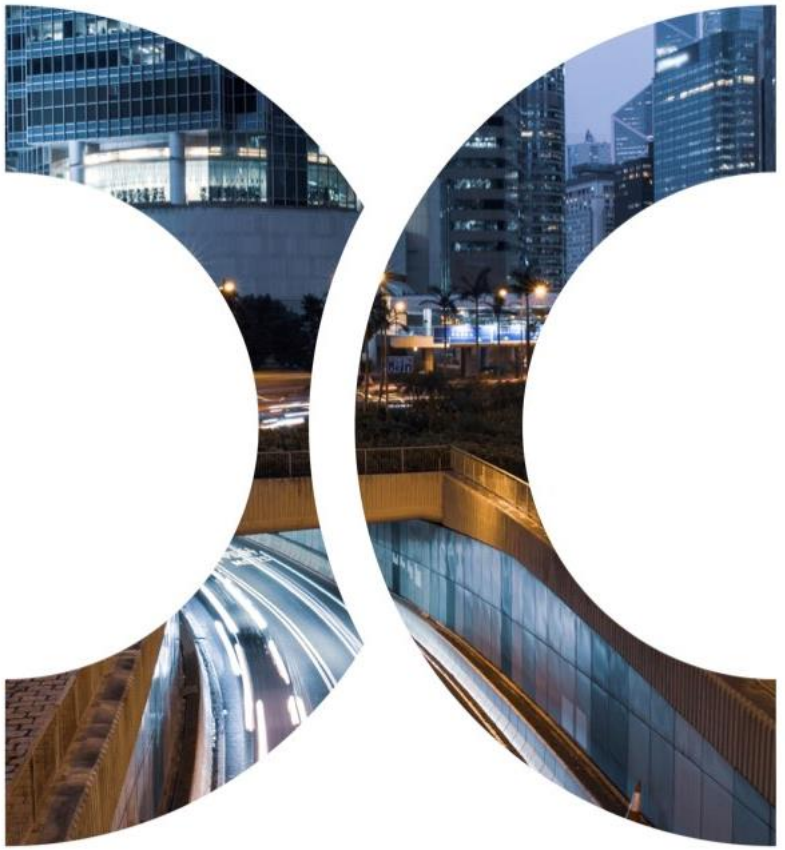


Note: 1. Applicable to CPs who have subscribed for Risk Parameter Files (RPF) folder only

2. Intra-day Margin will be called on the business day before weekday holidays which last for more than one day. It will be called at 11:00 when the business day is a CCASS non-settlement day while it will be called at 14:00 when it is a CCASS settlement day.

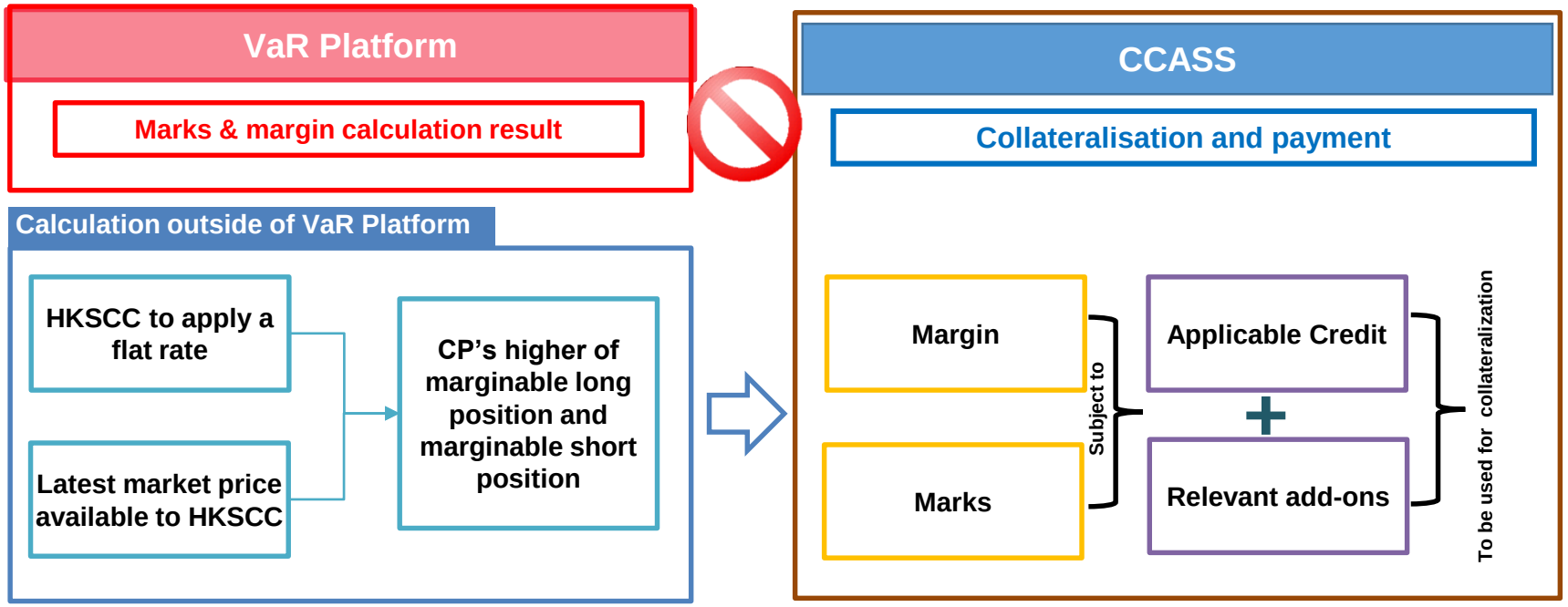
3 Series Price Report (DWH0305) for intra-day and estimation will be generated ~15mins after the availability of margin reports, while for end-of day will be generated overnight, CPs will be able to retrieve via RAP the next business day, as the operational hour of RAP is from 07:00 - 24:00 on each business day.

Appendix 08 | Contingency Arrangement in case of VaR Platform Failure



Appendix 08 | Contingency Arrangement in case of VaR Platform Failure

Alternative Method will be used to calculate Marks and Margin



- CP's margin and marks requirement[1] = Max {Round up[2] [Flat rate[3] x higher of (CP's marginable long positions[4], CP's marginable short positions[5]), 250,000] – margin credit[6] – favourable marks[7], 0} + unfavourable marks[8] + position limit add-on[9] + credit risk add-on[9] + ad hoc add-on[9]

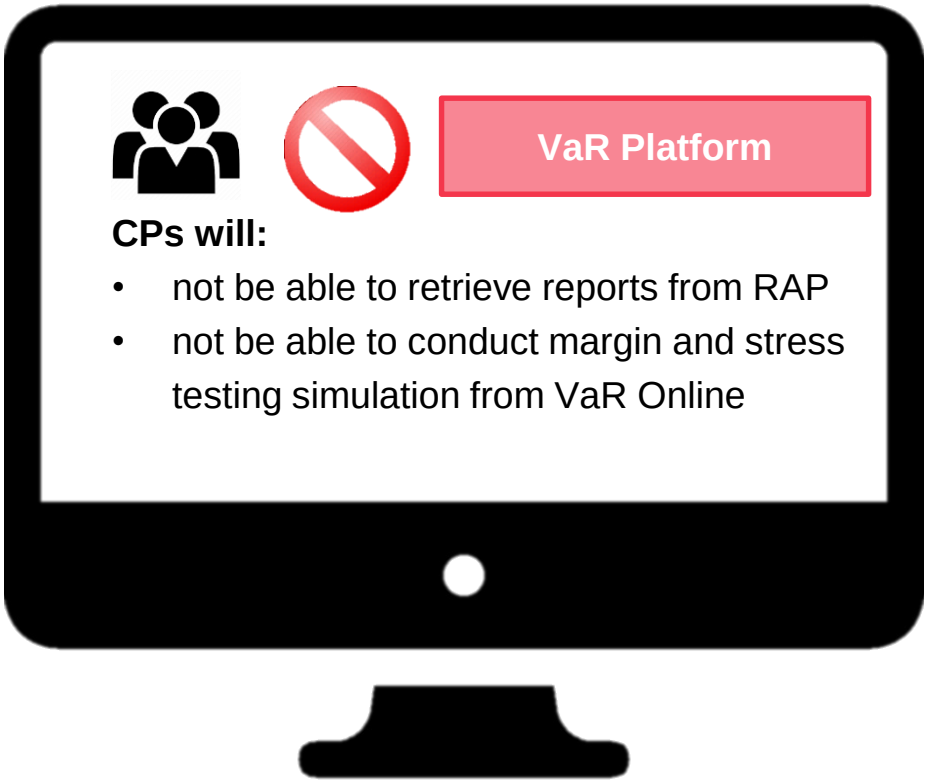
Where:

