

Chapter 4

Reserve Fund Contribution

Pursuant to HKCC Rules, each HKCC Participant is required to contribute to the Reserve Fund in the form of an HKCC Participant's Deposit by cash in Hong Kong dollars or in any other currency prescribed by the Clearing House from time to time upon its HKCC Participantship application being approved. The HKCC Participant's Deposit required from each Clearing Participant is HK\$1.5 million while that required from each General Clearing Participant is HK\$7.5 million.

Pursuant to HKCC Rules, each HKCC Participant is also required to pay by way of HKCC Participant Additional Deposits such amounts as the Clearing House may from time to time determine to be necessary in response to market fluctuations and increased risk exposures. For the purpose of determining the HKCC Participant Additional Deposit or any other amount payable by an HKCC Participant in respect of the Reserve Fund, positions of the HKCC Participant arising from the T+1 Session on a Trading Day will be incorporated in the determination on the next Trading Day, unless otherwise determined by the Clearing House.

4.1 HKCC Participant Additional Deposits

Subject to Rule 707B, on the first Trading Day which is also a Business Day of every month, the Clearing House will assess the adequacy of the Reserve Fund to cover the maximum daily risk exposure of the Reserve Fund during the most recent 60 Trading Days and will determine whether any HKCC Participant Additional Deposits would be required from HKCC Participants, taking into consideration the risk exposure of the Reserve Fund, the Reserve Fund Threshold and the prevailing market conditions.

As part of such monthly assessment of the adequacy of the Reserve Fund, HKCC Participant Additional Deposits will be recalculated and demanded such that the sum of (i) the existing aggregate value of the Reserve Fund after the injection of the HKCC Participant Additional Deposits and resources which may be appropriated by the Clearing House as contributions to the Reserve Fund; and (ii) the aggregate HKCC Participant Additional Deposits Credit utilized by all the HKCC Participants, will cover 115% of the risk exposures of the Reserve Fund throughout the most recent 60 Trading Days. If the sum determined above is higher than the Reserve Fund Threshold, it shall be reduced to an amount equal to the Reserve Fund Threshold.

The total HKCC Participant Additional Deposits required and the resources which may be appropriated by the Clearing House as contributions to the Reserve Fund can be obtained using the following formulae:

If 115% of *MEX* is lower than *MIN*:

$$CHA = 10\% \times (BEF \div 90\%)$$

$$HPAD = 0$$

If 115% of *MEX* is higher than or equal to *MIN* but lower than the Reserve Fund Threshold:

$$CHA = 10\% \times (MEX \times 115\%)$$

$$HPAD = (MEX \times 115\% - BEF - CHA)$$

If 115% of *MEX* is higher than the Reserve Fund Threshold:

$$CHA = 10\% \text{ of Reserve Fund Threshold}$$

$$HPAD = \text{Reserve Fund Threshold} - BEF - CHA$$

where:

MEX denotes the maximum daily risk exposure of the Reserve Fund during the most recent 60 Trading Days;

MIN denotes the minimum size of the Reserve Fund (i.e. the basic elements of the Reserve Fund and the resources which may be appropriated by the Clearing House as contributions to the Reserve Fund), which should amount to $BEF \div 90\%$;

BEF denotes the basic elements of the Reserve Fund (i.e. the existing aggregate value of the Reserve Fund less the total HKCC Participant Additional Deposits and resources which may be appropriated by the Clearing House as contributions to the Reserved Fund);

HPAD denotes the total HKCC Participant Additional Deposits required; and

CHA denotes the resources which may be appropriated by the Clearing House as contributions to the Reserve Fund, which should amount to 10% or such other percentage of the Reserve Fund size as the Clearing House may determine from time to time, in which case the percentage in the formulae above shall be adjusted accordingly.

Aside from the demands made under regular monthly assessments, subject to Rule 707B, HKCC Participant Additional Deposits will be recalculated and demanded in accordance with the abovementioned formula if

- (a) the daily risk exposure of the Reserve Fund as calculated on each Trading Day exceeds 90% of; and
- (b) Reserve Fund Threshold is higher than

the sum of (i) the existing aggregate value of the Reserve Fund (i.e. the basic elements of the Reserve Fund plus the total HKCC Participant Additional Deposits and the resources which may be appropriated by the Clearing House as contributions to the Reserve Fund); and (ii) the aggregate HKCC Participant Additional Deposits Credit utilized by all the HKCC Participants, provided that the Chairman may, at his sole discretion, waive the demand of HKCC Participant Additional Deposits where the current risk exposure of the Reserve Fund does not exceed the sum of (i) the existing aggregate value of the Reserve Fund; and (ii) the aggregate HKCC Participant Additional Deposits Credit utilized by all the HKCC Participants by more than 15%.

