

WORKING GROUP ON DISCLOSURE FRAMEWORK FOR SECURITIES SETTLEMENT SYSTEMS

I. Basic Information

A. *What is the Name of the SSS?*

The Central Moneymarkets Unit (CMU)

B. *Where and in What Time Zone is the SSS Located?*

CMU is located in Hong Kong. The time zone is GMT + 8 hours.

C. *What Functions Does the SSS Perform?*

CMU provides a computerized clearing and settlement facility for Exchange Fund Bills and Notes and other private debt securities. It offers an efficient, safe and convenient clearing and custodian system for Hong Kong debt instruments.

1. *Does the SSS serve as a securities depository and/or provide securities settlement services?*

CMU serves as a securities depository and provides securities settlement services.

a) *What types of instruments are eligible for deposit at the SSS (e.g. debt, equities, warrants, etc.)?*

- Exchange Fund Bills and Notes issued by the Hong Kong Government for the account of The Exchange Fund.
- Mass Transit Railway Corporation (MTRC) Notes
- Other private debt securities such as Fixed Rate CD, Floating Rate CD, Bonds, Fixed Rate Notes, Floating Rate Notes and Commercial Papers.

b) *What types of instruments are eligible for transfer within the SSS?*

All securities eligible for deposit in (a) can be transferred within CMU.

c) *Please describe whether eligible securities are dematerialised, immobilised or transferred physically.*

Exchange Fund Bills and Notes are dematerialised and all other eligible securities are immobilised.

d) *Does the SSS provide safekeeping for physical certificates?*

Yes.

2. *Does the SSS provide cash accounts and/or provide fund transfers in conjunction with securities transfers? If so, in what currencies?*

Members do not maintain cash accounts directly with CMU. However, all licensed banks in Hong Kong maintain settlement accounts with the Hong Kong Monetary Authority and the CMU system has a seamless interface with the interbank payment system. Therefore Real Time and End-of-day Delivery Vs Payment transactions can be settled through the settlement accounts. Non-bank members can settle their DvP transactions through the correspondent banks appointed by them.

3. *Does the SSS provide a trade matching service? Do others provide such services for securities settled at the SSS?*

CMU provides a trade matching service to members. No other parties provide such services for securities settled in CMU.

4. *Does the SSS provide a trade netting service (as distinct from undertaking the settlement of securities transfers on a net basis?) Do others provide such services for securities settled at the SSS? In either case, what types of netting (bilateral or multilateral), if any, are performed?*

CMU provides both Real Time transactions and End-of-day transactions to members. Real Time transactions are settled in gross basis while End-of-day transactions are settled in net basis (multilateral). No other parties provide netting services for securities settled in CMU.

5. *Does the SSS offer a securities lending or borrowing program?*

CMU does not provide a securities lending or borrowing program for the time being. However, we are planning to launch a securities lending/borrowing program to members by the end of this year.

6. *Does the SSS provide custodial and/or related services such as the collection of interest, dividends, principal, or of withholding tax reclamations? Which type of services are provided?*

CMU acts as paying agent (interest payment and redemption of principal) for Exchange Fund Bills/Notes and MTRC Notes. CMU also provides paying agent service to private sector debt securities if they prefer to engage us as their paying agent.

7. *Does the SSS act as a central counterparty or principal to transactions with its participants?*

CMU does not act as a counterparty to transactions with members.

8. *Other? Please specify.*

CMU provides a highly automated collateral management system to support intra-day and overnight repo transactions entered between banks and the Hong Kong Monetary Authority, through which banks can obtain intraday liquidity or overnight funding. Only Exchange Fund Bills/Notes are accepted as eligible securities for intraday repo. Besides Exchange Fund Bills/Notes, MTRC Notes and some private sector debt securities of an acceptable credit quality are accepted as eligible securities for overnight repo.

D. What Type of Organisation is the SSS?

CMU is operated and owned by the Hong Kong Monetary Authority.

1. Please indicate whether the SSS is a public-sector or private-sector entity.

CMU is operated by the Hong Kong Monetary Authority, which is the central bank for Hong Kong.

2. Please indicate whether the SSS is organised on a for-profit or a non-profit basis.

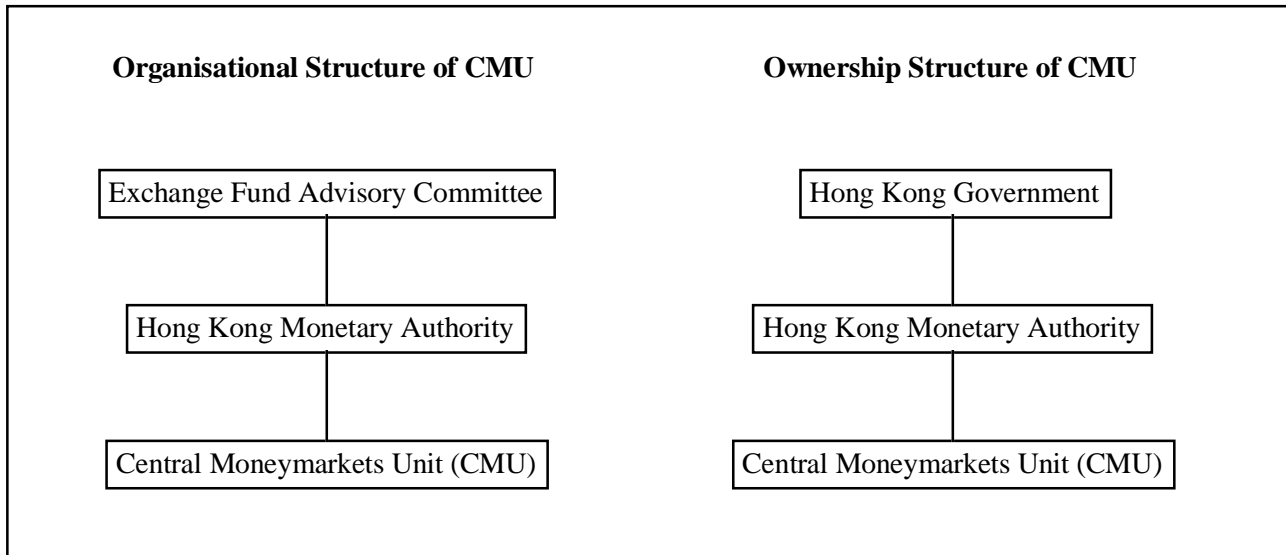
CMU is operated on a cost recovery basis.

3. What is the legal basis for the establishment of the SSS and for securities transfers made through it?

CMU is set up as a business service unit within the structure of the Hong Kong Monetary Authority. Securities transfers are governed by the Reference Manuals and CMU Membership Agreement.

E. Please Describe and Provide a Diagram Outlining the Organisational and Ownership Structure of the SSS.

CMU is organised as a unit within the Monetary Policy and Markets Department of the Hong Kong Monetary Authority.



