

CCMS System Overview

CCMS SYSTEM OVERVIEW

2.1 INTRODUCTION:

CCMS, which stands for "Common Collateral Management System", has three main tasks:

- To keep records of collateral provided by Participants;
- To receive transaction information from the respective clearing systems (CCASS and DCASS) regarding Participant's collateral obligations (e.g. marks, margin, Mainland Settlement Deposit, Mainland Security Deposit, etc.) and ledger posting (e.g. premium, variation adjustments, etc.) requirements;
- To determine the appropriate levels of collateral arising from Participant's obligations and ledger posting requirements, collect any shortfall or release any excess amounts.

CCMS has the following key features:

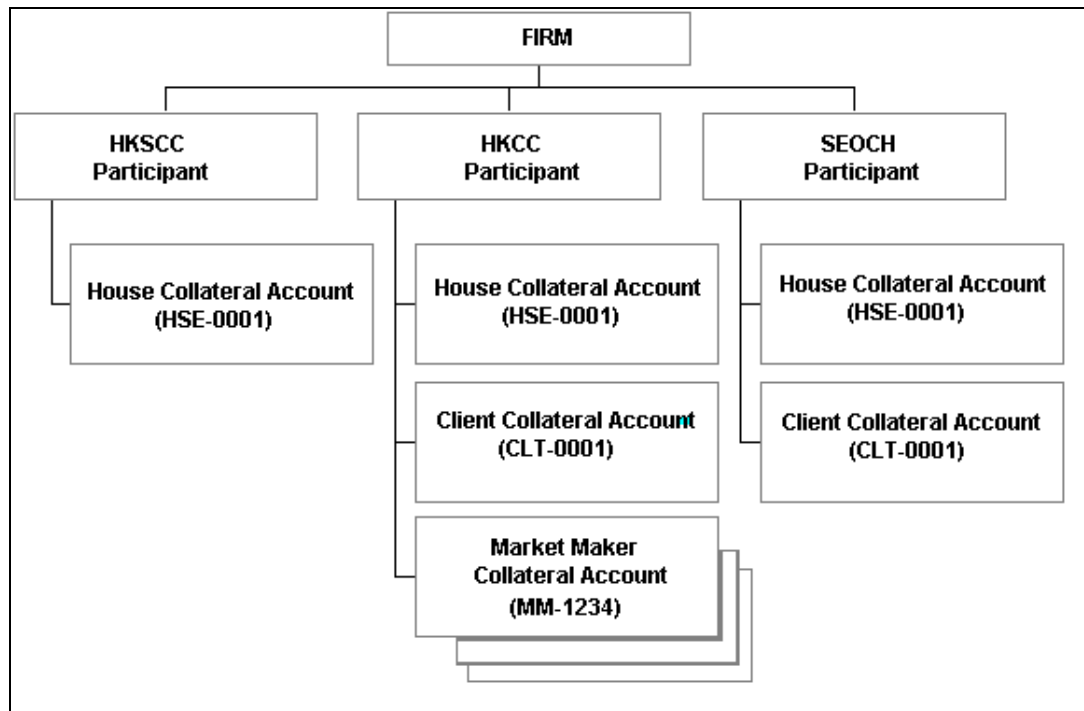
- A single system to manage collateral under HKSCC, HKCC and SEOCH;
- A web browser terminal, providing online input, enquiry and report download via a secure network;
- A "Maker-Checker" mechanism, which allows the transaction to be input by the "Maker", and then authorised by the "Checker", for applicable functions;
- Delegated User Administration, which allows the Participant to maintain the Participant User Profiles according to their preference. This feature shares the same functions of CCASS;
- An automated payment system which generates payment instructions (credit or debit) to support the money settlement process of the three clearing houses.

2.2 COMMON SYSTEM:

Participant Set-up

CCMS has been designed to serve the collateral management needs of HKSCC, HKCC and SEOCH. Moreover, the design allows for Participants with legal relationships to be linked together under a single "Firm". This concept is represented by the below diagram.

Diagram 2.1.1



The diagram shows the three levels structure:

- Firm
- Participant
- Collateral Account

The Firm is at the highest level. A Firm serves as a linkage point in the system for related Participants of the HKSCC, HKCC or SEOCH. The Firm may not be itself a legal entity, however the Participants it links together must be legal entities and they must have a legal relationship with each other. For example, Firm ABC might be used to link three participations: ABC Equities Clearing Ltd (as a Participant of HKSCC and SEOCH) and ABC Futures Clearing Ltd (as a Participant of HKCC). The actual configuration for individual Participants will depend on their clearing house participations and relationships with other Participants.