In respect of the recalculation of HKCC Participant Additional Deposits and notwithstanding the above, if the relevant Trading Day (i.e. day of calculation of the daily risk exposure of the Reserve Fund) falls on a day which is not a Business Day, the Clearing House shall recalculate for HKCC Participant Additional Deposits in accordance with the abovementioned formula on the first Trading Day which is also a Business Day.

Notwithstanding the above or any other provisions of these HKCC Rules, the Clearing House may assess the adequacy of the Reserve Fund and recalculate the requirements for HKCC Participant Additional Deposits based on the abovementioned formula or on such other basis as the Clearing House may consider appropriate at its absolute discretion from time to time and following the Capped Liability Period pursuant to Rule 707B, the Clearing House may further at its absolute discretion determine the appropriate aggregate value of the Reserve Fund for the purpose of calculating any HKCC Participant Additional Deposits required and in each of the aforementioned circumstances, HKCC Participants shall pay to the Clearing House such HKCC Participant Additional Deposits as may from time to time be demanded by the Clearing House.

4.2 Calculation Methodology for each HKCC Participant's contribution to HKCC Participant Additional Deposits

After each assessment of the requirements for HKCC Participant Additional Deposits as stipulated in section 4.1 or if the Clearing House otherwise determines that HKCC Participant Additional Deposits shall be recalculated or further required from HKCC Participants, the Clearing House will calculate each HKCC Participant's contribution requirement based on each HKCC Participant's daily average risk exposure as follows and each HKCC Participant's share of the total Reserve Fund Deposits shall be proportionate to its relative weighting calculated under section 4.2.4:

- 4.2.1 The risk exposure of each HKCC Participant will be measured based on its total net margin liabilities. The net margin liabilities of each account shall be the sum of the net margin requirements for each Market in that account. For this purpose, net margin liabilities include Clearing House margin but exclude additional margin.

For comparison purpose, the net margin liabilities of all contracts will be measured in Hong Kong dollars or the equivalent based on the exchange rate determined by the Clearing House for each type of currency. The net margin liabilities of each of the Client, House, Sink and Market Maker account will be computed separately. The total net margin liabilities for each HKCC Participant shall be the sum of the net margin liabilities of each account. For the purpose of calculating the net margin liabilities of an HKCC Participant's Client accounts for each Market, positions in each Individual Client Account will be aggregated with positions in its Omnibus Client Account and Client Offset Claim Account for that Market and margined together on a net basis, and positions of an HKCC Participant's Sink Account in the same Market will be margined together on a net basis to determine the net margin liabilities of its Sink Account for each Market.

- 4.2.2 The Clearing House will calculate the daily average total net margin liabilities for each HKCC Participant during the most recent 60 Trading Days as follows:

Daily average total net margin liabilities of an HKCC Participant

$$= \frac{\sum \text{Total net margin liabilities for the HKCC Participant on } j^{\text{th}} \text{ day}}{60}$$

where $j = 1, 2, 3, \dots, 59, 60$

- 4.2.3 The daily average market total net margin liabilities will then be calculated as follows:

Daily average market total net margin liabilities

$$= \sum \text{Daily average total net margin liabilities for each HKCC Participant}$$

- 4.2.4 The relative weighting of each HKCC Participant's daily average total net margin liabilities as compared to the daily average market total net margin liabilities is then used to calculate the contribution from the HKCC Participant based on the following formula, rounded up to the nearest dollar:

Calculated contribution from each HKCC Participant

$$= \frac{\text{Daily average total net margin liabilities for the HKCC Participant}}{\text{Daily average market total net margin liabilities}} \times \frac{\text{Total HKCC Participant Additional Deposits}}{\text{Participant Additional Deposits}}$$

4.2.4A The calculated contribution of each HKCC Participant, determined as above, will be compared with the HKCC Participant Additional Deposits Credit allowed to each HKCC Participant to determine the HKCC Participant Additional Deposits required from each HKCC Participant in the following manner:

- (a) If the calculated contribution is equal to the HKCC Participant Additional Deposits Credit, no HKCC Participant Additional Deposits will be required and the HKCC Participant Additional Deposits Credit will be treated as fully utilized by the HKCC Participant.
- (b) If the calculated contribution exceeds the HKCC Participant Additional Deposits Credit, the excess amount will be the HKCC Participant Additional Deposits required and the HKCC Participant Additional Deposits Credit will be treated as fully utilized by the HKCC Participant.
- (c) If the calculated contribution is less than the HKCC Participant Additional Deposits Credit, no HKCC Participant Additional Deposits will be required and the amount of HKCC Participant Additional Deposits Credit will be treated as utilized by the HKCC Participant by an amount equal to the calculated contribution.

