

CCASS OPERATIONAL PROCEDURES

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Definitions

- (b) When used in the Operational Procedures, the following expressions shall have the following meanings unless the context otherwise requires:

"General Collateral Inventory"

means the inventory of cash, Collateral Securities and other Non-cash Collateral in a CCMS Collateral Account that, in the opinion of HKSCC, can be treated as, or be used as cover or to secure against Ear-marked Value;

"Non-cash Collateral"

means collateral not in the form of cash, including Collateral Securities, that is accepted by HKSCC for credit to the CCMS House Collateral Account of a Participant to cover the Marks, Margin, Collateral and other obligations (actual and contingent) of the Participant due to HKSCC under the CNS System;

"Uncovered Allocated Positions"

means, in relation to a Market Contract, long stock positions under the CNS System of a Clearing Participant or a Clearing Agency Participant to which Eligible Securities have been allocated but monies payment obligations arising therefrom remain outstanding and are not covered in full by cash prepayment;

Section 2

Participants

2.3 STOCK ACCOUNTS AND CCMS COLLATERAL ACCOUNTS

2.3.12 CCMS Collateral Accounts

Participants will not be allowed to use or withdraw the Collateral Securities credited to the CCMS Collateral Account of a Participant except as permitted by HKSCC (see Section 10.15).

Under the Rules, HKSCC may sell or apply the Charged Property of a Participant without further reference to the Participant and the only obligation of HKSCC to such Participant in respect of the Charged Property shall be to pay such Participant an amount equal to the balance remaining after satisfaction of all obligations and liabilities (actual or contingent) of such Participant to HKSCC and/or to return to such Participant the balance of the Charged Property remaining after satisfaction of the said obligations and liabilities (actual or contingent).

The operation of the CCMS House Collateral Account and other CCMS Collateral Accounts, including but not limited to the credit or debit entries made thereto, shall be in accordance with the Rules.

Section 10

Exchange Trades – CNS System

10.10 RISK MANAGEMENT : MARKS

10.10.1 General

Mark-to-market of a CNS stock position involves the evaluation of the risk exposure of a Clearing Participant to HKSCC relating to the CNS stock position by reference to the extent to which the Mark-to-market value of the CNS stock position has moved against the value originally agreed in respect of such CNS stock position.

Under the Rules, HKSCC has the right to collect Marks from Clearing Participants in respect of all CNS stock positions, whether or not due for settlement and whether or not such CNS stock positions may be subsequently amended or excluded or not accepted for settlement under the CNS System in accordance with the Rules.

Marks will normally be collected in the form of cash. HKSCC may in exceptional cases collect Marks in the form of Collateral Securities acceptable to it.

This Section 10.10 describes the extent to and the manner in which Marks from Clearing Participants will be collected and redelivered by HKSCC.

The provisions of this Section 10.10 shall also be applicable, in so far as they are relevant to risk management measures detailed in Section 12.2.9(i), in respect of Clearing Agency Transactions.

10.10.8A Marks on Uncovered Allocated Positions

Sections 10.10.8A and 10.10.8B apply to the calculation and collection of intra-day Marks. Currently, intra-day Marks are calculated by HKSCC at 11:00 a.m. on each Business Day in respect of overdue CNS stock positions and pending CNS stock positions of a Clearing Participant. HKSCC may be exposed to market risks in respect of Eligible Securities allocated to a Clearing Participant because payment of the relevant DDIs will not be confirmed until the

end of the day on which the Eligible Securities are allocated to the Clearing Participant, unless the corresponding money obligations are covered by cash prepayment or the relevant Margin amount or the relevant amount of Specific Cash Collateral referred to Section 10.12.4A. To control such risk exposure, HKSCC will collect intra-day Marks on the Uncovered Allocated Positions of a Clearing Participant in the manner set out below.