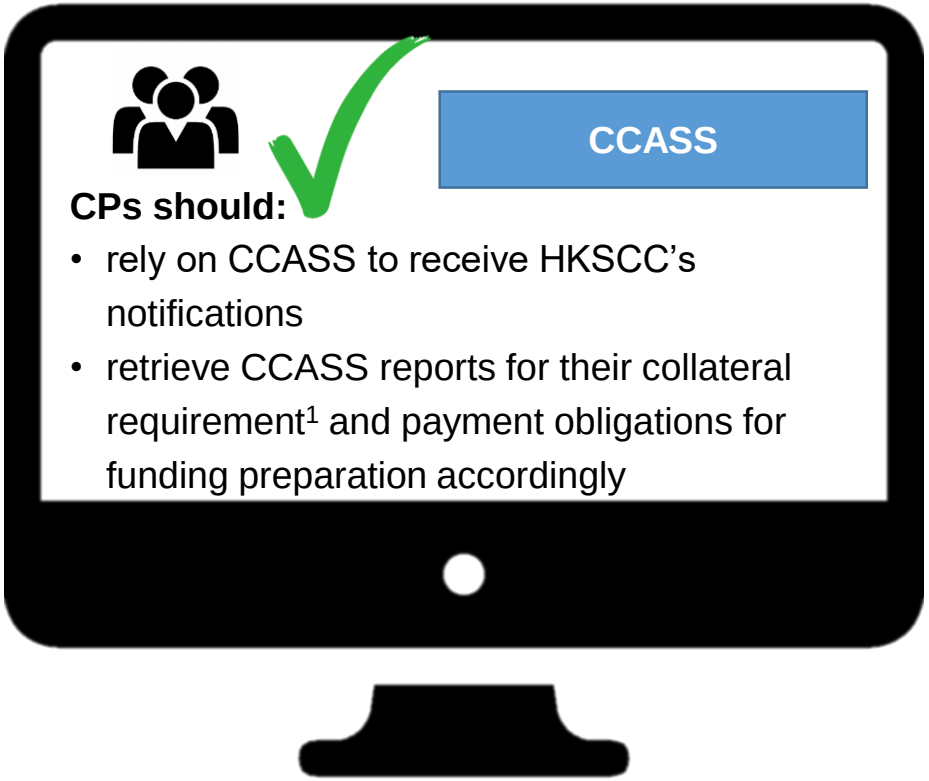
1. If the flat rate calculation result is smaller than the current requirement, excess collateral will be released to CPs.
2. Margin requirement will be rounded up to the nearest HKD 250,000 for each CP.
3. Flat rate will be determined as the higher of (i) 3 x HSI EWMA volatility; and (ii) a floor of 6%.
4. CP's marginable long positions refer to the aggregated market value of marginable position CP bought.
5. CP's marginable short positions refer to the aggregated market value of marginable position CP sold (in absolute value).
6. Margin credit is assumed to be HKD 5 million for each CP, which may be subject to further credit assessment.
7. Favourable marks means mark-to-market gain / profit of CP's portfolio.
8. Unfavourable marks means mark-to-market loss of CP's portfolio.
9. Position limit add-on, credit risk add-on, and ad hoc add-on refer to the latest results calculated and shown in the MTM and Margin requirement report before the VaR platform failure.

Appendix 08 | Contingency Arrangement in case of VaR Platform Failure

Communication Arrangement

Under the situation of VaR Platform failure:

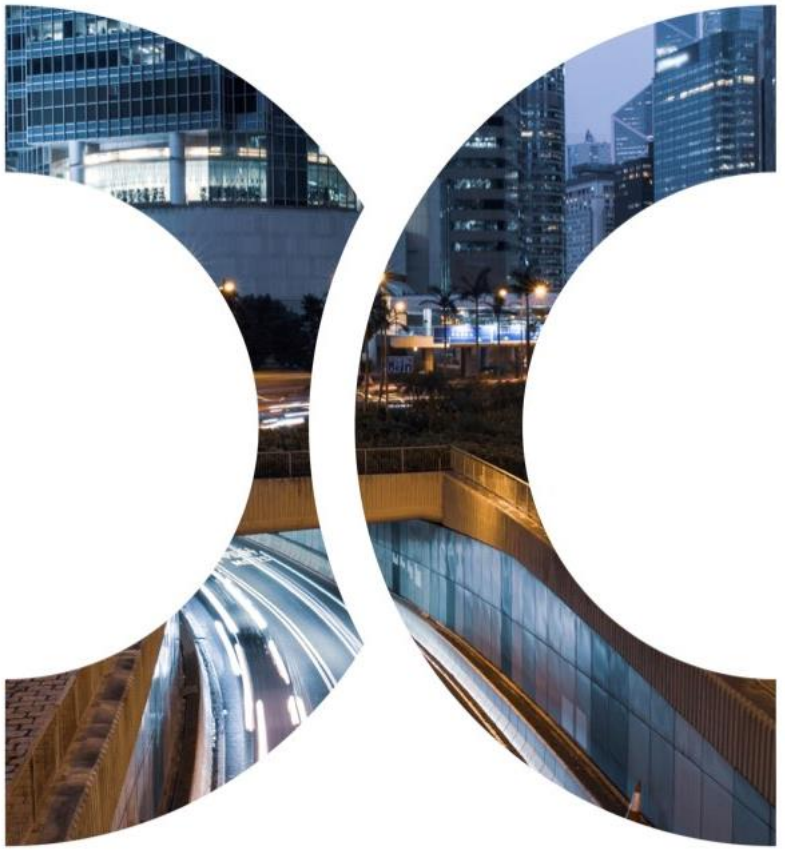




Note: 1. Collateral requirement includes marks, margin, Mainland Settlement Deposit and Mainland Security Deposit.

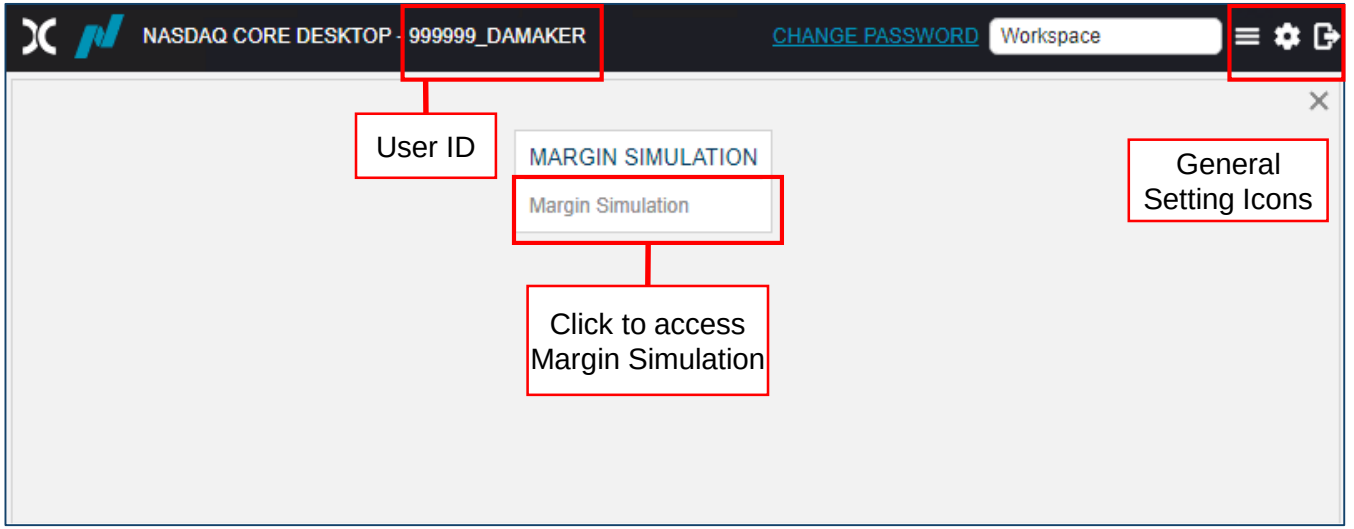
Appendix 09 | VaR Online

- **Simulator for Margin and Stress Test**
- **Operates from 10:00 to 19:30, Monday to Friday except Public Holidays**



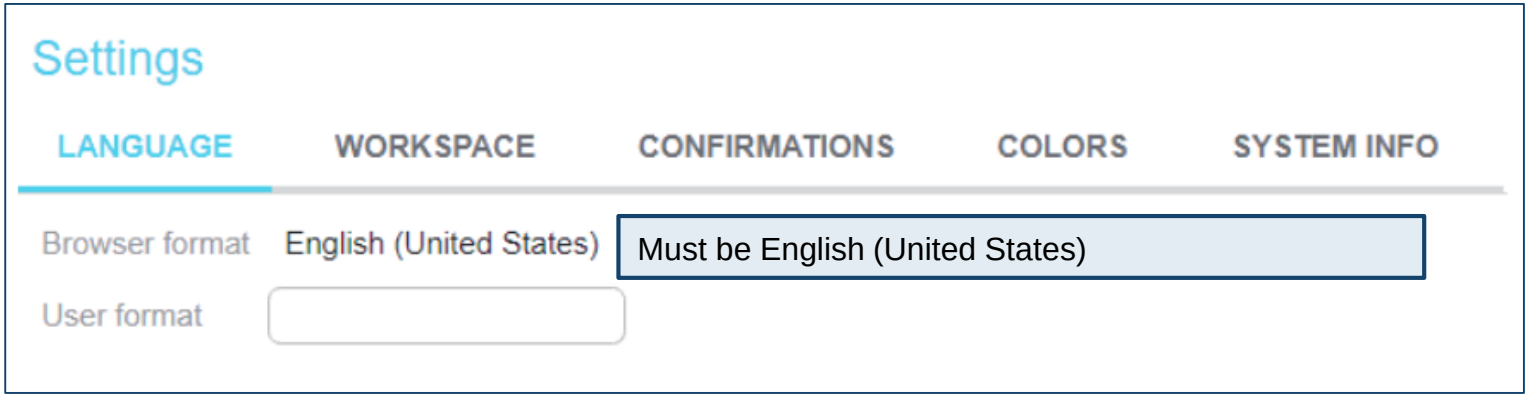
Appendix 09 | VaR Online
- VaR Online Access for Business Users

Business User should see the main view below once they have logged in.