The Participant is at the second level. This represents the Clearing Participant or Clearing Agency Participant, which must be set up under HKSCC, HKCC or SEOCH. For example, ABC Equities Clearing Ltd might be a Participant of HKSCC and/or SEOCH. ABC Futures Clearing Ltd might be Participant of HKCC. Each clearing house has its specific rules, like interest rate and eligible collateral types, etc.. Participants set up under the same clearing house will be subject to the same set of rules.

The Collateral Account is at the third and lowest level. Transactions and balances are stored at the account level. Possible account types are House, Client and Market Maker; depending on which clearing house the Participant is linked to. HKSCC Participants will only be set up with House Collateral Accounts. For HKCC or SEOCH Participants, collateral accounts will be set-up according to the configuration of the clearing system, DCASS (Derivatives Clearing and Settlement System). In general, there will be one House Collateral Account and one Client Collateral Account. Market Maker Collateral Accounts will be set-up where applicable for HKCC Participants. The actual configuration of the Collateral Accounts will depend on the Participant's Account set-up in DCASS.

Benefits

The ability for Participants of separate clearing houses to be linked together in a single collateral management system will give rise to the following benefits:

- Participants will use the same system for dealing with all three clearing houses in relation to collateral management matters. For those Participants who deal with more than one clearing house, efficiencies will be achieved as the same transaction, enquiry and reporting mechanisms will be used.
- It provides the feasibility to define User Access at the Participant level or Firm level. At Participant level, the user will be able to access the functions of the defined Participant. However at Firm level, the user will be able to make enquiries and download reports for all Participants under the same firm. Firm level user access will be offered when the relevant legal structure and issues are cleared.

2.3 SYSTEM RELATIONSHIPS:

CCMS is linked to two key clearing systems, CCASS (Central Clearing And Settlement System) and DCASS (Derivatives Clearing And Settlement System).

CCASS

CCASS is the clearing system used by HKSCC. Marks and Margin obligations for Hong Kong market as well as Mainland Settlement Deposit and Mainland Security Deposit for China Connect Markets will be passed from CCASS to CCMS. CCMS will evaluate the collateral on-hand, earmarks collateral according to specific rules, and determine if there is any shortfall or excess. The result will be passed to CCASS for further processing.

CCASS is also the central depository in Hong Kong where HKSCC Participants can deposit stocks into CCASS for custody or settlement purposes. HKSCC Participants can transfer stocks from CCASS to CCMS for specific collateral purposes. Stocks in CCMS can also be transferred back to CCASS if they are not earmarked for collateral purposes. Other than specific stock collateral, HKSCC Participants can also deposit specific cash collateral to cover long CNS positions in CCMS. Specific stock collateral and specific cash collateral are not applicable to China Connect Markets.

DCASS

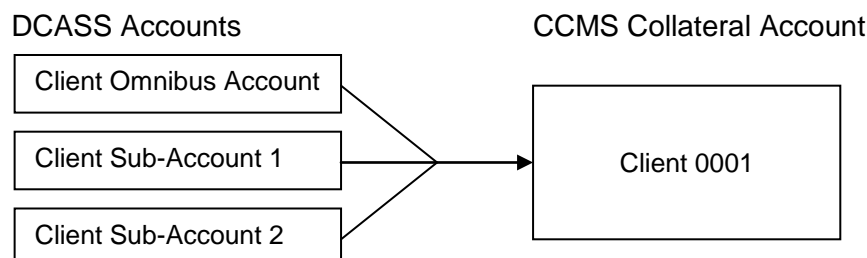
DCASS is the clearing system used by HKCC and SEOCH.

There are basically two categories of transaction movements between DCASS and CCMS: a) all Variation Adjustment, Margin, Premium, Fee and all other applicable information are calculated in DCASS and transmitted to CCMS. CCMS will evaluate the collateral on hand against the obligations, earmark collateral, and cause the required money obligations to be collected/distributed via SWIFT; b) Cover call requests are transmitted from DCASS to CCMS. CCMS will determine if sufficient stock collateral is available, and respond to DCASS accordingly.

As described in previous paragraph, HKCC and SEOCH Participants will maintain different Collateral Accounts in CCMS (for House, Client and Market Maker). The account structure in CCMS is different from that in DCASS (e.g., Participants can maintain sub-accounts in DCASS for individual clients but only one Client Collateral

Account is assigned for each Participant in CCMS). Relationship mapping between the accounts in DCASS and CCMS will be maintained so that information of relevant DCASS accounts will be transmitted to the corresponding accounts in CCMS. CCMS will then use the information to determine the Collateral Movements to be transacted in each of the CCMS Collateral Accounts. The below diagram provides an example of such account mapping:

Diagram 2.3.1



If more than one DCASS Accounts are mapped to a CCMS Collateral Account, the obligations and ledger posting requirements in the Collateral Accounts will be the sum of those received from the mapped Accounts in DCASS.