4.2.5 Each HKCC Participant's required contribution as calculated under section 4.2.4 will be compared with its existing contribution amount. In determining its existing contribution amount, any HKCC Participant Additional Deposit that has been applied preceding the calculation day shall be taken into account. HKCC Participants with increased contribution requirements will be required to pay any deficit to the Clearing House. HKCC Participants with decreased contribution requirements will be refunded any surplus contribution in accordance with section 4.4.

Notwithstanding the above, each HKCC Participant must maintain at least its HKCC Participant's Deposit (i.e. HK\$1.5 million for Clearing Participants and HK\$7.5 million for General Clearing Participants) with the Clearing House.

4.2.6 Since the HKCC Participant's Deposit for General Clearing Participants is HK\$6 million higher than that for Clearing Participants, this HK\$6 million will be taken into account in the calculation of a General Clearing Participant's contributions and a contribution will only be collected if its requirement for HKCC Participant Additional Deposit exceeds HK\$6 million.

4.2.7 For the purpose of calculation under this section, the HKCC Participant Additional Deposit of any HKCC Participant which has been declared as a Defaulter or whose HKCC Participants have been effectively terminated or revoked on or preceding the calculation day shall be excluded.

4.3 (deleted)

4.4 Release of HKCC Participant Additional Deposits

If, after each assessment of the requirements for HKCC Participant Additional Deposits as stipulated in section 4.1 or if the Clearing House otherwise determines that HKCC Participant Additional Deposits shall be recalculated, the existing resources in the Reserve Fund are determined to be sufficient, and if the total amount of HKCC Participant Additional Deposits calculated according to the formula stipulated in section 4.1 is less than the existing total HKCC Participant Additional Deposits, the Clearing House will refund to HKCC Participants any surplus contribution in accordance with the calculation methodology set forth in section 4.2 above, subject to their HKCC Participants' Deposits being maintained and subject to the right of the Clearing House to withhold the release of any such surplus for such period as it in its absolute discretion considers appropriate.

In the event HKCC Participant Additional Deposits collected from HKCC Participants have been applied towards any payment in accordance with HKCC Rule 706 after the determination of any surplus contributions, the amount of HKCC Participant Additional Deposits which can be refunded to HKCC Participants will be reduced by an equivalent amount.

No release of HKCC Participants Additional Deposits will be made on a Trading Day which is not a Business Day.

4.4A Settlement Time for HKCC Participants

In the event HKCC Participant Additional Deposits are recalculated by the Clearing House pursuant to section 4.1 on any Trading Day, a clearing report showing the amount payable or that may be released will be distributed to each HKCC Participant on the same Trading Day. Any HKCC Participant Additional Deposit payable by an HKCC Participant will be debited from its House CCMS Collateral Account via the Direct Margin Debiting System

(DMDS) by 4:00 p.m. on the first Trading Day which is also a Business Day, unless otherwise specified by the Clearing House, after the distribution of the clearing report. HKCC Participants shall ensure that sufficient funds are available in their DMDS House accounts to meet any HKCC Participant Additional Deposit payable by them as demanded in their clearing reports. Any surplus HKCC Participant Additional Deposit will be credited to its House CCMS Collateral Account via the DMDS on the same day. For the avoidance of doubt, any HKCC Participant Additional Deposit settled via the DMDS shall be in Hong Kong dollars or in any other currency prescribed by the Clearing House from time to time.

4.4B Settlement Time for HKCC appropriation

If as a result of an assessment of the adequacy of the Reserve Fund, additional resources should be appropriated by the Clearing House as contributions to the Reserve Fund or surplus resources should be released to the Clearing House, such appropriation or release will under normal circumstances be effected or set aside on the same day as the day of payment by or release to HKCC Participants of HKCC Participant Additional Deposits following such assessment.