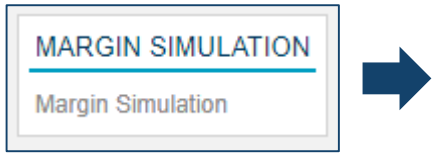
Appendix 09 | VaR Online
- VaR Online Access for Business Users

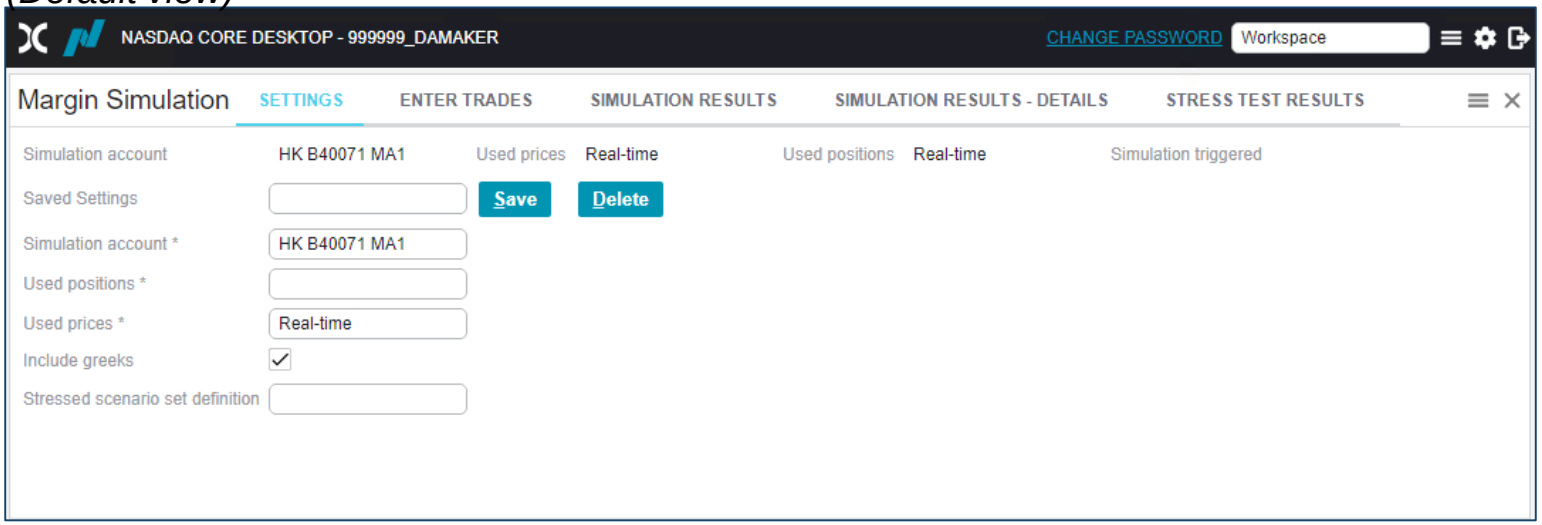
- Business User can adjust the settings of the VaR Online view.



- Or start simulation directly

(Default view)





For more details on the Settings, please refer to VaR DA user guide - section 3 available in HKEX website.

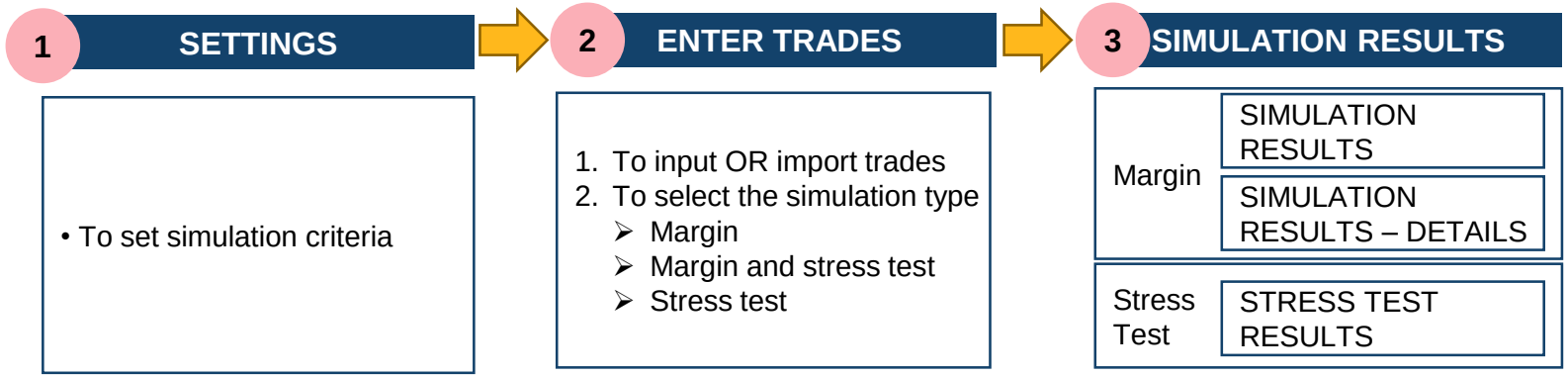
Appendix 09 | VaR Online - Simulation Flow

Following is the simulation workflow of different scenarios in VaR Online:

Please note the following:

- *Simulation is applicable to HK market only, results for SH and SZ markets are reserved for future use.*
- *All simulations result are for reference only, CPs should refer to the respective CCASS report for their risk obligations.*

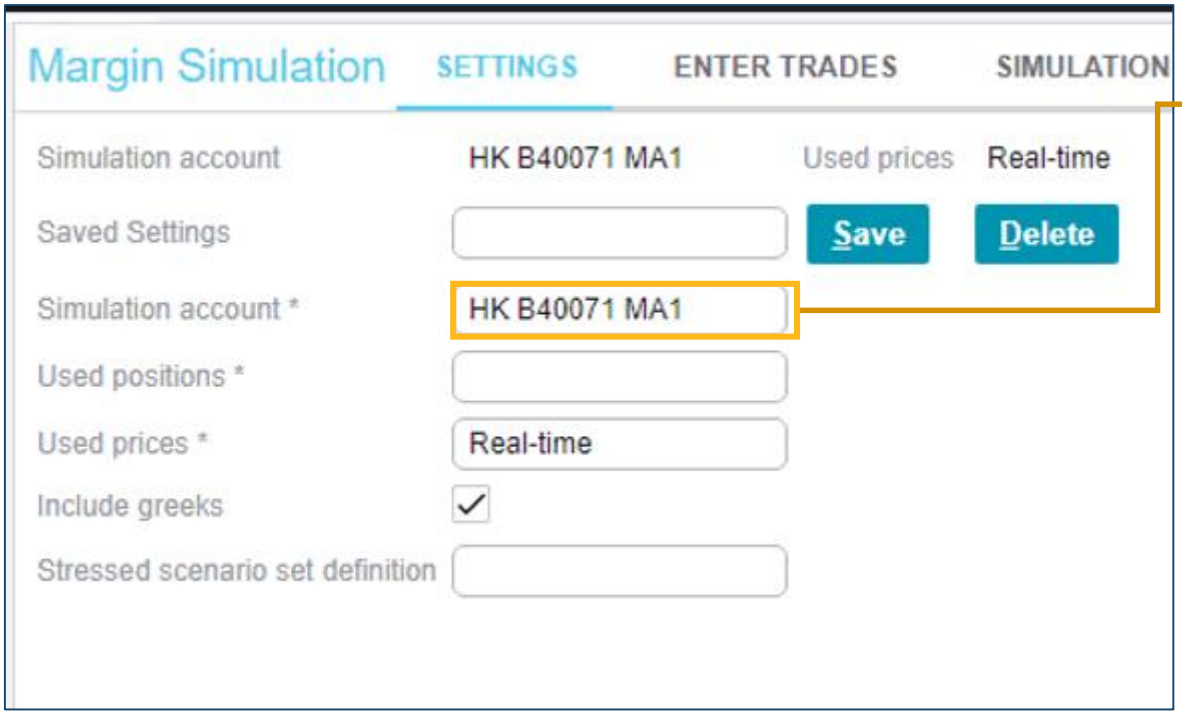
To conduct **margin and/or stress test simulation** for the entered trades:



