

FINANCIAL MARKETS LAW COMMITTEE

ISSUE 56 – EMERGENCY POWERS LEGISLATION

APPENDIX 5

MATERIALS RELATING TO INFRASTRUCTURE BODIES

This appendix to the Financial Markets Law Committee Report entitled “Issue 56 – Emergency Powers Legislation” dated November 2003 contains summaries in respect of, and extracts of primary material relating to, international wholesale financial market infrastructure bodies

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INTRODUCTION

This document is Appendix 5 to the Financial Markets Law Committee report on “Issue 56 – Emergency Powers Legislation” dated November 2003 (the “**Report**”). It contains: (i) a summary of the most important provisions for UK/European infrastructure bodies in tabular form; (ii) summaries of many of the infrastructure bodies whose rules and operations have been considered in the preparation of the Report; and (iii) where available, extracts of primary material used in the preparation of the Report, such extracts being relevant to show how the infrastructure body in question would deal with an event of major operational disruption.

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UK/EUROPE INFRASTRUCTURE SUMMARY TABLE

Institution	Relevant Actor	Triggering Event/ Circumstances	Power to Take Any Action	Power to Keep System Operational	Power to Amend Contracts Immediately	Power to Amend Rules Immediately	Power to Suspend Trading, Settlement, or Clearing	Power to Close Institution	Other Powers
CHAPS*	CHAPS Company Board and the Bank of England jointly	“In the event that the Bank of England is, for <u>any</u> reason, unable to receive or process settlement requests.” (emphasis added) (NewCHAPS 6.1.1) No general force majeure events clause.	No	Yes. Power to operate the systems in “RTGS By-Pass Mode” if the Triggering Event occurs. Also operates a back-up site or could operate from a Bank of England site using Bank of England personnel. Note: CHAPS also relies on the SWIFT messaging system.	Not applicable	No such express power	No such express power	No such express power	Power to suspend or exclude members if there is a “threat to the security, integrity or reputation” of the system. (NewCHAPS 7.2)
BACS* (electronic clearings for	BACS Ltd, Cheque and Credit	A very broadly drafted force majeure events	Yes. On occurrence of any force	Yes. “Any reasonable action”,	Not applicable	Yes. “Any reasonable action”.	Yes, although power is to take “any	No such express power	Power to suspend members if they

* Indicates throughout that primarily UK regulated

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direct credit and direct debit schemes), Cheque and Credit Clearings* (clearings for cheque and paper credits schemes).	Clearing. Company Ltd	clause (includes sabotage, terrorist acts etc) (Settlement Agreement 10.1)	majeure event, system operator has power to take <i>any</i> reasonable action to manage the <u>continued operation</u> of the system (Settlement Agreement 10.2)	specifically including power to issue instructions to members or their indirect clearers. Also operates back-up systems.			reasonable action to manage the <u>continued operation</u> of the system”.		threaten the orderly operation and integrity of the system.
EBA Euro 1	ABE Clearing S.A.S. (System Operator)	Force majeure clause covering, inter alia, events that in the reasonable opinion of the System Operator are likely to significantly affect the operation or integrity of the system, except for an Exclusion Event or a Suspension Event.	Yes. System Operator can issue instructions and take actions as necessary to manage the continued operation of the system.	Yes. EBA Clearing operates a permanently manned “hot” back-up site in Brussels. It is designed to function even in the event of the total destruction of the main Paris site and its personnel.	Not applicable	Yes, broad powers.	Yes, broad powers.	Yes, broad powers.	Power to declare an individual banking holiday for a participant.
SWIFT	SWIFT Board	“...in an	No.	Yes.	No such	No such	Yes.	No such	SWIFT need

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	of Directors	emergency” – for purposes of suspension power (General Terms and Conditions Article 4.4.2). SWIFT under no obligation to perform any obligation or incur any liability resulting from a force majeure event (Articles 8.6 and 8.8).	No such power to take <i>any</i> affirmative action.	Two operating centres (one in the Netherlands, one in the U.S.) both capable of managing the entire network should the other be unavailable. Advanced business continuity plan.	express power	express power	SWIFT may suspend the provision of its services (for as long as reasonably necessary) for purposes of security or proper performance or in an emergency after giving notice to its customers (General Terms and Conditions Article 4.4.2).	express power	only use “all commercially reasonable efforts” to provide its services (General Terms and Conditions Article 4.3).
CLS Bank International	Board of Directors or management of CLS Bank (unless expressly stated to be Board)	Force majeure clause relieves CLS from obligation to perform its obligations (Rule 1.17). Does not grant it any affirmative powers. Separate provisions where a “Settlement	No	Yes. CLS Bank has dual data centres and dual operating sites, and undertakes regular contingency testing and trials.	Yes. CLS Bank has specific power, if a “Settlement Disruption Event” occurs, to suspend settling or change the “value date” of the affected instructions (Rule 5.4).	Yes. Board or President of CLS Bank may amend Rules by notice if in its reasonable discretion exigent circumstances exist for the protection of CLS Bank or its	Yes. If CLS is, by reason of a force majeure event, prevented from performing its obligations, then CLS is relieved of its obligation to perform until the impediment	No such express power	

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		Disruption Event” occurs (defined in Rule 1.1.95 as making it “impossible, impracticable or inadvisable” to settle) (Rule 5.4).				members or to comply with law (Rule 1.2).	is removed (Rule 1.17).		
London Stock Exchange*	Executive Director of LSE Board of Directors	Very broad discretion under various different Rules e.g. “...if the LSE considers it appropriate to do so” (Rule 4145.4 – suspending the automatic execution of orders; Rule 3040 – power to prohibit any transaction for any reason). Separate force majeure clause in Trading Services Agreement exempts the LSE from any liability (Clause 12.1).	Yes. The LSE has the power to suspend trading in a security, to stop certain execution methods or to close all the markets (Rules 3040 and 4145). Following this, “the Exchange may impose such conditions as it considers appropriate prior to resumption of trading” (Admission and Disclosure Standards	Yes. Comprehensive back-up IT systems and sites, tested regularly. LSE also undertakes regular recovery scenario testing.	No such express power	No such express power to amend the Exchange’s Rules themselves but general discretion to waive enforcement (Rule 2001).	Yes. If the FSA suspends a security's listing, the LSE will suspend its admission and trading (Cl. 3.13 A&DS). LSE may suspend trading of securities where the orderly operation of the markets is jeopardised (Cl. 3.14 A&DS and Rules 3040 and 4145). May also postpone settlement	No such express power but practical effect of powers to suspend / postpone trading.	