1. *Who are the owners of the SSS?*

The owner of CMU is the Hong Kong Monetary Authority (HKMA),

2. *What entity or entities operate the SSS? What functions of the SSS, if any, are outsourced to third parties?*

The computer processing of CMU is operated by Hong Kong Interbank Clearing Limited (HKICL), which is jointly owned in equal shares by the HKMA and Hong Kong Association of Banks, under a service agreement between the HKMA and HKICL. Maintenance of software is also provided by HKICL,

CMU is the control centre and customer service centre and is responsible for the rules and regulations of the clearing system.

3. *Does the SSS have a Board of Directors?*

CMU does not have a Board of Directors. But as for major policy issues involving CMU, like those under other subject areas within the purview of HKMA, they will be reviewed by the Exchange Fund Advisory Committee which is chaired by the Financial Secretary of the Hong Kong Government.

a) *What is its composition?*

Not applicable.

b) *What are its responsibilities?*

Not applicable.

F. Please Describe the Financial Resources of the SSS.

CMU is part of the Hong Kong Monetary Authority, and has no separate financial accounting.

1. Amount of paid-in capital and retained earnings?

Not applicable.

2. Guarantees, insurance coverage, or other similar arrangements?

Not applicable.

3. Credit lines or letters of credit?

Not applicable.

4. Powers to assess participants or equity holders?

Not applicable.

G. Please Describe Whether the SSS or its Operator is Subject to Authorisation, Supervision or Oversight by an External Authority.

CMU is operated by the Hong Kong Monetary Authority, which is one of the financial supervisory authorities in Hong Kong.

II. Rules and Procedures of the SSS

A. *Does the SSS Maintain a Complete List of the Rules and Procedures Governing the Rights and Obligations of Participants and the Duties of the SSS?*

Yes, the rights and obligations of CMU Participants are set out in the CMU Membership Agreement and the appointment letters of Recognized Dealers and Market Makers. Detail procedures are available in the Exchange Fund Bills and Notes Clearing and Settlement System Reference Manual and CMU Service Reference Manual.

1. *How can participants obtain a copy of the rules and procedures?*

All CMU participants are issued with copies of relevant reference manuals when they join CMU.

2. *Does other documentation provided to participants (e.g., user guides) have the same status as the rules and procedures?*

CMU User Terminal (CMT) Operation Manual and CMT User Guide issued to all CMT users have the same status as the rules and procedures. However, the Operation Manual and User Guide deal with system procedures and not with rights and obligations.

3. *Describe the process for changing rules and procedures, including any need for regulatory approval.*

Revised rules and procedures are made by CMU to meet the needs of participants and market. If necessary, the Senior Executives (Chief Executive, Deputy Chief Executive) in HKMA will be consulted. No regulatory approval is needed.

a) *What authority is required, and how does this differ depending on the type of change involved?*

There is no procedural difference regarding the type of change involved.

b) *How are participants notified of changes in rules and procedures?*

Changes in rules and procedures are notified by circulars to all CMU Participants. Revised pages of various reference manuals and user guides are also enclosed for members to update their reference manuals/user guides.

c) *Is there a procedure for participants or others to comment on proposed rules changes?*

Participants are always welcome to comment on the CMU rules and procedures. For major changes to these rules and procedures, CMU will consult all participants through briefings and

seminars. The Hong Kong Capital Markets Association will also be consulted if CMU is going to introduce new products or services.

B. Are the Rules and Procedures Binding on the SSS as Well as its Participants? Under What Conditions and on Whose Authority can Written Rules and Procedures be Waived or Suspended by the SSS?

Rules and procedures are binding on both CMU and participants. They cannot be waived or suspended.

III. Relationships with Participants

A. *Please Describe the Types of Membership Offered by the SSS.*

There are two types of membership in CMU :

- Recognized Dealer of Exchange Fund Bills and Notes. Some Recognized Dealers (At present 33) are additionally appointed as market makers of Exchange Fund Bills and Notes
- CMU Member

1. *How do the types differ?*

The debt instruments cleared by CMU is divided into two major categories :

- Exchange Fund Bills/Notes and MTRC Notes.
- Debt securities issued by private sector (CMU Instruments)

Recognized Dealers are entitled to trade Exchange Fund Bills/Notes and MTRC Notes while CMU Members are entitled to trade CMU Instruments.

Market Makers are required to quote bid and offer yields/prices for Exchange Fund Bills/Notes and MTRC Notes to maintain an active market. In return, Market Makers are allowed to go short in any individual issues subject to the long positions of the other issues in its possession are more than enough to cover the short position (for details, please refer VII.A).

2. *Within each membership category, are all participants subject to the same rules and procedures? Please describe important exceptions, including both where rules differ across participants and the rationale for different rules.*

Yes, all members within each same category are subject to the same rules and procedures.

B. *Can Participants Establish Accounts for their Customers' Assets that are Segregated from their Own Asset Accounts at the SSS?*

Members are required to maintain separate accounts for their own holdings and clients' holdings. A client with substantial holdings may request the member to open a specific custody account under his name.

1. *If so, is this accomplished through a single omnibus customer account or through a multiplicity of accounts and / or sub-accounts?*

Both general custody accounts and specific custody accounts are available for members.

2. *Is the segregation optional or compulsory?*

Segregation into sub-accounts is compulsory.

3. *Does the fact that a sub-account at the SSS bears the name of a third party give any rights to that third party as a participant under the rules of the system?*

No.

C. Please Describe Participant Requirements for Each Type of Membership.

An Authorized Institution in Hong Kong under the Banking Ordinance may apply for being as a Recognized Dealer of Exchange Fund Bills and Notes.

The following institutions may apply for being as a CMU Member :

- Authorized Institutions in Hong Kong under the Banking Ordinance
- members of the Hong Kong Capital Markets Association
- exempt dealers in securities under the Securities Ordinance

1. *Are participants required to be domiciled or resident in a particular jurisdiction?*

No.

2. *Are participants required to be subject to a supervisory regime? If so, please describe.*

No.

3. *Are participants required to hold an equity stake in the SSS?*

No.

4. *Are there financial, economic, personal, or other requirements (e.g. minimum capital requirements, “fit and proper” tests)? If so, please describe.*

No, if they satisfy the criteria at the beginning of this section. If not, they can still apply for CMU Membership which will be granted on a discretionary basis on which the “fit and proper” tests will be applied.

D. Does the SSS Engage in Oversight of its Participants to Ensure that their Actions are in Accordance with its Rules and Procedures? If So, Please Describe.

No.

E. Under What Conditions Can Participants Terminate their Membership in the SSS? Does this Mark the End of All Liabilities of the Participant? If Not, Please Describe What Liabilities Could Remain.

CMU Participants can terminate their membership at any time by providing CMU with 30 days' written notice.

CMU Member, being the issuer, acceptor or lodging agent of certain CMU Instruments may terminate its membership before the maturity of that CMU Instruments, but the lodgement undertaking signed by the CMU Member acting as the lodging agent shall survive the termination of the lodging agent's membership.

F. Under What Conditions Can the SSS Terminate a Participant's Membership in the SSS?

Participant's Membership may be terminated with immediate effect upon the making of a bankruptcy or winding up order, or the passing of a resolution for voluntary winding up, in relation to the CMU Participant.