Appendix 09 | VaR Online
- Simulation with Input/Imported trades

To conduct margin and/or stress test simulation for input or imported trades

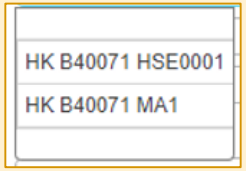
1 SETTINGS



"HK" – Exchange Location
"B40071" – Participant ID

Dropdown menu available:

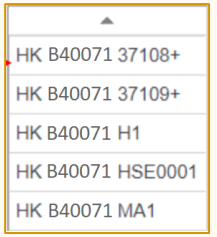
- "MA1" – Main Account in which the marginable positions are captured for MTM and margin calculation[1]
- "HSE0001" - collateral "HOUSE" account is NOT applicable for simulation, please ignore



Applicable to General Clearing Participant (GCP)
Main account captures marginable positions of GCP its own and its Non-clearing Participants (NCP)

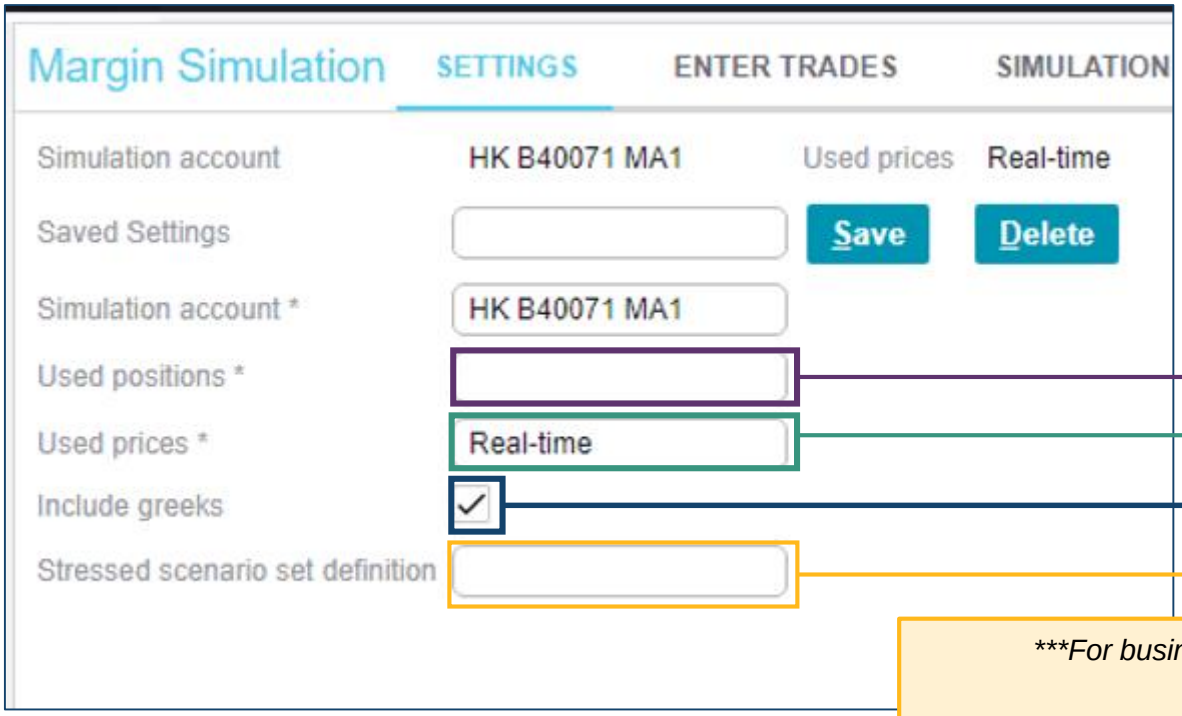
Dropdown menu available:

- "nnnnn+" – capturing marginable positions o Non-Clearing Participant (NCP)[2]
- "H1" - House Account capturing marginable positions of GCP



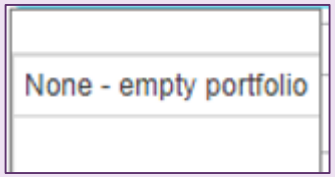
Appendix 09 | VaR Online
- Simulation with Input/Imported trades

1 **SETTINGS (CONT'D)**



Please select:

- "None – empty portfolio" - hypothetical trade



Default "Real-time" – the latest available prices in VaR Online

Reserved for future use

****For business user who wish to conduct simulation on stress test****

Please select:

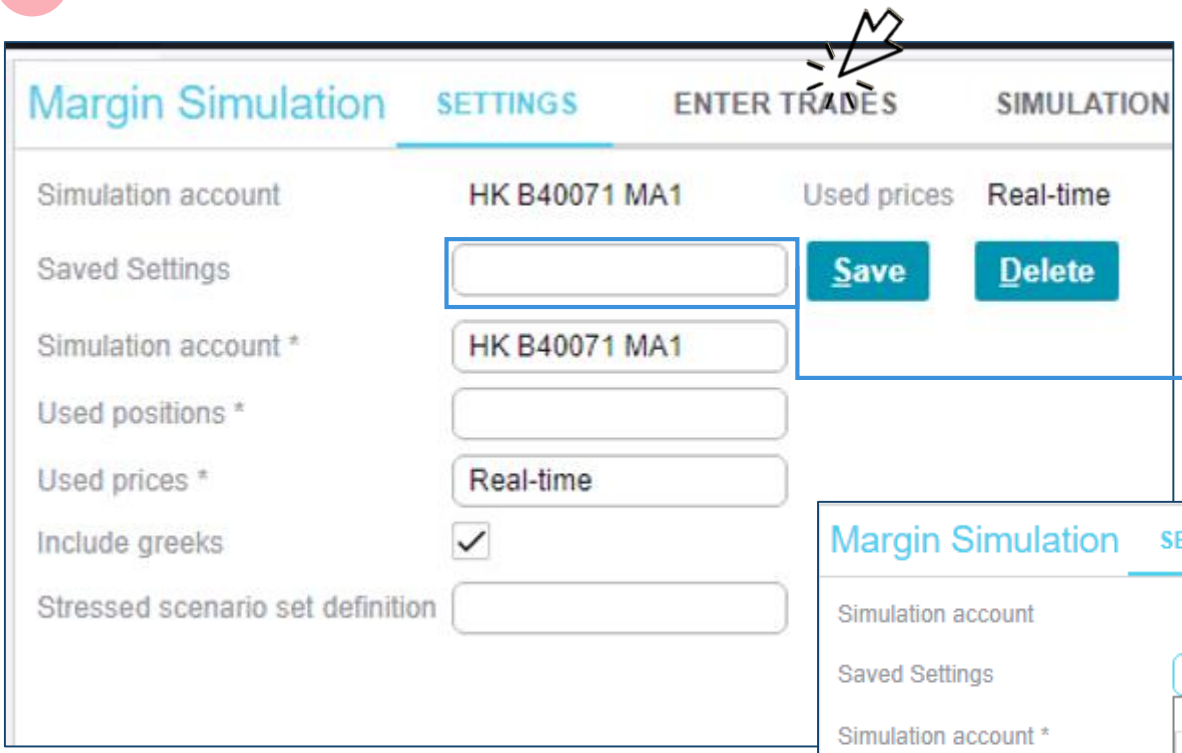
- "Standard" - Stress Test or Margin and Stress Test simulation

Id	Description
STANDARD	Stress set for EUL and STV model

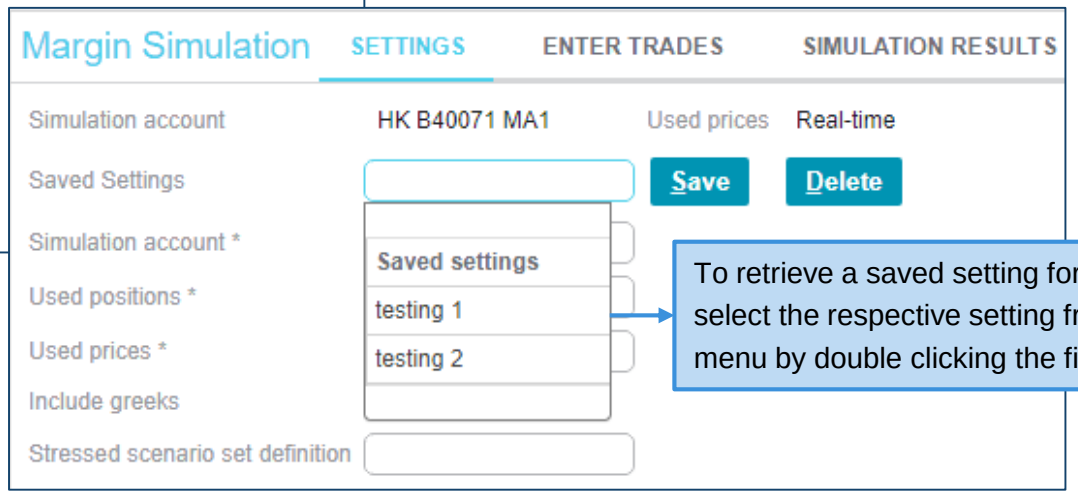
Appendix 09 | VaR Online
- Simulation with Input/Imported trades