4.5 Illustration

The following example illustrates how HKCC Participant Additional Deposits are collected and released. For illustration purposes only, the following parameters will be applied:

- (i) the Reserve Fund is hypothetically sized to cover the maximum risk exposure throughout the most recent 3 Trading Days instead of the prescribed 60 Trading Days;
- (ii) a regular monthly assessment of the adequacy of the Reserve Fund falls on Day 4, being the first Trading Day which is also a Business Day of the month;
- (iii) a hypothetical Reserve Fund size of HK\$200,000,000 (comprising the basic elements of the Reserve Fund of HK\$180,000,000 and HK\$20,000,000 which may be appropriated by the Clearing House to the Reserve Fund with no HKCC Participant Additional Deposits);
- (iv) an HKCC Participant Additional Deposits Credit of HK\$1,000,000 is allowed to each HKCC Participant; and
- (v) a Reserve Fund Threshold of HK\$320,000,000.

Total net margin liabilities (HK\$ equivalent)

<u>Date</u>	<u>Exposure</u>	<u>HKCC Participant A (GCP)</u>	<u>HKCC Participant B (CP)</u>	<u>HKCC Participant C (CP)</u>
Day 1	150,000,000	50,000,000	30,000,000	20,000,000
Day 2	150,250,000	50,000,000	30,000,000	20,000,000
Day 3	269,565,217	50,000,000	30,000,000	20,000,000
Day 4	306,000,000	200,000,000	180,000,000	20,000,000

The requirements for HKCC Participant Additional Deposits will be calculated as follows:

4.5.1 On Day 4, the maximum risk exposure during the most recent 3 Trading Days

= HK\$269,565,217

The resources which may be appropriated by the Clearing House

= HK\$ (269,565,217 x 1.15) x 10%

= HK\$31,000,000

Hence, Clearing House shall make available HK\$(31,000,000-20,000,000)

= HK\$11,000,000 more for appropriation to the Reserve Fund on Day 4.

Total requirements for HKCC Participant Additional Deposits

= HK\$ (269,565,217 x 1.15 – 180,000,000 – 31,000,000)

= HK\$99,000,000

4.5.2 Daily average total net margin liabilities of HKCC Participant A

= HK\$ (50,000,000 + 50,000,000+ 50,000,000)/3

= HK\$50,000,000

Similarly, the daily average total net margin liabilities of HKCC Participants B and C are HK\$30,000,000 and HK\$20,000,000 respectively.

4.5.3 Daily average market total net margin liabilities

= HK\$ (50,000,000 + 30,000,000 + 20,000,000)

= HK\$100,000,000

4.5.4 Since HKCC Participant A is a General Clearing Participant which is only required to contribute when its contribution requirement is greater than HK\$6 million, the sum of HK\$6 million will need to be added to the total HKCC Participant Additional Deposits figure in the formula set forth in section 4.2.4 in order to obtain the additional HKCC Participant Additional Deposits of HK\$99,000,000.

Calculated contribution from HKCC Participant A

$$= \text{HK\$} \frac{(50,000,000 \times 105,000,000)}{100,000,000}$$

$$= \text{HK\$}52,500,000$$

The calculated contribution will then be compared with its HKCC Participant Additional Deposits Credit of HK\$1,000,000. Since HKCC Participant A is a General Clearing Participant, it will in effect receive a further HK\$6,000,000 credit and its requirement for HKCC Participant Additional Deposit will be reduced by HK\$7,000,000 in total to HK\$45,500,00.

Similarly, the HKCC Participant Additional Deposits required from HKCC Participants B and C are HK\$30,500,000 and HK\$20,000,000 respectively.

The total amount of HKCC Participant Additional Deposits that will be demanded from HKCC Participants A, B and C plus the aggregate HKCC Participant Additional Deposits Credit of HK\$3,000,000 utilized by all HKCC Participants is HK\$99,000,000, which is the amount required to cover the risk exposure as calculated in section 4.5.1.

4.5.5 (deleted)

4.5.6 On Day 5, the condition for recalculation stipulated in section 4.1 is triggered. The maximum risk exposure during the most recent 3 Trading Days is HK\$306,000,000.

Since 115% of the maximum risk exposure is above the Reserve Fund Threshold (i.e. $\text{HK\$}306,000,000 \times 115\% > \text{HK\$}320,000,000$), by applying the formula in section 4.1, the resources which may be appropriated by the Clearing House

$$= \text{HK\$}320,000,000 \times 10\%$$

$$= \text{HK\$}32,000,000$$

Hence, Clearing House shall make available HK\$(32,000,000-31,000,000) = HK\$1,000,000 more for appropriation to the Reserve Fund on Day 5.