CMU monitors closely the CMU Participants to ensure that they comply fully with the rules and procedures. With a reasonable period of notice, Participant's Membership may be terminated if the CMU Participant fails to comply with the provisions of the CMU Membership Agreement or Appointment Letter of Recognized Dealers.

G. Please Describe the Scope of the SSS's Liability to Participants, Including the Standard of Liability (Negligence, Gross Negligence, Wilful Misconduct, Strict Liability, or Other), the Force Majeure Standard, and Any Limitation to the Scope of Liability of the SSS (e.g. Indirect or Consequential Damages). Where Are these Liabilities and their Limitations Set Out (e.g. in Statute or Contract)?

Under Clause 8.1(a) of the Membership Agreement, the HKMA and his servants and agents shall not liable for any liability, claim, loss, damage or expense of any kind or nature caused directly or indirectly by the operation by CMU, save to the extent that such liability, claim, damage or expense results from the wilful default or gross negligence of the HKMA or his servants or agents.

IV. Relationships With Other SSSs and Commercial Intermediaries

A. Does the SSS Maintain Linkages (Including Sub-Custodian or Cash Correspondent Relationships) or Other Relationships With Other SSSs?

CMU has established linkages with both Euroclear and Cedel since December 1994 and has an interface with the interbank payment system since December 1996.

1. *Please identify each of the other SSSs used and the type of securities transferred via the linkages.*

a) *What is the name of the other SSS? Where is it located?*

(1) Euroclear, located in Brussels.

(2) Cedel, located in Luxembourg

b) *What securities are eligible for transfer via the linkage to the other SSS?*

All debt securities cleared by CMU (please refer C1(3)).

c) *Are transfers of securities made via the linkage to the other SSS limited to only those that are free of payment or are transfers against payment also made via the linkage to the other SSS? If against payment, please describe the timing of the transfers and the corresponding payments.*

The transfer of securities can be effected by both free of payment and against payment. For against payment, the transfer of securities and posting of payment take place simultaneously either in real time or at day end at 1530 hours (Hong Kong Time).

d) *Does the other SSS provide custody services to the SSS and if so who bears any credit or custody risks?*

None. Euroclear and Cedel do not provide custody services to CMU.

B. Does the SSS Use Securities Custodians (Other than the Other SSSs Addressed in the Previous Question) and / or Commercial Cash Correspondents? Please Identify the Custodians or Cash Correspondents Used and the Duties that Each Performs.

CMU appoints Hong Kong and Shanghai Banking Corporation Limited as a sub-custodian. All physical certificates lodged with CMU are safekept in the sub-custodian.

C. Please Describe the Standards Used in Approving or Reviewing Relationships to Other SSSs, Custodians, or Cash Correspondents, Including Any Financial or Operational Requirements or the Presence of Insurance or Public Supervision.

CMU does not have pre-set standards in approving or reviewing relationships to other SSSs.

D. Does the SSS Advance Funds or Securities to or on Behalf of Other Intermediaries Such as Issuing or Paying Agents? If So, Please Identify the Circumstances in Which Such Exposure Could Arise.

CMU does not advance funds or securities to or on behalf of other intermediaries.

E. Please Describe Measures in Place to Protect the SSS and its Members Against the Failure of Other SSSs or Commercial Intermediaries to Meet Obligations to the SSS, Including Risk Controls, Collateral, or Alternative Sources of Funds and Securities.

The linkages with Euroclear and Cedel are established to facilitate overseas investors (Euroclear Members or Cedel Members) to trade HK debt securities. CMU Participants can not hold securities cleared by Euroclear or Cedel through these one-sided linkages. Therefore, there is no custodian exposure and credit risk for the CMU and CMU Participants against the failure of other SSSs.

V. Securities Transfers, Fund transfers, and Linkages Between Transfers

A. *Please Discuss Whether and How Settlement Instructions are Matched Between Participants Prior to Processing by the SSS.*

CMU provides two types of trade matching services for CMU Participants. Participants who have installed CMU Member Terminals (CMT) can use the “Single Input and Confirmation” method to match their transfer instructions with their counterparties. Another matching service of “Matching at Centre” is available for all CMU Participants.

“Single Input and Confirmation” is performed as follows :

- Sellers input trade details in their own CMTs.
- Unconfirmed transactions are sent to buyers’ CMTs by the System.
- Buyers check the details of the unconfirmed transactions. They can either confirm or reject the transactions.
- Once the buyers confirm the transactions, the transactions become successfully matched transactions

“Matching at Centre” is performed as follows :

- Transfer instructions of both buyers and sellers send to CMU by SWIFT, by authenticated facsimile, or by hand.
- At the cutoff time of settlement date, CMU matches all transfer instructions by PC. After all transfer instructions are successfully matched, the matched instructions are uploaded to the mainframe computer system for settlement.

1. *Is matching required for all transactions without exception?*

Matching is required for all transactions except house transfers which involve securities transfers among members’ main account and custody accounts (sub-accounts).

2. *What procedure is used when instructions do not match?*

Single Input and Confirmation :

Buyers can reject the mismatched transactions. New transactions can be initiated by the sellers again.

Matching at Centre :

Both sellers and buyers are informed of the mismatch through telephone. They usually amend the transfer instructions and send again to CMU. At the end of the day, all unmatched instructions are deleted automatically by the system.

3. *Are matched settlement instructions binding on participants?*

No, only settlement with the transfer of securities title across the books of HKMA, on either free of payment or delivery versus payment basis, is binding on participants.

a) *If so, please describe the consequences of participant failures to meet obligations (e.g., forced settlement, penalties, short positions).*

Not applicable.

b) *Please describe whether this is a feature of the SSS's rules or of national law or regulation.*

Not applicable.

c) *Please provide a time-line indicating the points at which matched instructions become binding, as well as any pre-matching process that takes place.*

Not applicable.

B. *Are Securities Transferred Within the SSS Registered?*

No

1. *Who is the registrar?*

Not applicable.

2. *Is it normal practice to register the securities in the name of the SSS (or its nominee) or in the name of the beneficial owner? Are there instances in which securities housed within the SSS are registered to neither the SSS (or its nominee) nor the beneficial owner?*

Not applicable.

3. *If the SSS offers custodial services, will it hold securities registered in the name of the beneficial owner?*

Not applicable.

4. *Under what circumstances does the SSS initiate registration of securities in the buyer's name?*

Not applicable.

5. *How long does the registration process typically take? Are participants notified when registration is complete?*

Not applicable.

6. *Can securities be transferred within the SSS before registration in the buyer's name is complete? If so, do the rules and procedures of the SSS provide for an unwind or reversal of such transfers in case of bankruptcy or other events which result in the buyer's name not being entered on the register?*

Not applicable.