1 **SETTINGS (CONT'D)**

Once the setting is done, click "ENTER TRADES" to input trades



Frequently used settings such as different simulation account can be saved in "Saved Settings" with a customised name, maximum 50 settings can be saved per user



To retrieve a saved setting for simulation, select the respective setting from the drop menu by double clicking the field

Appendix 09 | VaR Online
- Simulation with Input/Imported trades

2.1 MARGIN AND/ OR STRESS TEST SIMULATION - ENTER TRADES

Trades can be entered by the following methods:

a. Manual Input (up to 20 trades)

b. File import (up to 500 trades)

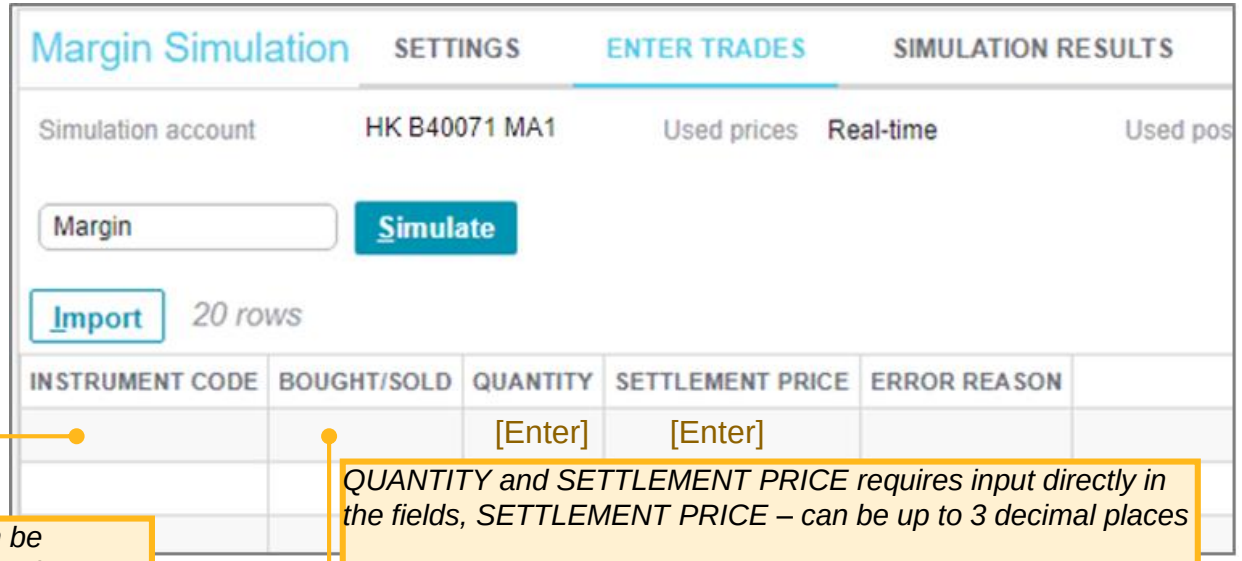
Both methods are applicable to GCP and DCP and the simulation will be conducted based on the entered trades, whereas the risk scenario used for calculation will be the previous EOD scenarios

a MANUAL INPUT

User can enter trades by clicking the respective data field, maximum 20 trades are allowed to be inputted

INSTRUMENT CODE can be selected from dropdown menu or input direct in the field
(Strike price and Expiration date for warrants are for information only, simulation will be based on the entered SETTLEMENT PRICE)

Instrument	Market	Underlying	Instrument group	Strike price	Expiration date
1		1	STOCK		
10001		BSK10001MB	BASKET DW CALL	100.0000	1/3/19
10002		BSK10002MB	BASKET DW CALL	100.0000	1/3/19
10003		BSK10003MB	BASKET DW CALL	100.0000	1/3/19
10004		BSK10004MB	BASKET DW CALL	100.0000	1/3/19



BOUGHT/SOLD can be selected from the dropdown menu:

Bought

Sold

QUANTITY and SETTLEMENT PRICE requires input directly in the fields, SETTLEMENT PRICE – can be up to 3 decimal places

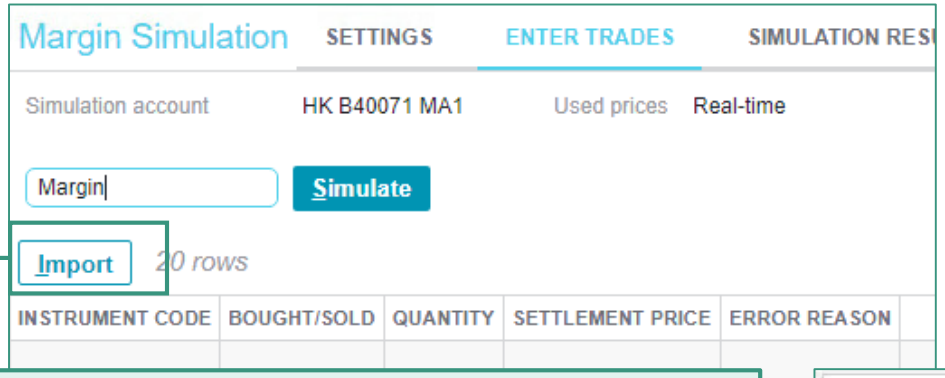
ERROR REASON will be displayed for invalid input i.e. excess decimal input

INSTRUMENT CODE	BOUGHT/SOLD	QUANTITY	SETTLEMENT PRICE	ERROR REASON
1	Bought	50,000	51.2355	Rounding necessary

Appendix 09 | VaR Online
- Simulation with Input/Imported trades

b **FILE IMPORT**

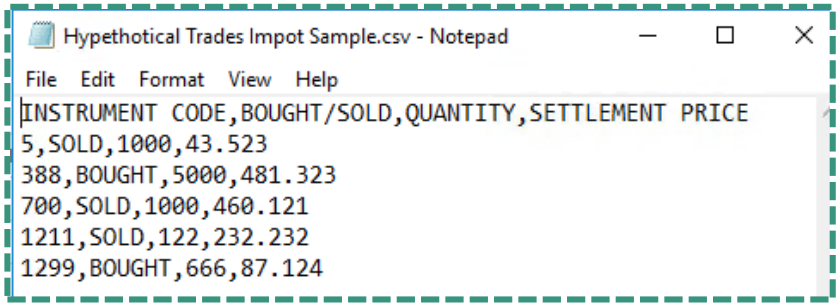
User can enter trades by importing a Comma Separated Values (CSV) file, maximum 500 trades are allowed to be imported

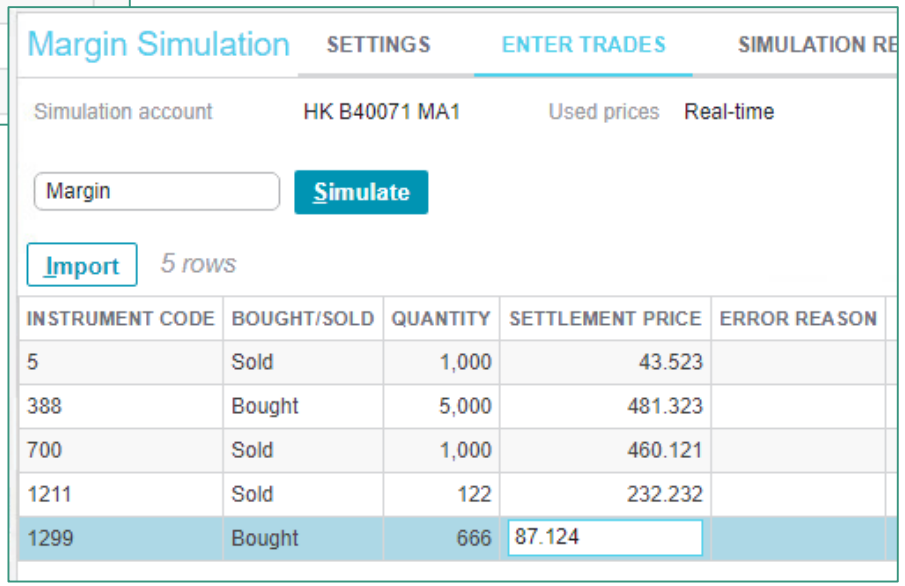


User can import a CSV file, maximum 500 trades are allowed to be imported

- *The CSV file must come with the correct headers (not case sensitive) for identifying the corresponding required fields:*
  - *Instrument code*
  - *Bought/Sold*
  - *Quantity*
  - *Settlement Price*