The following principles, with reference to Marks calculated and denominated in each Eligible Currency, will generally be applied by HKSCC:

- (i) Favourable Marks and Unfavourable Marks on allocated positions will be calculated and offset against one another to arrive at the Net Favourable Marks or Net Unfavourable Marks on the total allocated positions in that Eligible Currency;
- (ii) the Net Favourable Marks or Net Unfavourable Marks on Uncovered Allocated Positions will be computed according to the formula below:

Net Favourable Marks or Net Unfavourable Marks on the total allocated positions	X	Net Settlement amount due to HKSCC not covered by cash prepayment or the relevant Margin amount or the relevant amount of Specific Cash Collateral referred to in Section 10.12.4A		Total CNS money positions of all the allocated positions
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; and

- (iii) the Net Unfavourable Marks on Uncovered Allocated Positions will offset against the Net Favourable Marks on overdue CNS stock positions, whereas the Net Favourable Marks on Uncovered Allocated Positions will offset against the Net Unfavourable Marks on overdue CNS stock positions. This will arrive at the Net Favourable Marks or Net Unfavourable Marks on overdue CNS stock positions and Uncovered Allocated Positions in an Eligible Currency, as referred to in Section 10.10.5.

10.10A RISK MANAGEMENT: MARGIN

10.10A.1 General

The computation of Margin on a CNS stock position involves the estimation of the risk exposure of a Clearing Participant to HKSCC relating to the CNS stock position by reference to the estimated future market movement against the Mark-to-market value of such CNS stock position.

Under the Rules, HKSCC has the right to collect Margin from Clearing Participants in respect of all CNS stock positions, whether or not due for settlement and whether or not such CNS stock positions may be subsequently amended or excluded or not accepted for settlement under the CNS System in accordance with the Rules.

Margin will normally be collected in the form of cash. HKSCC may in exceptional cases collect Margin in the form of Collateral Securities acceptable to it.

This Section 10.10A describes the extent to and the manner in which Margin from Clearing Participants will be collected and redelivered by HKSCC.

The provisions of this Section 10.10A shall also be applicable, in so far as they are relevant to risk management measures detailed in Section 12.2.9(i), in respect of Clearing Agency Transactions.

10.11 RISK MANAGEMENT: COLLATERAL

10.11.2 Form of Collateral

Normally, HKSCC will require Clearing Participants to provide Collateral in the form of cash or Collateral Securities, subject to the Rules.

10.12 RISK MANAGEMENT: SECURITIES-ON-HOLD

10.12.3 [Repealed]

10.12.6 Example (Quantity of Eligible Securities which cannot be used)

On a Settlement Day, Participant A was allocated 4,000 of Stock X (denominated in HKD) and 3,000 of Stock Y (denominated in HKD) and has HK\$80,000 due to HKSCC. Participant A has provided to HKSCC cash prepayment of HK\$30,000. The prevailing Mark-to-market price for Stock X is HK\$10 and for Stock Y is HK\$20.

Then:

- (i) Mark-to-market value of Eligible Securities allocated to Participant A
 - = HK\$10 X 4,000 (stock X) + HK\$20 X 3,000 (stock Y)
 - = HK\$100,000
- (ii) Discounted market value of such allocated Eligible Securities
 - = HK\$100,000 X (1 - 0.1)
 - = HK\$90,000
- (iii) Discounted market value of allocated Eligible Securities which could be withdrawn
 - = Discounted market value of allocated Eligible Securities - Amount due to HKSCC not covered by cash prepayment
 - = HK\$90,000 - (HK\$80,000 - HK\$30,000)
 - = HK\$40,000

Participant A will be allowed by HKSCC to use allocated Eligible Securities with a total discounted market value of not more than HK\$40,000.

Participant A can therefore use no more than either : -

- (i) 4,444 of Stock X (derived from $\text{HK\$40,000} \div \text{HK\$10} \div (1-0.1)$); or
- (ii) 2,222 of Stock Y (derived from $\text{HK\$40,000} \div \text{HK\$20} \div (1-0.1)$); or
- (iii) a combination of Stock X and Stock Y so long as their total discounted market value does not exceed HK\$40,000.