C. Please Describe How Securities Transfers Are Processed Within the SSS.

Securities transfers are processed in CMU as follows:

- Transfer instructions are matched (please refer section V.A above);
- For real time DvP, the seller initiates the process by sending a settlement message through its CMU Member Terminal (CMT) to the buyer. After the message has been confirmed by the buyer, the “matched” transaction will be stored in the system. The system will then check securities in the seller’s account and put the securities on hold, after which an interbank payment message will be generated from the buyer’s Member Bank Terminal (if the buyer is a bank. If not, the buyer will need to instruct its bank to execute a RTGS payment message). After the payment initiated by the buyer is settled across the books of HKMA, a confirmed message will be returned to the CMU Processor and the securities held will be released to the buyer. If the sellers do not have sufficient securities, the transactions are converted to end-of-day transactions and settled during the end-of-day settlement run. If the buyers do not have sufficient funds in their cash accounts, the transactions are pending for settlement until sufficient funds are available in buyers' accounts. If the transactions cannot be settled before the cutoff time, the transactions are converted to end-of-day transactions and settled during the end-of-day settlement run.
- For end-of-day transactions, securities and cash are settled on multilateral netting basis. At the settlement time of end-of-day settlement run (15:30), the System calculates the net settlement amount of both securities and cash for each member. The System will then check whether sufficient funds and securities are available for each member. If so, final transfers of both securities and cash for all members are effected simultaneously. Otherwise, all or part of transfer instructions of the members who do not have sufficient funds or securities are cancelled before final end-of-day settlement takes place.

1. *Please indicate whether the transfers are processed as debits and credits to members' accounts or via some other method.*

Yes, securities transfers are made by debits and credits to members' securities accounts in CMU.

2. *On a continuous (real-time) basis, or in one or more batches?*

Either real-time basis or end-of-day batch processing is available.

3. *If continuous, during what hours does the processing occur? If in batches, at what time or times is the processing initiated and completed?*

Real-time transactions :

09:00 - 15:00 for Exchange Fund Bills/Notes and MTRC Notes

09:00 - 11:00 for private sector debt securities (CMU Instruments)

End-of-day batch processing :

End-of-day batch processing starts at 15:30 and ends before 16:00

4. *Do securities settlements occur daily? Please identify securities for which settlement occurs only on specific days of the week or month.*

Securities settlements occur on each business day except Saturdays. No differentiation is made for different categories of debt securities.

D. Please Describe Whether Final Fund transfers in Conjunction with the SSS are Made as Debits and Credits to Balances Held at the SSS, at One or More Commercial Banks, at the Central Bank, or Via Some Other Method.

For bank participants, fund transfers in conjunction with CMU are made as debits and credits to members' settlement accounts maintained with HKMA. For non-bank participants, they have to engage banks as their correspondent banks for money settlement across the books of HKMA.

1. *Does the SSS maintain cash accounts for its participants? Are these accounts equivalent to deposit accounts at a commercial or central bank or do they serve only as "cash memorandum" accounts?*

CMU does not maintain cash accounts for CMU participants. As the CMU System has a seamless interface with the interbank payment system, fund transfers relating to securities transactions can be effected through the banks' settlement accounts maintained with HKMA.

2. *On what entity (SSS or other) does the participant bear cash deposit risk?*

For bank participants, they bear deposit risk on the HKMA. For non-bank participants, they bear deposit risk on their correspondent banks.

3. *Under what circumstances does the SSS provide credit extensions or advances of funds to its participants and thereby expose itself to credit risk?*

CMU does not advance funds to any participants.

4. *How long can such credit extensions last? How long do they typically last?*

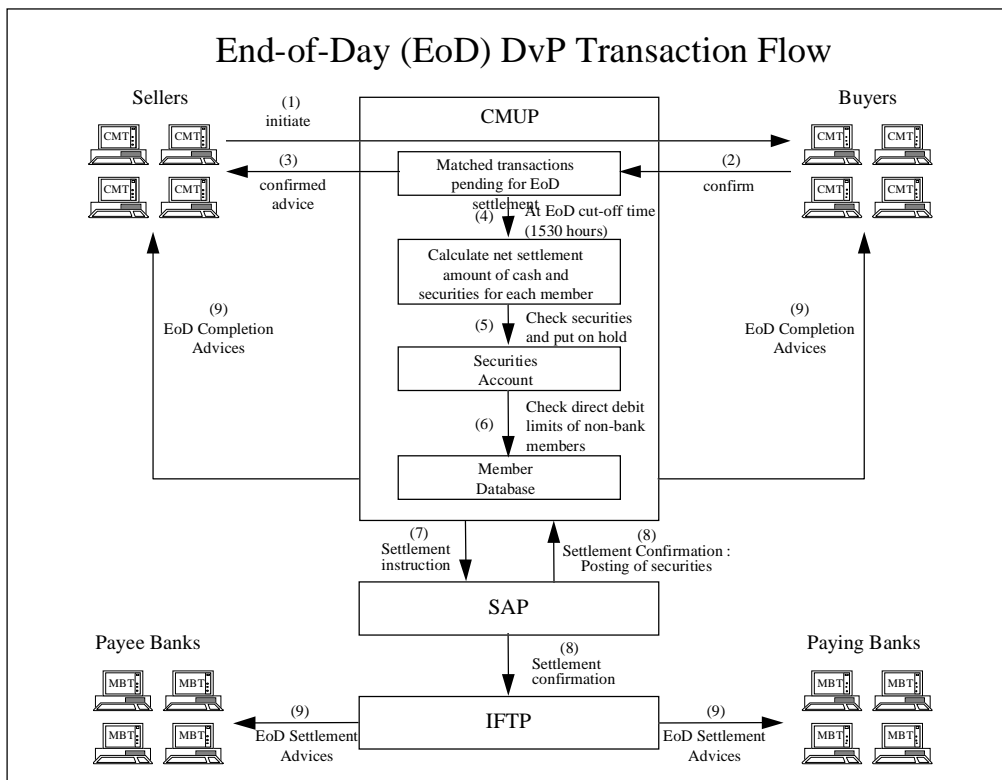
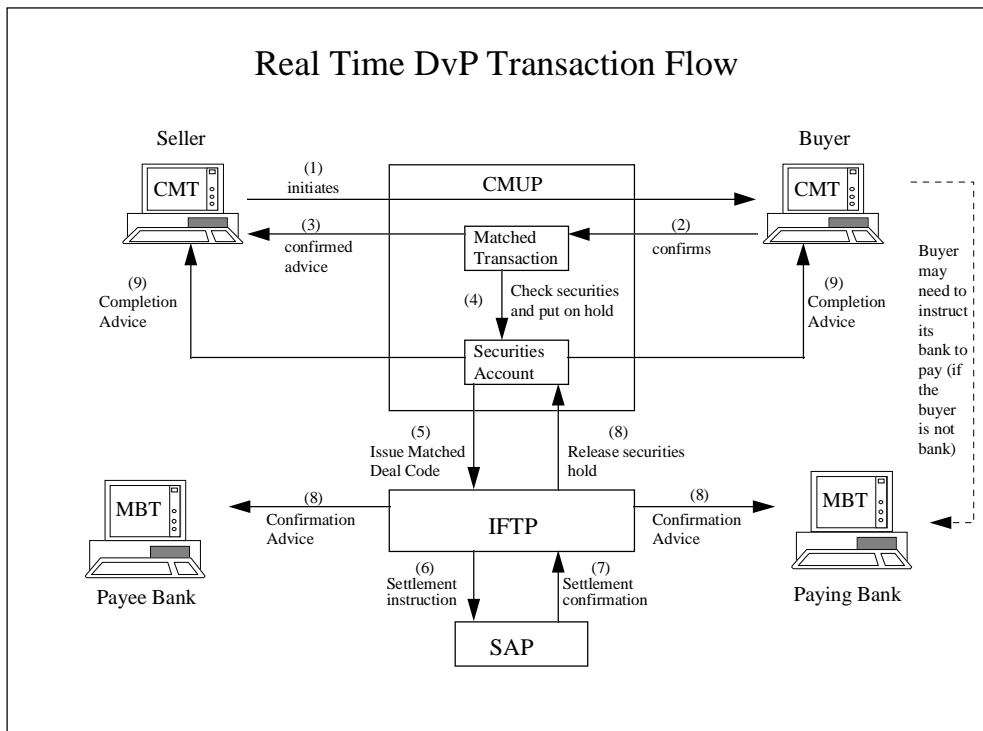
Not applicable.