Sample CSV file:





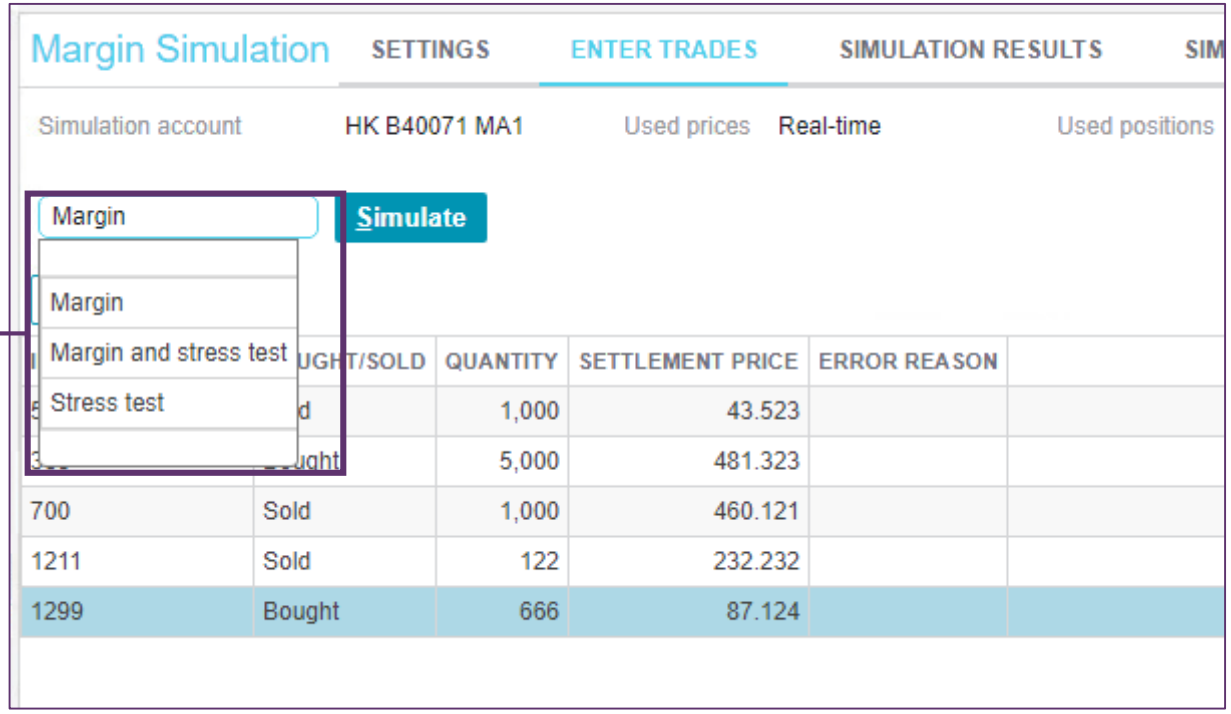
Once the trades are imported, manual input trades will be overridden and no new trades can be added but can be updated

Appendix 09 | VaR Online
- Simulation with Input/Imported trades

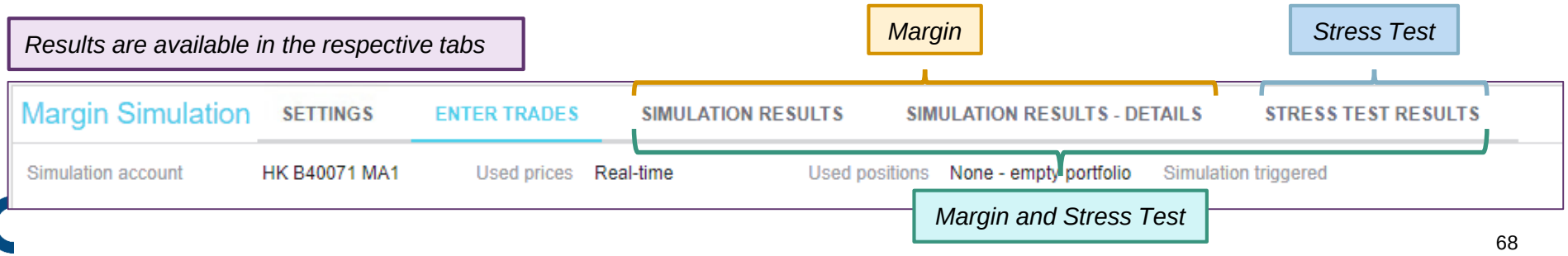
2.2 MARGIN AND/ OR STRESS TEST SIMULATION – SIMULATION TYPES

To select the simulation from the dropdown menu:

- "Margin" - margin simulation only **(default setting)**
- "Margin and Stress Test" - both margin and stress test simulation
- "Stress Test" - stress test simulation only



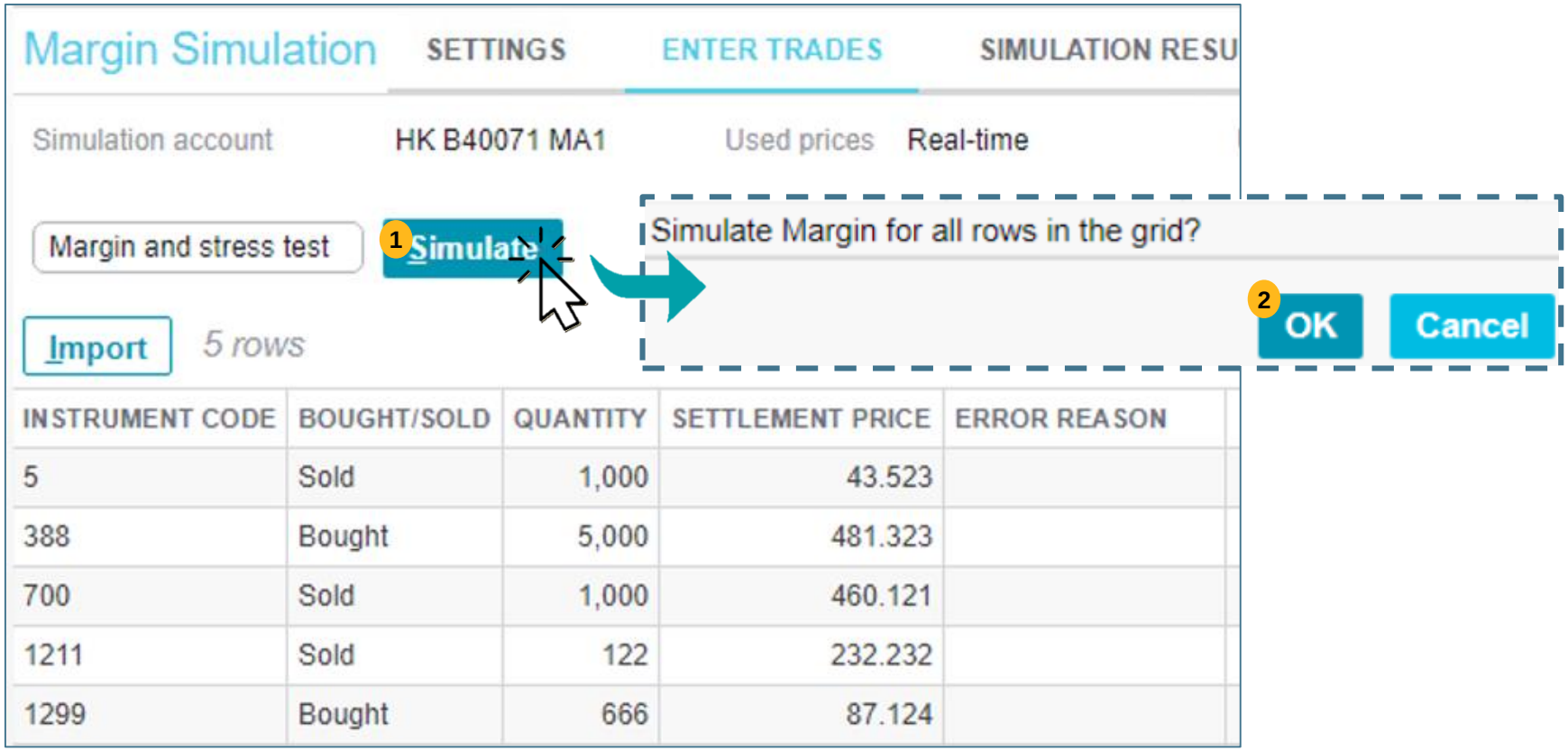
Results are available in the respective tabs



Appendix 09 | VaR Online
- Simulation with Input/Imported trades

2.2 MARGIN AND/ OR STRESS TEST SIMULATION - SIMULATION TYPES (CONT'D)

Once trades are imported/ inputted and simulation type is selected, user can start the simulation