2.4 KEY CCMS FUNCTIONS:

The below paragraphs provide a high-level description on the key CCMS functions for which Participants will use on a day-to-day basis. Details of each function are described in later sections of the Guide.

Maintenance Functions

CCMS is designed to allow Participants to perform all collateral management transactions online. These transactions are entered via the CCMS maintenance screens.

<u>Section & Function Name</u>	<u>Summary Description</u>
7.1.1 CCASS-To-CCMS Stock Transfer Maintenance	<ul style="list-style-type: none"> - To transfer free CCASS stock from a CCASS stock account to a CCMS collateral account for collateral purpose. - To be used by HKSCC Participants only. - Besides transferring CCASS stocks to its CCMS Collateral Account under the HKSCC Participant, the HKSCC Participant can also transfer its CCASS stocks to the CCMS Collateral Account of (i) its SEOCH Participant which is the same legal entity as the HKSCC Participant or (ii) other SEOCH Participant which appointed such HKSCC Participant to clear and settle exercised options trades on its behalf.

<u>Section & Function Name</u>	<u>Summary Description</u>
7.1.2 CCMS-To-CCASS Stock Transfer Maintenance	<ul style="list-style-type: none"> - To transfer free CCASS stock from a CCMS collateral account to a CCASS stock account. - To be used by HKSCC and SEOCH Participants.
7.1.3 General to Specific Stock Collateral Maintenance	<ul style="list-style-type: none"> - To change the usage of CCASS stock in a CCMS collateral account from general collateral purpose to specific collateral purpose (i.e. to provide the underlying stock of relevant short CNS position as collateral for excluding a part or the whole of the short CNS position in the mark-to-market process). - To be used by HKSCC Participants only.
7.1.4 Specific to General Stock Collateral Maintenance	<ul style="list-style-type: none"> - To change the usage of CCASS stock in a CCMS collateral account from specific collateral purpose to general collateral purpose. - To be used by HKSCC Participants only.
7.1.5 CCMS-To-CCASS Cash Transfer Maintenance	<ul style="list-style-type: none"> - To transfer free cash collateral from a CCMS collateral account to a CCASS money ledger account. - To be used by HKSCC Participants only.
7.1.6 Cash Collateral Deposit Order Maintenance	<ul style="list-style-type: none"> - To submit a request to deposit cash collateral of eligible currencies in a CCMS collateral account. - To be used by HKCC and SEOCH Participants only.
7.1.7 Non-Cash Collateral Deposit Order Maintenance	<ul style="list-style-type: none"> - To submit a request to deposit eligible non-cash collateral other than CCASS Stock in a CCMS collateral account. - To be used by HKCC and SEOCH Participants only.
7.1.8 Cash Collateral Withdrawal Order Maintenance	<ul style="list-style-type: none"> - To submit a request to withdraw cash collateral from a CCMS collateral account. - To be used by HKCC and SEOCH Participants only.
7.1.9 Non-Cash Withdrawal Order Maintenance	<ul style="list-style-type: none"> - To submit a request to withdraw non-cash collateral other than CCASS stock from a CCMS collateral account. - To be used by HKCC and SEOCH Participants only.
7.1.9a Participant Submitted Deposit/ Withdrawal Order Maintenance	<ul style="list-style-type: none"> - To reject authorised cash collateral deposit/ withdrawal order - To be used by HKCC and SEOCH Participants only.
7.1.10 Cash Collateral Account Transfer Instruction Maintenance	<ul style="list-style-type: none"> - To transfer cash collateral between the CCMS collateral accounts of the Participant. - To be used by HKCC and SEOCH Participants only.

<u>Section & Function Name</u>	<u>Summary Description</u>
7.1.11 Non-Cash Collateral Account Transfer Instruction Maintenance	<ul style="list-style-type: none">- To transfer non-cash collateral between the CCMS collateral accounts of the Participant.- To be used by HKCC and SEOCH Participants only.
7.1.12 Specific Cash Collateral Maintenance	<ul style="list-style-type: none">- To maintain specific cash collateral instruction for paying pre-paid settlement monies to HKSCC for covering a specific long CNS stock position executed on a specific date.- To be used by HKSCC Participants only.
7.1.13 Preferred Single Settlement Currency Maintenance	<ul style="list-style-type: none">- To select the preferred single settlement currency for paying marks, margin and concentration collateral shortfall.- To be used by HKSCC Participants only.

Enquiry Functions

Enquiry functions are available for Participants to enquire their account set-up, transaction status, balance, etc..