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- E. Is the SSS a DVP System? If So, Please Describe the DVP Model Used According to the Models Outlined in the DVP Report (See Introduction). Please Also Provide a Diagram Indicating the Timing of Events in the Processing of Securities and Fund transfers in the SSS. Where the SSS Provides More than One Alternative for Settlement Processing, Please Provide a Response for Each Alternative and Indicate the Relative Importance of Each Alternative.***

CMU is a DVP system. The real time DvP arrangement for CMU transactions is an example of the Model 1 approach identified by the BIS i.e. the transfer of both securities and fund is conducted on a trade by trade (gross) basis. The final (unconditional) transfer of CMU securities from the seller to the buyer (delivery) follows immediately the transfer of fund from the buyer to the seller (payment).

The end-of-day DvP arrangement is in line with the Model 3 approach. It eliminates principal risk by ensuring that the final transfer of securities (on a net basis) is made simultaneously with the final transfer of funds (on a net basis) across the books of the HKMA.

The following two diagrams show the settlement mechanism of real time DvP transactions and end-of-day DvP transaction :



1. *Are fund transfers and securities transfers processed within the same system or in different systems? If different, how are they linked?*

Fund transfers and securities transfers are processed in the same RTGS System which comprises three major components :

- CMU Processor (CMUP)
- Settlement Account Processor (SAP)
- Interbank Fund Transfer System (IFTP)

- a) *Please describe whether each securities transfer is linked to a specific fund transfer on a trade-by-trade basis or on a net basis or via some other method.*

Each real-time DvP transfer is linked to a specific fund transfer on a trade-by-trade basis. End-of-day DvP transfers are settled on a net basis.

- b) *Does the SSS “split” large transactions into multiple transactions or require participants to do so?*

No.

2. *When do securities transfers and fund transfers become final?*

Securities transfers and cash transfers are both irrevocable and final when settlement takes place across the books of the HKMA.

- a) *At what time do securities transfers become final? After what event or events?*

Securities transfers are final when the transactions are posted to members' securities accounts. This can be done in real time or at day end at 1530 hours (Hong Kong Time).

- b) *At what time do fund transfers become final? After what event or events? Does this timing allow for same-day retransfer of funds received in exchange for securities?*

Fund transfers become final when the settlement is done across the books of HKMA. Due to the DvP device in CMU, securities and fund transfers become final when posting of securities and cash are effected at the same time, either in real time or at day end at 1530 hours (Hong Kong Time).

- c) *If final delivery of securities precedes the final transfer of funds, can participants dispose freely of such securities prior to funds finality? If so, what actions will be taken if funds are not received?*

Not applicable.

- d) *If final delivery of funds precedes the final transfer of securities, can participants dispose freely of such funds prior to securities finality? If so, what actions will be taken if securities are not received?*

Not applicable.

- e) *Does the timing of finality differ depending on the type of security transferred or the currency in which payment is to be made? Please describe.*

No.

3. *Please discuss whether participants are notified of securities or fund transfers while they are still provisional, only when they are final, or both.*

There are no provisional transfers of either securities or funds. Participants are notified when transfers are final.

F. Does the SSS Itself “guarantee” Funds or Securities Transfers?

No. As the posting of securities and cash are effected at the same time, guarantee of funds or transfers is not required.

1. *Under what circumstances and at what point are transfers guaranteed by the SSS?*

Not applicable.

2. *What actions does the guarantee obligate the SSS to make?*

Not applicable.

3. *Please indicate whether the guarantee is a feature of the SSS’s rules and procedures or of national law or regulation.*

Not applicable.

VI. Default Procedures

A. *Please Discuss the Events or Circumstances that Would Constitute Default of a Participant Under the Rules and Procedures of the SSS or that Would Lead the SSS to Make Use Exceptional Settlement Arrangements or Unwind Procedures.*

Under the rules and procedures of CMU, the following events or circumstances that would constitute default of a participant and the participant's membership may be suspended under the HKMA's discretion :

- (a) the presentation of any petition for the bankruptcy or winding up of the member or for the appointment of an administrator in relation to the member;
- (b) the convening of any meeting to consider a resolution for the voluntary winding up of the member;
- (c) the appointment or purported appointment of a receiver in respect of any property of the member;
- (d) the insolvency of the member;
- (e) the making of any proposals by the member (within the meaning of Section 178 of the Companies Ordinance);
- (f) the occurrence in any relevant jurisdiction of any event in relation to the member analogous to those described in (a) to (e) above; or
- (g) the occurrence in relation to the parent entity, being an entity holding shares either directly or indirectly in the member, or any of the events described in (a) to (f) above and where the occurrence of such an event places the member at financial risk.

1. *Failure by a participant to meet a test of its solvency under the applicable laws of its jurisdiction?*

If the member becomes solvency, member's membership is to be terminated and member's accounts are frozen unless the HKMA authorizes otherwise.

2. *Failure to make payments or deliveries of securities within the time specified?*

Failure to make payments or deliveries of securities within the time specified would cause the trade to fail. However, this would not lead to the default and insolvency of the participant.

3. *To the extent that the rules and procedures grant discretion in the determination of the use of default or other exceptional procedures, please discuss where the authority to exercise such discretion resides and the circumstances in which this authority would be exercised.*

If the events in VI(A) occurs, the HKMA would exercise his discretion for the benefit of the HKMA and CMU Participants.

B. *What Procedures Are Followed by the SSS Once it Has Determined that a Default Event Has Occurred or that Exceptional Settlement Arrangements Are to Be Employed?*

If a member is determined to be default, the HKMA may suspend or terminate the member's membership. The member is prevented from accessing the CMU System and its accounts are frozen until the HKMA authorizes otherwise.

1. *How and at what point are participants notified that this has occurred?*

CMU informs all CMU Participants immediately after an event of default has occurred.