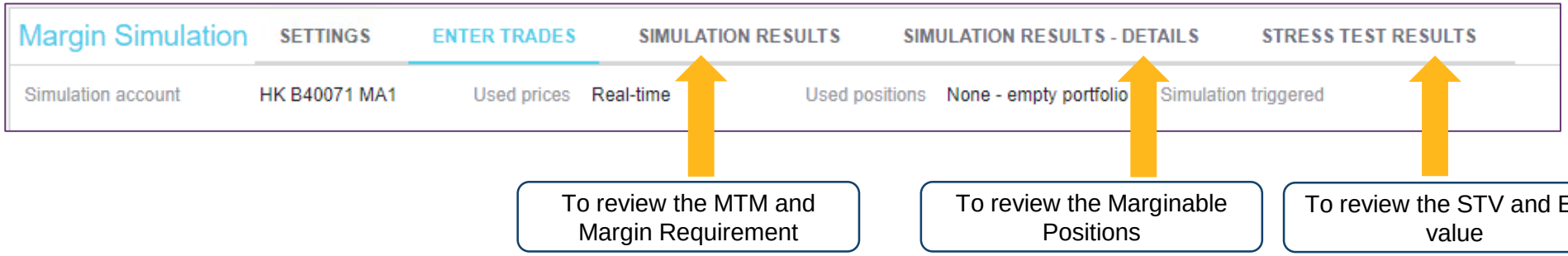
INSTRUMENT CODE	BOUGHT/SOLD	QUANTITY	SETTLEMENT PRICE	ERROR REASON
5	Sold	1,000	43.523	
388	Bought	5,000	481.323	
700	Sold	1,000	460.121	
1211	Sold	122	232.232	
1299	Bought	666	87.124	

Appendix 09 | VaR Online
- Simulation with Input/Imported trades

3

SIMULATION RESULTS

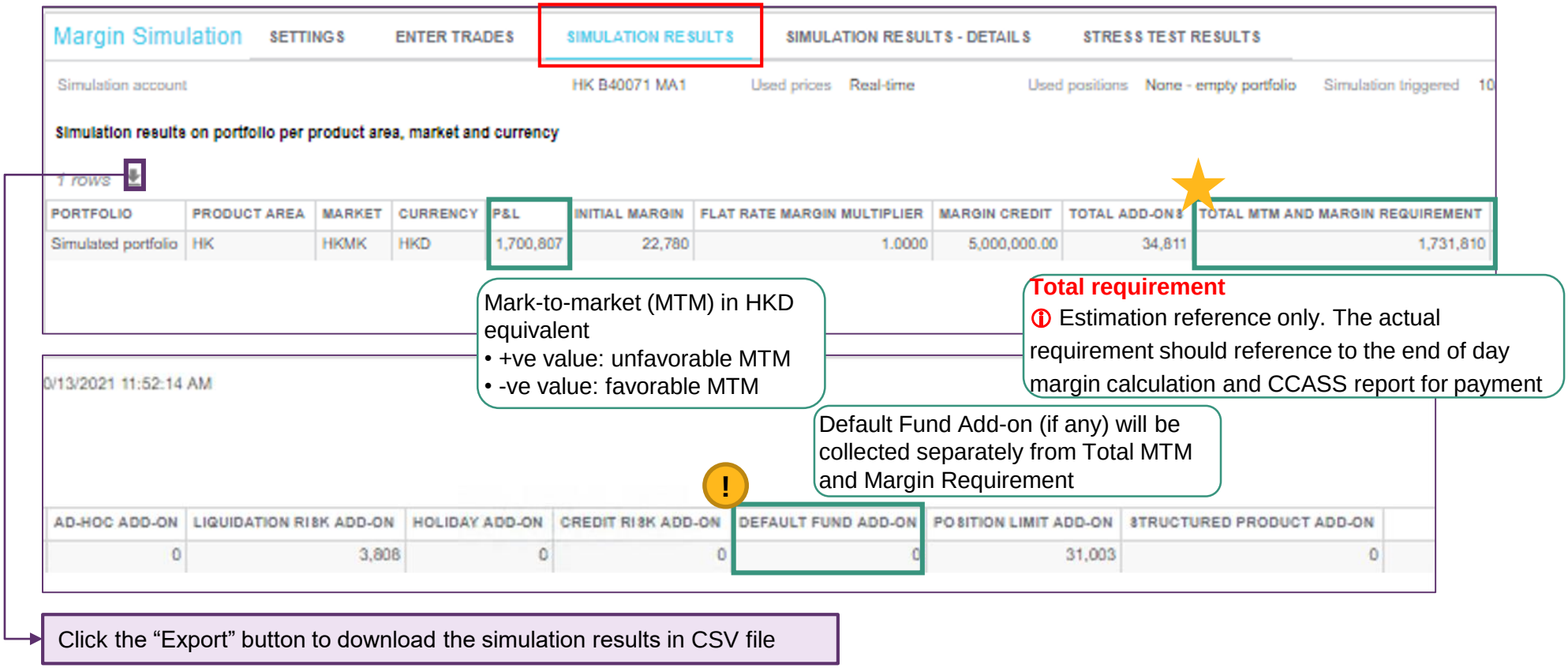
Results for the entered trades are available in “SIMULATION RESULTS”, “SIMULATION RESULTS – DETAILS” and STRESS TEST RESULTS” tabs



Appendix 09 | VaR Online
- Simulation with Input/Imported trades

3.1 **“SIMULATION RESULTS” Tab**

Given the simulation is conducted based on input/ imported trades, there will be only 1 row of results (Simulated portfolio) shown:



Appendix 09 | VaR Online
- Simulation with Input/Imported trades

3.2 "SIMULATION RESULTS - DETAILS" Tab

Results of the entered trades will be available

Margin Simulation | SETTINGS | ENTER TRADES | SIMULATION RESULTS | SIMULATION RESULTS - DETAILS | STRESS TEST RESULTS

Simulation account: HK B40071 MA1 | Used prices: Real-time | Used positions: None - empty portfolio | Simulation trig

Simulation results per instrument in instrument currency

5 rows

To view the long/ short quantity of the entered trades

Original portfolio is reserved for future use

MAIN					ORIGINAL PORTFOLIO		
INSTRUMENT CODE	INSTRUMENT NAME	LONG QUANTITY	SHORT QUANTITY	CURRENCY	P&L	LIQUIDATION RISK ADD-ON	STRUCTURED PRODUCT ADD-ON
1299	AIA	666	0	HKD	0	0	0
388	HKEX	5,000	0	HKD	0	0	0
5	HSBC HOLDINGS	0	1,000	HKD	0	0	0
700	TENCENT	0	1,000	HKD	0	0	0
1211	BYD COMPANY	0	122	HKD	0	0	0

Results based on the entered trades should be viewed under Simulated Portfolio

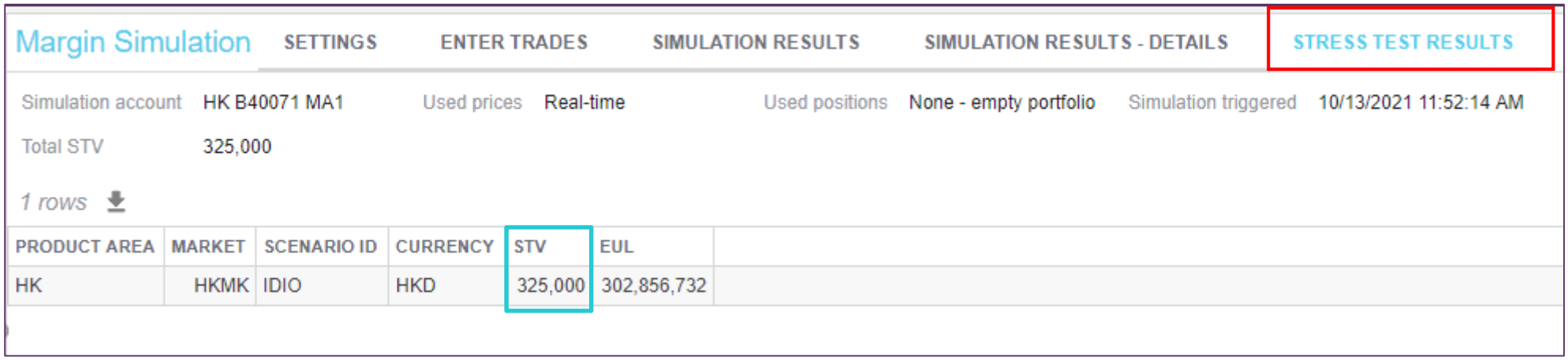
Greeks calculation is reserved for future use