The amount of Stock X and Stock Y which must be retained in the Stock Clearing Account of Participant A will be treated by HKSCC as Securities-on-hold.

10.14 RISK MANAGEMENT: CLOSING-OUT

10.14.4 Default by Clearing Participants

On the occurrence of an Event of Default against a Clearing Participant, HKSCC may declare the Clearing Participant a defaulter and if so, will effect Closing-out in respect of all of the unsettled obligations of the Clearing Participant under the CNS System.

If, as a result of Closing-out, the Clearing Participant owes money to HKSCC, HKSCC will apply the Marks, Margin, Collateral and Charged Property provided by the Clearing Participant (as well as all other assets and property which may be applied by HKSCC for such purpose) towards such indebtedness.

If a Clearing Participant which is an Exchange Participant is declared a defaulter, HKSCC will notify the Exchange forthwith and request the Exchange to suspend the Clearing Participant from trading. HKSCC will also request the Exchange to suspend from trading any of the NCPs of the GCP which does not have in place immediately upon suspension of the GCP a valid, binding and effective Clearing Agreement with another GCP. If a Clearing Participant is not an Exchange Participant is declared a defaulter, HKSCC will request the Exchange to suspend from trading any of the NCPs of the GCP which does not have in place immediately upon suspension of the GCP a valid, binding and effective Clearing Agreement with another GCP.

A Clearing Participant declared a defaulter will also be suspended from further activities in CCASS.

10.15 RISK MANAGEMENT: CASH AND COLLATERAL SECURITIES

10.15.1 Cash

Cash in Hong Kong dollar and other currencies recorded as credit entries in any CCMS Collateral Account of the Participant are amounts paid by the Participant to HKSCC. The only obligation of HKSCC to the Participant in respect of such amounts shall be to pay the Participant an amount equal to the balance remaining after satisfaction of all obligations and liabilities (actual or contingent) of such Participant to HKSCC.

Security

HKSCC shall have a first fixed charge over:-

- (a) the Collateral Securities from time to time credited to any CCMS Collateral Account of the Participant; and
- (b) the Derived Assets

by way of a continuing security (i) for the discharge and satisfaction of any Marks, Margin and Collateral obligations of such Participant, (ii) for the discharge and satisfaction of all other obligations and liabilities (actual or contingent) of such Participant to HKSCC arising directly in connection with HKSCC ensuring the settlement of Market Contracts to which such Participant is a party, (iii) for the discharge and satisfaction of all liabilities (actual or contingent) of such Participant to HKSCC arising from a loss or defects affecting Eligible Securities pursuant to Rule 812, Rule 813, Rule 814 and Rule 815, and (iv) for the discharge and satisfaction of all other obligations (actual or contingent) of such Participant to HKSCC. Each of the charges created over the assets specified in (a) and (b) and in respect of the Participant's obligations in (i), (ii), (iii) and (iv) above shall form a separate security.

Such Collateral Securities and the Derived Assets shall also be a continuing security for HKSCC's waiver of computation of Marks and reduction of Margining Position for computation of Margin required from such Participant.

The provisions of this Section 10.15 shall also be applicable, in so far as they are relevant, to the risk management measures in respect of Clearing Agency Transactions.

10.15.3 Collateralization process

The purpose of the collateralization process is to determine the aggregate amount or value of cash recorded in, and of Collateral Securities credited to, the CCMS House Collateral Account of a Clearing Participant acceptable to HKSCC from time to time for the purpose of discharging the Clearing Participant's Marks, Margin and/or Collateral obligations, and other obligations (actual or contingent).

Unless HKSCC otherwise determines, HKSCC may accept Non-cash Collaterals to secure Marks, Margin, Collateral and other obligations of a Clearing Participant up to the amount calculated by the Non-cash Collateral Cap.