2. *Would the SSS be expected to continue to meet all of its obligations to participants under these circumstances? Please discuss the resources in place to ensure that this would occur (e.g. collateral, participants' fund, insurance, loss-sharing arrangements, etc.).*

In the event of default, CMU would continue to meet all of its obligations to participants. The daily settlement process of CMU would not be affected. All settled transactions involving the default member are final and irrevocable and cannot be unwound.

There are no CMU resources involved in a member's default. As CMU System is a DvP system, settlement risk is minimized. If a member is declared to be in default, unsettled transactions would become failed trades and the counterparties are only exposed to market risk (or replacement cost risk), but not principal risk.

3. *Please describe and provide a timeline indicating the order in which these resources would be used as well as the timing of participant notifications and important deadlines (e.g. when the SSS's obligations to participants would be met, when participants would need to cover their loss-sharing obligations).*

Not applicable.

4. *Please describe all conditions under which provisional transfers of securities or funds could be unwound by the SSS.*

Not applicable. There are no provisional transfers in CMU.

a) *How and on what authority would a decision to unwind securities or fund transfers be made by the SSS?*

Not applicable. Settled transactions are final and irrevocable.

b) *When and how would participants be notified of a decision to unwind provisional securities or fund transfers?*

Not applicable.

c) *How long would participants have to cover any debit positions in their own securities or funds accounts resulting from an unwind?*

Not applicable.

d) *In the event of an unwind, would all transfers be unwound or would only a subset of transfers (e.g. only securities purchases or only those of a subset of participants) be unwound?*

Not applicable.

- e) *If only a subset of transfers, what procedure would be followed to determine which transfers and in what order?*

Not applicable.

5. *Can bankruptcy or insolvency be declared retrospectively in the SSS's jurisdiction (e.g., under a "zero-hour" rule), and could this cause provisional securities or fund transfers to be unwound?*

Under RTGS, all settled transactions are final and irrevocable. Therefore all settled securities or fund transfers cannot be unwound.

6. *Please describe any circumstances in which transfers of securities or funds that were defined as final in response to question V.E.2 above would ever be unwound.*

Securities and fund transfers defined in V.E.2 as final would under no circumstances be unwound.

C. *Has a Participant in the SSS Ever Been Declared in Default or Become Insolvent?*

No, no members have been declared in default or become insolvent.

1. *Have loss-sharing procedures been invoked?*

Not applicable.

2. *Please describe whether any of these defaults or insolvencies resulted in losses for the SSS or its participants and how they were absorbed.*

Not applicable.

VII. Securities Overdrafts, Securities Lending and Back-to-Back Transactions

A. *Is it Possible for Debit Positions (Overdrafts) in Securities Accounts at the SSS to Arise?*

In order to create a liquid secondary market for Exchange Fund Bills/Notes and MTRC Notes, Market Makers are allowed to incur a short position in any issues of Exchange Fund Bills/Notes and MTRC Notes at the end-of-day batch settlement subject to meeting certain requirements (please see below sub-questions).

All CMU Participants, other than Market Makers, are not allowed to incur a short position in any issues cleared by CMU.

1. *Under what conditions could such debit positions occur?*

Under the Market Making Arrangements, Market Makers are allowed to incur a short position in any issues of Exchange Fund Bills/Notes and MTRC Notes at the end-of-day batch settlement provided they hold sufficient long position of other eligible issues to cover the short position. A Market Maker who holds short position in an issue at the end-of-day batch settlement must purchase from the HKMA the debt securities of the same type of issue to close its short position by entering into a Sale and Repurchase Agreement (Repo) with the HKMA. Through the Repo, the Market Maker will purchase from the HKMA the amount of the particular issue of debt securities necessary to cover the short position, and will sell to the HKMA eligible securities acceptable to the HKMA of sufficient market value calculated in accordance with a formula determined by the HKMA. Hence, through the securities repo with HKMA, the short positions of a Market Maker will become zero while its long positions will become smaller after the day end processing. Market Making Arrangements are not available for real time transactions. Market Makers are not allowed to sell short any issues in real time transactions.

a) *Do these conditions always result in debit positions in securities accounts rather than failed transactions? If not, please explain the basis for differential treatment by the SSS.*

Provided a Market Maker holds sufficient long position of eligible issues, the HKMA would enter into securities repo transactions with the Market Maker to cover its short position. It does not result in debit positions in securities accounts.

b) *Are these situations covered explicitly by the rules and procedures of the SSS?*

Yes.

2. *How long can such debit positions last? How long do they typically last?*

By entering into securities repo with the HKMA, such debit positions in the securities account of the Market Makers do not come into existence. The Market Maker can effectively maintain its “short positions” until the redemption of these issues at which time it will have to pay for the redemption proceed.

3. *How are debit positions in securities accounts prevented, cured, or managed?*

Except under the Market Making Arrangements, debit positions in securities accounts are not allowed. Transactions will not be posted if sellers do not have sufficient securities.

4. *What procedures would be followed by the SSS in case the debit cannot be cured? (e.g. failure by a participant with a debit balance in a securities account or the securities cannot be found in the market)*

Not applicable.

- a) *Application of loss-sharing provisions allocating the loss to participants?*

Not applicable.

- b) *Absorption of loss by the SSS?*

Not applicable.

- a) *Other? Please specify.*

Not applicable.

B. *Under What Circumstances Does the SSS Provide for the Lending of Securities to Ensure Settlements?*

No securities lending service is currently available in CMU.

1. *Is the process for lending securities automatic? If not, please describe the procedures used by the SSS to determine whether a securities loan will be made.*

Not applicable.

2. *At what point are participants notified that securities are being lent to them in order to complete their settlements?*

Not applicable.

3. *What securities on deposit at the SSS are eligible for lending? Do participants have the option to make securities available for lending or is it mandatory?*

Not applicable.

4. *Are lent securities identified by the SSS with specific participants as lenders or only with a common pool of securities available for lending? Does the participant whose securities are lent become a principal to the transaction?*

Not applicable.

C. *How Does the SSS Settle Back-to-Back Transactions?*

There are no special arrangements for back-to-back transactions. Back-to-back transactions are settled in the same way as other transactions. They are of same day value (i.e., T+0). Usually, back-to-back transactions are settled by end-of-day settlement mode because they are settled on net basis.

1. *Under what conditions are delivery instructions by participants receiving and redelivering securities on the same day under back-to-back transactions settled for same day value?*

All transactions, including back-to-back transactions, are settled for same day value.

- a) *Only if the participant has securities on deposit with the SSS that have been received pursuant to a final securities transfer?*

Yes.

- b) *If the participant has securities on deposit with the SSS that have been received pursuant to a provisional securities transfer?*

Not applicable. No provisional transfers in CMU.

- c) *Before securities have been received either provisionally or finally, but when a matched receipt instruction exists for same or greater value? Is such a practice limited to markets where matching is binding?*

No.