<u>Section & Function Name</u>	<u>Summary Description</u>
8.1.1 Enquire Broadcast Message	- To enquire details of broadcast messages issued to Participants.
8.1.2 View Circular	- To enquire details of circulars issued to Participants.
8.1.3 Enquire Collateral Account	- To enquire details of CCMS collateral account, such as bank account information of HKCC and SEOCH Participants for payment via SWIFT, standing withdrawal instructions, etc..
8.1.4 Enquire Collateral Account To Transaction Account Relationship	- To enquire the mapping relationship of CCASS or DCASS accounts to the CCMS collateral accounts.
8.2.1 Enquire Deposit / Withdrawal Order	- To enquire the status and details of Deposit or Withdrawal Orders submitted. - To be used by HKCC and SEOCH Participants only.
8.2.2 Enquire Collateral Account Balance	- To enquire the balance of various collateral of a CCMS collateral account.
8.2.3 Enquire Collateral Account Movement	- To enquire the movements (i.e. posted entries) of a CCMS collateral account.
8.2.4 Enquire Collateral Inventory	- To make specific enquiries about individual collateral kept in a CCMS collateral account.
8.2.5 Enquire Collateral Effective Haircut & Valuation Price	- To enquire the valuation parameters applied to Bonds, CCASS stock and Non-CCASS Stock.
8.2.6 Enquire Exchange Rate and Haircut	- To enquire the Exchange Rates and the haircuts applied.
8.2.7 Enquire Interest Calculation Result / Accommodation Fee	- To enquire the interest and accommodation fees.
8.2.8 Enquire Specific Cash Collateral Movement	- To enquire the specific cash collateral movement activities. - To be used by HKSCC Participants only.

Reporting Functions

CCMS provides reports on an ad hoc, daily & monthly basis, depending on the type of report. These are available for Participant to download via the online functions. CCMS reports can be downloaded immediately after they are generated, and they will be kept online for 3 business days, including the current business day.

Detailed description of the report functions is contained in Section 4. Report Specifications are available in Section 5.

<u>Report Name</u>	<u>Summary Description</u>
1. Posting / Collateralisation Result Report	- To list the ledger posting, obligation details, and payment result after each collateralisation and collateral payment collection batch run.
2. Collateral Account Balance Report	- To list the day-end collateral balances in different collateral accounts.
3. Participant Collateral Account Movement Report	- To list the day's collateral movements of each collateral account.
4. Special-Use Collateral Balance Report	- To list the day-end special-use collateral balances of each collateral account.
5. Collateral Parameters Information List	- To list the day-end interest rate and retention rate of each cash collateral currency, exchange rate and haircut rate of each foreign currency, the accommodate rate for non-cash collateral of the clearing house involved, and other applicable collateral parameters and/or rates.
6. Monthly Interest & Accommodation Fee Report – Detail	- To list the interest on cash collateral balances and accommodation fee on non-cash collateral balances used (i.e. earmarked) for the previous month.
7. Cash Collateral Account Transfer Instruction Activity Report	- To list cash collateral account transfer instruction input activities (including add, delete and authorise instructions).
8. Non-Cash Collateral Account Transfer Instruction Activity Report	- To list non-cash collateral account transfer instruction input activities (including add, delete and authorise instructions).
9. Cash Collateral Deposit / Withdrawal Order Activity Report	- To list cash collateral deposit and withdrawal order input activities (including add, delete and authorise instructions).

<u>Report Name</u>	<u>Summary Description</u>
10. Non-Cash Collateral Deposit / Withdrawal Order Activity Report	- To list non-cash collateral deposit and withdrawal order input activities (including add, delete and authorise instructions).
11 Statement of Collateral Account	- To list the balances and movements of collaterals of each collateral account of a business day.
12 Specific Cash Collateral Instruction Activity Report	- To list specific cash collateral deposit instruction activities (including add, delete, authorise and purge instructions).
13 Maintain Preferred Single Settlement Currency Activity Report	- To list preferred single settlement currency maintenance activities (including add, change, delete, authorise and purge instructions).
14 Collateral Security Batch Input Control Report	- To list out the result of Specific Stock Collateral (SSC) batch files processed after each SSC batch validation run.
15 Quarterly Interest Report for Mainland Settlement Deposit and Mainland Security Deposit (Shanghai)	- To list the interest on balances of Mainland Settlement Deposit and Mainland Security Deposit for Shanghai market of the previous quarter.
16 Quarterly Interest Report for Mainland Settlement Deposit and Mainland Security Deposit (Shenzhen)	- To list the interest on balances of Mainland Settlement Deposit and Mainland Security Deposit for Shenzhen market of the previous quarter.