The Marks, Margin, Collateral and other obligations of a Clearing Participant on a Business Day will be collateralized against the General Collateral Inventory in the CCMS House Collateral Account of the Clearing Participant in the following order, or in such order as HKSCC considers appropriate:

- (i) Non-cash Collateral up to the amount calculated by the Non-cash Collateral Cap;
- (ii) cash in the currency in which the Marks, Margin, Collateral and other obligations (actual or contingent) is calculated and denominated; and
- (iii) cash in other currencies.

The following is a brief description of the collateralization process:

- (a) The Marks, Margin, Collateral and other obligations of the Clearing Participant will first be collateralized against the value (or Discounted Market Value, if applicable) of the Non-cash Collateral, namely the Discounted Market Value of Collateral Securities, up to the amount calculated by the Non-cash Collateral Cap. Such collateralized value of the Non-cash Collateral, up to but not exceeding the amount calculated by the Non-cash Collateral Cap, will be shown as the non-cash Ear-marked Value in the CCMS House Collateral Account of the Clearing Participant;
- (b) Any amount of the Marks, Margin, Collateral and other obligations of the Clearing Participant in excess of such non-cash Ear-marked Value will be collateralized against cash in the same currency in which the Marks, Margin, Collateral and other obligations is calculated and denominated. Unless otherwise specified by HKSCC and subject to Sections 10.10, 10.10A and 10.11, such collateralized amount of cash shall be paid out of the General Collateral Inventory in the CCMS House Collateral Account, and will be re-categorised and treated as Contract Currency Collateral;
- (c) Any remaining amount of Marks, Margin, Collateral and other obligations will then be collateralized against the Discounted Market Value of cash in other currencies. For this purpose, if the remaining amount of Marks, Margin, Collateral and other obligation is denominated in currencies other than Hong Kong dollar, it will be converted to Hong Kong dollar equivalent at such exchange rate and subject to such haircut rate as determined by HKSCC from time to time. The collateralized amount will be shown as cash Ear-marked Value in the CCMS House Collateral Account; and

10.15.4 Example (Marks, Margin and Collateral covered by Non-cash Collateral)

On a given trade day, the Marks, Concentration Collateral and Margin obligations of Participant A are HK\$10,000,000, HK\$2,000,000 and HK\$6,000,000 respectively. Prevailing Non-cash Collateral Cap is 40%.

Suppose at the time of collateralization, the total Discounted Market Value of the Collateral Securities in the General Collateral Inventory of the CCMS House Collateral Account of Participant A is HK\$8,000,000.

Maximum Marks, Concentration Collateral and Margin amount that can be covered by Collateral Securities

$$\begin{aligned} &= \text{Marks, Concentration Collateral and Margin obligation} \times \text{Non-cash Collateral Cap} \\ &= (\text{HK\$}10,000,000 + \text{HK\$}2,000,000 + \text{HK\$}6,000,000) \times 40\% \\ &= \text{HK\$}7,200,000 \end{aligned}$$

Note: The actual Marks, Concentration Collateral and Margin amount that will be covered by Collateral Securities is also HK\$7,200,000 because the total Discounted Market Value of the Collateral Securities available at the time of collateralization is more than this figure. The Ear-marked Value of Participant A is HK\$7,200,000.

$$\begin{aligned} &\text{Marks, Concentration Collateral and Margin requirement amount that must be paid in cash} \\ &= (\text{HK\$}10,000,000 + \text{HK\$}2,000,000 + \text{HK\$}6,000,000) - \text{HK\$}7,200,000 \\ &= \text{HK\$}10,800,000 \end{aligned}$$

10.15.6 Application of moneys

Without prejudice to HKSCC's rights in Rule 3702, upon any failure by a Clearing Participant to perform its obligations to HKSCC under the CNS System or when HKSCC otherwise deems it necessary for its own protection;