The new total requirement for HKCC Participant Additional Deposits is:

$$= \text{HK\$} (320,000,000 - 180,000,000 - 32,000,000)$$

$$= \text{HK\$}108,000,000$$

Using the most recent 3 Trading Days' total net margin liabilities of each HKCC Participant, the average total net margin liabilities of HKCC Participants A, B and C are HK\$100,000,000, HK\$80,000,000 and HK\$20,000,000 respectively.

Since HKCC Participant A is a General Clearing Participant, up to HK\$6,000,000 of the required amount can be waived. In this case, since its calculated HKCC Participant Additional Deposit is equal to HK\$57,000,000, after comparing with its HKCC Participant Additional Deposits Credit, contribution in the amount of HK\$50,000,000 will be required from HKCC Participant A.

HKCC Participant	Existing Contribution	Contribution Requirement	Amount to be Collected/(Released)
A	HK\$45,500,000	HK\$50,000,000	HK\$4,500,000
B	HK\$30,500,000	HK\$44,600,000	HK\$14,100,000
C	HK\$20,000,000	HK\$10,400,000	(HK\$9,600,000)

By comparing each HKCC Participant's new contribution requirement with its existing contribution, HKCC Participants A and B will be required to pay HK\$4,500,000 and HK\$14,100,000 respectively and HKCC Participant C will be refunded HK\$9,600,000.

4.6 Termination of HKCC Participantship

The HKCC Participantship of any HKCC Participant can be terminated in any of the following ways:

4.6.1 *Resignation*

- a) As required by HKCC Rule 217, any HKCC Participant wishing to resign from HKCC Participantship must give the Clearing House notice in writing of such intention.

aa) Subject to Rule 707D, any demand for the payment of Reserve Fund Deposits made by the Clearing House of an HKCC Participant preceding the effective date of termination of its HKCC Participantship must be met in full by the resigning HKCC Participant. Any demand made by the Clearing House for Assessments of an HKCC Participant in respect of any events of default which occur during a Capped Liability Period which commenced prior to the termination of its HKCC Participantship shall survive the termination of the HKCC Participantship notwithstanding the fact that the expiry of such Capped Liability Period occurs after termination, provided that the aggregate liability of the HKCC Participant shall be limited as provided for in Rule 707A(aa) and provided that the HKCC Participant shall not have any obligations or liabilities to provide Assessments in respect of any events of default which occur during a Capped Liability Period which commences after the termination of its HKCC Participantship.

ab) (deleted)

b) Subject to Rules 553 and 1103, a resigning HKCC Participant shall be entitled to reimbursement of its HKCC Participant Additional Deposit only to the extent it is entitled to a release of such HKCC Participant Additional Deposit under section 4.4.

c) (deleted)

d) (deleted)

e) Two months after the effective date of termination of its HKCC Participantship, the resigning HKCC Participant has the right to reimbursement of any remaining balance of its HKCC Participant Additional Deposit.

f) (deleted)

4.6.2 *Revocation of HKCC Participantship*

The HKCC Participantship of an HKCC Participant may be revoked pursuant to disciplinary powers exercised against the HKCC Participant under HKCC Rule 517 or by the Clearing House under HKCC Rule 519(e).

The HKCC Participant Additional Deposit of the HKCC Participant will be refunded according to the conditions described in section 4.6.1 provided that no such refund shall be made until after the Clearing House has determined if all or part of the HKCC Participant Additional Deposit of the HKCC Participant shall be applied under HKCC Rule 706(c).

4.7 Interest on HKCC Participant Additional Deposits

HKCC Participants may be paid or charged interest on HKCC Participant Additional Deposits made in cash at such positive or negative rate as the Clearing House may determine from time to time. Interest will be calculated daily and will be posted to HKCC Participants' House CCMS Collateral Accounts on the first Business Day of each month according to their contributions maintained during the immediately preceding month.

4.8 Other Means of Contribution to HKCC Participant Additional Deposits

HKCC Participant Additional Deposits (other than Assessments and Voluntary Recap Amounts) may be contributed in the form of non-cash collateral including Exchange Fund Bills and Notes which satisfy or are subject to the same requirements and criteria as those set forth in section 2.6.4 for Exchange Fund Bills and Notes that are provided as a means of cover for Clearing House margin liability.