- d) *Before securities have been received either provisionally or finally, but when a third party has promised to deliver to the SSS securities of the same or greater value? Must the provider of the guarantee have itself received the securities through a final transfer? Please describe how the SSS evaluates such promises, and whether they are addressed by the written rules and procedures of the SSS.*

No.

- e) *Other? Please specify.*

No other conditions.

2. *Please describe limits or controls in place with respect to any of the above arrangements for the settlement of back-to-back transactions, including limits on amounts involved or related to the liquidity of the underlying securities.*

Not applicable.

3. *Under what conditions are payment instructions by participants in the SSS under back-to-back transactions settled for same day value? Can participants use the proceeds of an on-delivery of securities without the need for an extension of credit?*

Not applicable.

VIII. Risk Control Measures

A. *Please Describe the Roles and Responsibilities of Those Areas of the SSS Responsible for Risk Management and Control.*

CMU is responsible for risk management and control in the following area :

- introduces new services and products to minimize settlement risk of participants (e.g. DvP service, interface with RTGS System) ;
- provides a secure and efficient custody service to participants;
- introduce security features in the computer system to ensure better control.

1. *Please describe the process for the internal review of risk management policies and procedures.*

Risk management policies and procedures are regularly reviewed by CMU. In addition, the HKMA discusses regularly with the Hong Kong Capital Market Association and other market participants, among other things, on risk management issues.

2. *Is there a risk management policy that addresses the review and approval of new products and services offered by the SSS? At what level of the Organisation is the risk management approval given for a new product or service?*

New products and services offered by CMU to minimize risk are reviewed by internal legal advisors before implementation. Risk management measures for any new products or services have to be approved by the Senior Executives (Chief Executive or Deputy Chief Executive) in HKMA.

3. *Does the SSS have a risk management function with clear independence and authority from operational or marketing functions?*

Yes. Internal and external audit serves as a risk management function with clear independence and authority from operational or marketing functions.

4. *Does the Board of Directors review risk management policies and procedures? Does the Board have a risk management or audit committee?*

Major policy issues on risk management will be reviewed by the Exchange Fund Advisory Committee.

B. *Please Describe Any Internal or External Audits or Supervisory / Regulatory Examinations that Are Performed with Respect to the SSS. For Each Such Audit or Examination, Please Address the Following Questions.*

Both internal auditor and external auditor are responsible for reviewing CMU operations and procedures.

1. Who performs the audit or examination?

Internal: HKMA Internal auditor.

External: Audit Department of the Hong Kong Government.

2. *What is the scope of the audit or examination?*

Internal: HKMA Internal Auditor reviews the internal control and operation procedures.

External: External Auditor is responsible for:

- review the internal control and operation procedures;
- review the CMU System and new services/products provided by CMU;
- review the disaster recovery procedures.

a) *Please indicate whether and how it addresses the sufficiency of and compliance with internal controls.*

Yes, both internal auditor and external auditor address the sufficiency of and compliance with internal controls.

b) *Please indicate whether and how it addresses the SSS's compliance with its own rules and procedures.*

Yes, both internal auditor and external auditor address the CMU's compliance with its own rules and procedures.

3. *What is the frequency of the audit or examination?*

Internal: continuous basis.

External: annual.

4. *Are audit or examination reports available for review by participants?*

Internal: no.

External: no.

C. *Please Discuss Whether the SSS Has the Capacity to Value (i.e., Mark-to-Market) the Securities that it Holds.*

CMU has the capacity to mark-to-market for the following securities :

- Exchange Fund Bills/ Notes;
- MTRC Notes;

· CMU Instruments eligible for Liquidity Adjustment Facility (LAF) repo.

1. *Please describe how these valuations are used by risk control systems at the SSS.*

The valuations are used in the CMU's Collateral Management System.

2. *How frequently are securities re-valued?*

Securities are normally valued at 9:00 am, 11:00 am and 4:00 pm every business day. Valuations are more often if the market is volatile.

3. *What are the sources for security valuations?*

The valuations are based on the quoting prices collected from Market Makers of Exchange Fund Bills/Notes and MTRC Notes as well as Market Makers of those private sector debt securities eligible for overnight repo with HKMA.

a) *What outside price or data sources are used?*

Quoting prices of Market Markers are used.

b) *If pricing models are used, please describe how the models are chosen and how the model inputs are obtained.*

Not applicable.

D. Please Discuss Whether the SSS Has a Lien on the Securities Held in or Transferred Through It.

CMU does not have a lien on the securities held in or transferred through it.

1. *Does the lien apply only to the securities owned by the participants themselves or does it extend to the securities beneficially owned by customers of participants?*

Not applicable.

2. *Under what circumstances and in what manner would such a lien allow the SSS to use the securities?*

Not applicable.

E. Please Discuss the Circumstances in Which the SSS Requires Collateral to Limit or Mitigate Risks.

CMU does not require collateral to limit or mitigate risks. However, CMU provides a highly automated collateral management system to support intra-day and overnight repo transactions entered between banks and the Hong Kong Monetary Authority, through which banks can obtain intraday liquidity or overnight funding. Only Exchange Fund Bills/Notes are accepted as eligible securities for intraday repo. Besides Exchange Fund Bills/Notes, MTRC Notes and some private sector debt securities of an acceptable credit quality are accepted as eligible securities for overnight repo.

1. *Does the SSS manage its own collateral system?*

Yes.

2. *Does the SSS share a collateral system with another SSS or payments system?*

The CMU collateral management system is an integrated system comprising securities settlement system and interbank payment system which are run in the same IBM mainframe computer.

3. *Can collateral at the SSS be posted and returned on the same day?*

Yes, collateral is posted and returned on real time basis.

4. *What types of transactions at the SSS involve the use of collateral?*

A money settlement of any types of securities transactions where the buyer (if buyer is a bank) or buyer's correspondent bank (if buyer is a non-bank) does not have sufficient funds in their settlement account would automatically trigger an intra-day repo transaction which involves the use of collateral (i.e., repo securities). More often than not, these intraday repo transactions are triggered to settle interbank payments not related to transactions at the SSS.

5. *What are the policies with regard to the type of collateral used or haircuts required?*

Exchange Fund Bills/Notes, MTRC Notes and certain CMU Instruments which are approved by the HKMA are eligible for overnight repo with HKMA. For intra-day repo transactions, only Exchange Fund Bills/ Notes are so eligible.

Both intraday and overnight repo transactions are subject to a hair-cut of 2% per year of the remaining maturity if Exchange Fund Bills/Notes and MTRC Notes are used as eligible securities. For private sector debt securities, in addition to 2% per annum of remaining maturity, they are subject to a minimum haircut of 5% disregarding their remaining period of maturity.

6. *How are collateral valuation methodologies developed and reviewed?*

The valuation methodologies are developed in consultation with market participants and are reviewed by internal and external auditors.

7. *To what extent are collateral policies described in the written rules and procedures of the SSS?*

Collateral policies are set out in the Exchange Fund Bills and Notes Clearing and Settlement System Reference Manual and the CMU Service Reference Manual.