- (i) HKSCC may sell or apply the Charged Property of the Clearing Participant without further reference to the Participant and the provisions of Rule 3702 shall apply equally to such sale. Following such sale or application, the only obligation of HKSCC to such Participant in respect of its Charged Property shall be to pay such Participant an amount equal to the balance and/or to return to such Participant the balance of the Charged Property remaining after satisfaction of all obligations and liabilities (actual or contingent) of such Participant to HKSCC;
- (ii) Derived Assets credited to the Entitlement Account may not be transferred from such Account without the express consent of HKSCC and may be transferred to the Clearing Participant's CCMS Collateral Account by HKSCC; and
- (iii) all dividends, interests and other distributions in respect of the Charged Property not forming part of the Derived Assets may be retained and used by HKSCC.

All moneys arising from the exercise of the powers of sale in Rule 3608 and Rule 3702 shall be held and applied in or towards the payment or discharge of the Clearing Participant's obligations and liabilities (actual or contingent) under the Rules (but without prejudice to the right of HKSCC to recover any shortfall from the Clearing Participant).

SECTION 12

Non-Exchange Trades – SI Transactions, Clearing Agency Transactions, ISI Transactions and Transfer Instructions

12.2 CLEARING AGENCY TRANSACTIONS

12.2.9 Risk Management

- (ii) Collateral

HKSCC monitors its risk exposure to Participants on a continuous basis. From time to time, circumstances peculiar to a particular Participant may warrant HKSCC taking additional risk management measures against it.

In appropriate cases, HKSCC will require a Participant to provide it with Collateral in the form of cash or Collateral Securities, subject to the Rules.

The amount of Collateral other than Concentration Collateral required to be provided by a Participant will be decided by HKSCC, taking into account HKSCC's exposure posed by that Participant.

(For further details, reference should also be made to Section 10.11 which shall also apply to Clearing Agency Transactions settled under the CNS System.)

(iii) Securities-on-hold

The quantity of Eligible Securities allocated to the Stock Clearing Account of a Clearing Participant or Clearing Agency Participant which is a party to a Clearing Agency Transaction under the CNS System on a Settlement Day, which will not be permitted to be used or withdrawn by the Participant will depend on the amount to be paid by the Participant to HKSCC under the CNS System on such Settlement Day.

If a Clearing Participant or Clearing Agency Participant which is a party to a Clearing Agency Transaction wishes to make use of any of such Eligible Securities allocated to its Stock Clearing Account before payment of the amount due to HKSCC is confirmed good and irrevocable, HKSCC may permit such use of any such Eligible Securities provided the value of such allocated Eligible Securities which will remain in the Stock Clearing Account of the Clearing Participant or Clearing Agency Participant which is a party to a Clearing Agency Transaction (determined by using the Mark-to-market values of the relevant Eligible Securities at the time), discounted by a percentage to be decided by HKSCC (normally, ten per cent), shall not be less than the total amount due to HKSCC from such Clearing Participant or Clearing Agency Participant which is a party to a Clearing Agency Transaction.

When payment of the amount owed to HKSCC is confirmed good and irrevocable, all Eligible Securities allocated under the CNS System to the Stock Clearing Account of a Clearing Participant or Clearing Agency Participant which is a party to a Clearing Agency Transaction will become freely available for use by the Participant.

For Clearing Participants and Clearing Agency Participants which are parties to Clearing Agency Transactions that have outstanding payment obligations to HKSCC, but wish to utilize any or all of the Securities-on-hold covering such outstanding payment obligations for any purpose, including to settle SI Transactions and Isolated Trades during the Settlement Day, they may make payment through same day available funds to HKSCC to reduce or satisfy their monetary payment obligations. As such, the equivalent discounted market value of Securities-on-hold will be released for settlement.

(For further details reference should also be made to Section 10.12, which shall also apply to Clearing Agency Transactions settled under the CNS System.)