SIMULATED PORTFOLIO			GREEKS			
P&L	LIQUIDATION RISK ADD-ON	STRUCTURED PRODUCT ADD-ON	CASH DELTA	CASH GAMMA (1%)	VEGA	THETA
-6,586	1,809	0	97.01300	0.00000	0.0000000000	0.0000000000
2,081,615	1,365	0	65.00000	0.00000	0.0000000000	0.0000000000
26,623	295	0	70.14600	0.00000	0.0000000000	0.0000000000
-379,521	339	0	80.60000	0.00000	0.0000000000	0.0000000000
-21,324	0	0	57.44700	0.00000	0.0000000000	0.0000000000

After netting and FX, the sum of the P&L in HKD will be the P&L in "SIMULATION RESULTS" tab

Appendix 09 | VaR Online
- Simulation with Input/Imported trades

3.3 SIMULATION RESULTS

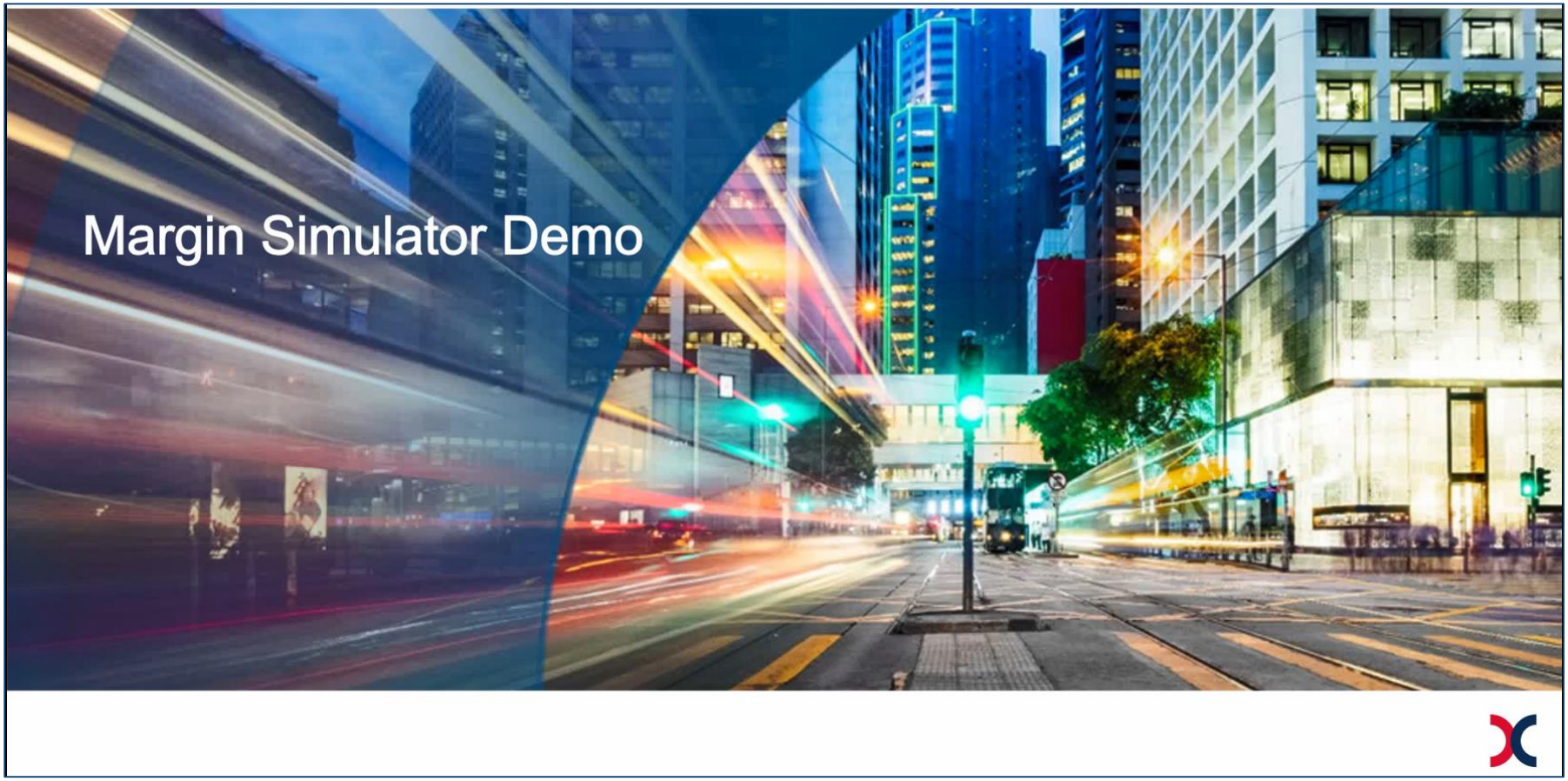


Stress Test Value (STV) is calculated based the scenarios as of previous EOD and the worst case scenario will be displayed

For more details on the simulation functions, please refer to VaR Online user guide - section 4 available in HKEX website.

Appendix 09 | VaR Online
- Margin & Stress Test Simulator Demo

CPs can make reference to the demo video for the general settings and the simulation procedure in VaR Online, which is available in **HKEX website**.



Appendix 10 | Technical Information

- RAP & VaR Online

Appendix 10 | Technical Information for RAP and VaR Online - Domain Name

CPs should use the registered client workstations to access RAP, i.e. with IP addresses submitted in the RAP Registration Form, while CPs should use their existing Securities and Derivatives Network (SDNet) to access VaR Online and CCASS during the pre-production preparation period and after official launch.

	Report Access Platform	VaR Online
Domain Name System (DNS)	Preferred DNS: 10.243.1.1 (UDP Port 53); and Alternate DNS[1]: 10.243.65.1 (UDP Port 53)	
IP Address ***(Primary Data Centre)***	10.243.2.51 rapcc.hkexposttrade.com.hk	10.243.2.32 rmcd.hkexposttrade.com.hk 10.243.2.15 sso.hkexposttrade.com.hk 10.243.2.14 idm.hkexposttrade.com.hk
IP Address ***(Secondary Data Centre)***	10.243.66.51 rapcc.hkexposttrade.com.hk	10.243.66.32 rmcd.hkexposttrade.com.hk 10.243.66.15 sso.hkexposttrade.com.hk 10.243.66.14 idm.hkexposttrade.com.hk

Subject to CPs' own setup, when there is a contingency that HKSCC needs to activate its secondary data centre, RAP connection will be interrupted. Once RAP service is resumed, CPs would need to change the IP address for RAP connection via the secondary data centre.

Note: 1. CPs can verify the DNS setup and connectivity to the Alternate DNS according to the Technical Guide

Appendix 10 | Technical Information for RAP and VaR Online - User Setup for RAP Access

Setup RAP User account & connectivity

- ❑ Register for RAP User account by submitting "RAP Registration and Maintenance for HKSCC or HKCC/SEOCH or Share Registrar Form" (eService: TechS 8) via Client Connect, **one User account can apply to 2 workstations[1].**
- ❑ Receive the RAP User account from HKSCC for RAP access.
- ❑ Ensure SFTP client software be adhered to the SFTP standard, refer details to RAP Technical Guide.
- ❑ Login RAP and verify the connectivity during its operating hours, **from 07:00 to 00:00 every business day**.
- ❑ Each RAP account contains 3 main folders covering the VaR Platform related supporting documents. CPs should check if the folders are accessible. For CPs who would like to develop their own tools to conduct margin and stress test calculation/simulation, can subscribe to access the optional "RPF folder" for retrieval of RPF by the form (eService: TechS 8) via Client Connect, *if applicable*.

Reminder

CPs are required to renew their public keys for RAP access ***at least every two years***. Self-service renewal of public key is provided in the "KEY_MANAGEMENT" folder in RAP. For more details regarding public key renewal, please refer to RAP Technical Guide.

All VaR Platform reports and data files will be available via RAP for retrieval for 10 calendar days after generation. CPs should retrieve and save their reports/files in a timely manner.

Note: 1. Each user account should only be sign-on to one of the workstation at a time. CP should sign-out from the current session before signing onto another workstation with the same user account.

Appendix 10 | Technical Information for RAP and VaR Online - User Setup for VaR Online Access

Setup Delegated Administrator (DA) account to access VaR Online

- CPs are required to appoint at least 2 DA users to setup and maintain CPs' designated user for accessing VaR Online, by submitting "VaR Online Delegated Administrator Rights Application / Maintenance Form" (eService: DA 1) via Client Connect.
- Each CP can apply **at most 10 VaR IDs**, including VaR Delegated Administrator (DA) and VaR Business User.
- For any maintenance request for VaR DA, CPs should submit the form (eService: DA 1) via Client Connect; while **VaR DA should setup and manage their own VaR business user via VaR DA Platform.**

Note

CPs should install **Google Chrome version 100.0.4896.88** to access VaR Online to align with the Chrome version to be used in other HKEX systems.

Each CP can apply at most 10 VaR IDs, including VaR Delegated Administrator (DA) and VaR Business User.

Upon official launch, VaR DAs should apply for business user's right via VaR DA Platform separately if needed.

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