F. Please Describe the SSS's Use of Limits on Exposures to Monitor or Control Risks?

Cash settlements of non-bank participants are settled by direct debit/credit the settlement accounts of their correspondent banks. In order to contain the credit exposure to its non-bank clients, the correspondent can set direct debit limit for each non-bank participant. Non-bank participants will then have to negotiate with their correspondent banks to determine the daily settlement limits relating to CMU transactions. Available settlement limits are increased/decreased during the day when CMU transactions are settled through the correspondent. In case the settlement obligation of a non-bank participant is over its available limit, the fund transfer cannot be effected. Settlement limits can be changed by the correspondent banks through their CMT anytime during the day.

1. *Please explain the types of limits used and the exposures to which they apply.*

The direct debit limits are applied to reduce the exposures of correspondent banks to their client participants.

2. *Do the limits apply to all participants and/or to other SSSs with which the SSS is linked? What are the exceptions to the limits?*

Only non-bank participants are subject to the limits set by their respective correspondent banks. Bank participants' ability to pay is subject to their available balances in their settlement accounts maintained with HKMA.

3. *Do limits apply to participants individually or in the aggregate or both?*

The limits apply to participants individually.

4. *Do limits apply to implicit as well as explicit extensions of credit or securities (e.g., when on-deliveries of securities are permitted pursuant to provisional but not final delivery of securities)?*

Not applicable. No implicit extensions of credit in CMU.

5. *Does the SSS automatically reject transactions that exceed limits or is compliance determined ex-post?*

Yes, all transactions that exceed limits are automatically rejected by the System.

6. *How are limit policies developed and reviewed?*

The amount of the direct debit limit is negotiated between the correspondent banks and non-bank participants.

7. *To what extent are limit policies described in the written rules and procedures of the SSS? Where does additional authority to set or amend limit policies reside?*

The arrangements of direct debit limits are set out in the Exchange Fund Bills and Notes Clearing and Settlement System Reference Manual and the CMU Service Reference Manual.

G. *Please Describe Other Controls to Mitigate or Reduce Risks at the SSS.*

1. *Do the SSS or its participants have the capacity to monitor participants' accounts continuously during processing?*

Yes, CMU has the capacity to monitor participants' cash accounts and securities accounts continuously during processing.

2. *Is there a special risk control regime that the SSS would apply to a participant known to be experiencing financial difficulties?*

CMU does not have a special risk control regime for a participant known to be experiencing financial difficulties. However, CMU may suspend a participant's membership if any events listed in VI.A are occurred.

3. *Does the SSS maintain or administer loss-sharing arrangements other than those applicable to events of default and addressed in Section VI above? Are these loss-sharing pools pre-funded by participants?*

No.

IX. Operational Risks

A. *Please Provide Assessments of the Operational Reliability of the Computer and Other Systems Used by the SSS, Including Any Criteria that the SSS Uses Internally for this Purpose.*

The operational reliability of CMU is regarded as satisfactory.

1. *What is the percentage uptime of the systems used by the SSS?*

a) *Whole system overall?*

The percentage uptime of the system is over 99.5%.

b) *Broken down by major components? (e.g., communications network, central processing facility)*

Breakdown by major components is not available.

c) *During critical processing periods?*

Breakdown by periods is not available.

2. *Has the SSS experienced major operational problems during the past two years?*

There were no major operational problems during the past two years.

a) *Have settlements been delayed, disrupted, or otherwise failed because of operational problems during this period?*

There was only one occasion that settlement of end-of-day batch settlement was delayed by half an hour.

b) *Please describe the nature of any such problems.*

The delay in (a) was due to computer breakdown of a major participant.

B. *Please Describe Contingency or Disaster Recovery Planning at the SSS.*

There is a disaster recovery plan for CMU and is described in the following sections.

1. *Does the SSS have a formal plan for business continuity in place?*

Yes.

2. *Is this plan available for review by participants?*

The detailed procedures are not available for review by participants. However, participants are informed of the contingency arrangements under different scenarios.

3. *How often is this plan tested? Does this include participation by participants in the SSS?*

The plan is rehearsed every 12 months. No participants are included in the test.

4. *What are the major elements of the business continuity plan?*

The contingency plan of CMU is developed under two different scenarios :

Scenario 1 : Disaster Recovery

There is a remote backup site with separate hardware and software located outside the commercial centre. Production data are copied to this backup site at Hong Kong Interbank Clearing Limited (HKICL) on real time basis. When a major operational disruption happens prohibiting from continuing the operations at the production computer centre, the disaster recovery arrangements will be triggered and the system operations will be relocated to the backup site. The computer operator of HKICL will then set up the contingency site and performs all necessary data recovery tasks to resume normal operations.

CMU Member Terminal (CMT) Breakdown of Individual Participant

When a participant encounters CMT system failure, the participant can use the terminal backup facility provided at HKICL's computer centre. The participant is required to bring along with its own latest CMT data backup tape to the computer centre. HKICL staff would assist the participant to setup the CMT system.

5. *How long would it take the SSS to resume operations if primary systems become unusable?*

The backup site can be setup within two hours if primary systems become unusable.

C. *What Are the Key Features of the Internal Controls Covering Operations and Security at the SSS? (e.g., Change Controls or Those Covering Remote Access)*

The internal control of operations and security covers two areas : physical security of accessing computer equipment and access of computer software and data. CMU and HKICL have a tight control in prohibiting unauthorized persons to access the computer equipment. Direct access to production software is not allowed. Changes in software must be tested in a development environment before promoted to the production environment. Two levels of authorization are required in modifying data.

1. *Please describe controls or security procedures in place to ensure that the SSS acts only on authentic settlement instructions from valid participants.*

Before a CMT can send any transactions to CMU System, it must log on to the CMU System. Each logon transaction must specify a Logon Sequence Number (LSN) together with a correspondent secret code which are held by the participant only. The CMU System would reject the logon request if the LSN or the secret code is invalid.

If a participant sends transfer instructions to CMU by SWIFT, the participant must exchange authenticated keys of the SWIFT System with CMU. Unauthenticated SWIFT messages are not accepted by CMU.

All CMU participants have testkey arrangements with CMU. Transfer instructions sent by fax must be authenticated by a testkey. CMU would verify the testkey before processing the transfer instructions.

2. *Are internal operational and security controls included in the internal and / or external audits of the SSS?*

Yes.

3. *Are internal operational and security controls covered by regulatory requirements applicable to the SSS?*

No.

D. Does the SSS Impose Minimum Operational or Performance Standards on Third Parties (e.g., Communications Providers)?

The computer operations of CMU System are performed by HKICL through a service agreement between HKMA and HKICL. Performance standards such as percentage uptime of the system and time for setting up a backup site in case of disaster are set out in the service agreement.

1. *How does the SSS ensure that such standards are met on a continuing basis and what sanctions are available to the SSS if they are not?*

CMU monitors the agreed standards continuously. Liabilities of HKICL are set out in the agreement in case of failure to meet the minimum standards.

2. *How would the SSS allocate losses incurred due to operational problems caused by third-parties?*

If losses are due to operational problems caused by third-parties, CMU would claim the third parties to cover the losses.