Section 18

Guarantee Fund

18.3 FORM OF CONTRIBUTIONS

The minimum cash Basic Contribution of a Clearing Participant will be collected by way of a DDI as part of the CCASS money settlement process.

Any further amount required of a Clearing Participant as its Basic Contribution (i.e. in excess of the minimum cash Basic Contribution required) and any amount required of a Clearing Participant as its Dynamic Contribution may be provided in cash in Hong Kong dollars or in any other currency prescribed by HKSCC from time to time. Any required replenishment of the Basic Contribution and Dynamic Contribution of a Clearing Participant must be made in cash.

Interest on or other sums accruing to the minimum cash Basic Contribution will be appropriated by HKSCC to the Guarantee Fund. Interest at negative rates on such cash Basic Contribution will also be charged to and paid out of the Guarantee Fund.

Interest on or other sums accruing to Contributions which are made in cash and are in excess of the minimum cash Basic Contribution may be paid to the appropriate Clearing Participant as determined by HKSCC. Interest at negative rates on such cash Contributions in excess of the minimum cash Basic Contribution may be charged to the appropriate Clearing Participant as determined by HKSCC.

18.4 REVIEW OF CONTRIBUTIONS

18.4.3 Collection and redelivery of Contributions following reviews

HKSCC will notify Clearing Participants of any additional amounts required from Clearing Participants as Basic Contributions and Dynamic Contributions as a result of a review described in Section 18.4.1 and Section 18.4.2.

Similarly, following such a review, should a Clearing Participant's required Basic Contribution be less than its existing Basic Contribution, HKSCC may (but it is not obliged to) redeliver to the Clearing Participant, by means of DCIs (see Section 14), an amount that is the lesser of :

- (i) the surplus of the Clearing Participant's existing Basic Contribution over its required Basic Contribution; and
- (ii) the surplus of the Clearing Participant's Basic Contribution in cash over its minimum cash Basic Contribution.

In addition, should a Clearing Participant's required Dynamic Contribution be less than its existing Dynamic Contribution and the surplus of the existing Dynamic Contribution over its required Dynamic Contribution is in the form of cash, HKSCC may (but is not obliged to) redeliver to the Clearing Participant, by means of DCIs, an amount that is the cash surplus.

For the avoidance of doubt, HKSCC shall have the absolute right to withhold the redelivery of any surplus Basic Contribution and/or surplus Dynamic Contribution to a Clearing Participant for such period as HKSCC may from time to time consider appropriate.

SECTION 19

Financial and Accounting Requirements

19.1 FINANCIAL REQUIREMENTS

19.1.2 Financial commitments of Participants in CCASS

In summary, the main financial commitments of a Participant as a result of its participation in CCASS will include :

- (i) payment of admission fee to HKSCC at the time of admission;
- (ii) the provision of assurances (e.g. insurance) in respect of its obligations to HKSCC in CCASS, which may be required by HKSCC at the time of admission or thereafter from time to time;
- (iii) responsibility for defective Eligible Securities deposited into CCASS;

19.1.3 Additional financial commitments of Clearing Participants in CCASS

In addition to the financial commitments referred to in Section 19.1.2, a Clearing Participant will, in summary, also have the following financial commitments as a result of its participation in CCASS :

- (i) the provision of its Basic Contribution and Dynamic Contribution to HKSCC for the account of the Guarantee Fund;
- (ii) the replenishment of its Basic Contribution and Dynamic Contribution as a result of any application of the Guarantee Fund, and the provision of additional amounts as Contributions in respect of pending applications thereof;
- (iii) arranging for indemnity insurance in respect of its liabilities to HKSCC, the Exchange, and a recognized exchange controller which is the controller of HKSCC for defective Eligible Securities deposited into CCASS;
- (iv) [Repealed]
- (v) compliance with the risk management measures of HKSCC under the CNS System such as the provision of Marks, Margin and Collateral, as may be required by HKSCC from time to time; and