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			Clause 3.16).				indefinitely or for a specified period (Rule 3705). LSE may, at its discretion, suspend, postpone (either for a defined period or indefinitely) or cancel the buying-in of securities at any time, either generally or in relation to a particular member firm or a particular security (Rule s810).		
Euronext.liffe*	Generally the Board of Euronext.liffe. Designated officials also have certain powers.	“In its opinion, <u>any</u> circumstances calling for emergency action” (Rule 4.16.1). In addition, broad discretion under	Yes. The Board may take “ <u>any</u> steps whatsoever” to enable the orderly conduct of business where, in its opinion, there	Yes. “Any steps”. Also has back-up systems and sites.	Yes. “Any steps”. Expressly includes “the modification of contracts already in being” (Rule 4.16.3).	Yes. “Any steps”.	Yes. In addition to the Board’s power to take “any steps”, two designated Euronext.liffe officials have the express	Yes. In addition to its power to take “any steps”, the Board has the express power to determine that the LIFFE market shall	General non-emergency power of the Board to implement such procedures as it deems fit, including in relation to <u>any</u>

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		various express powers. Note: there are also separate emergency provisions contained within the Contract Terms of LIFFE's contract itself.	are circumstances calling for emergency action (Rule 4.16.1). The LCH shall be invited to attend the Board meeting.				power to suspend summarily business on the market in any Exchange Contract at any time if, in their opinion, it is necessary in the interests of the Exchange, or its members, or to ensure an orderly market (Rules 4.15.1 and 5.8.1).	close on any day (Rule 4.2).	aspect of business conducted on the market (Rule 4.14.7).
International Petroleum Exchange*	Directors or "designated Exchange officials" depending on the particular power being exercised.	Suspension of trading upon a fire alert, bomb scare or other alarm or any event which makes a suspension necessary (Regulation G.14). No general events clause granting	No. However, a general IPE regulation gives the Directors the power, where there is no express provision in the IPE Regulations, to implement such procedures as they think fit in relation to any	Yes. Detailed operational recovery plans including a "warm" disaster recovery site.	Yes. Broad catch-all regulation.	Yes. Broad catch-all regulation.	Yes. In the event of a bomb scare etc, trading may be temporarily suspended by an IPE official if, in his opinion, it is necessary in the interests of the IPE, its members or to maintain a fair and orderly	Yes. The Directors have a general non-emergency power to declare a non-business day after giving notice to members (Regulation A.5.1). The Directors also have a	In the event of a temporary emergency suspension, the "Senior Exchange Official" shall determine the settlement prices (Regulation G.14(b)(ii)).

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		affirmative powers. However, broad non-emergency powers which require no trigger.	aspect of the conduct of business on the Exchange (Regulation A.2.5). In addition, the Trade Emergency Panel may take any steps whatsoever in relation to “an excessive position or unwarranted speculation or any other undesirable situation or practice capable of affecting the Market” (Regulation I.15(b)).				market (Regulation G.14a).	broad non-emergency power to close the market temporarily if they decide it is appropriate in the circumstances (Regulation A.8b).	
London Metal Exchange*	Directors / Special Committee	At any time as the Directors think fit (Articles of Association, Art. 48). If the special committee or	Yes. No such express power but Directors can amend Rules at any time (Art. 48).	Yes. Recovery procedures including fully-equipped off-site facilities	Yes. Directors can amend Rules at any time (Art. 48) so as to amend contracts (Part 4, Rule 1).	Yes, at any time (Art. 48).	Yes. Directors can amend rules at any time (Art. 48). Plus express powers to	Yes. The Directors have a general non-emergency power to declare a non-business day	Power of Special Committee to suspend a participant.

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		directors suspect an undesirable situation or an undesirable or improper trading practice which has affected or is likely to affect the market (Part 3, Rule 15.1).	Special committee or Directors may take steps they deem necessary in their discretion (Part 3, Rule 15.1).		Plus specific power of Directors to determine settlement prices of contracts affected (so as to prevent delivery, settlement or closing an open position) by an emergency cessation of trading (Part 3, Rule 15.6).		suspend trading in any Contract upon the occurrence of any event outside the Exchange which may prevent free trading in any Contract. But the Directors must consult the London Clearing House first (Part 3, Rule 15.5).	(LME Definition of a “Business Day”).	
London Clearing House*	Board with delegation to Executive.	The occurrence of a broad force majeure event.	Yes. LCH has the power to require members to deal with affected contracts as it directs or take such action as LCH may direct in respect of the same (Regulation 27(b)(i)).	Yes. Fully-tested remote data centre and two back-up sites.	Yes. Upon the occurrence of a force majeure event, the LCH may require members to take such action as it directs in respect of contracts (i.e. effectively amending those contracts) (Regulation	No such express power but powers with respect to affected contracts (see left) have similar effect.	No such express power but powers with respect to affected contracts (see left) have similar effect.	No such express power	Where contracts cannot be transferred to or from the LCH for any reason (e.g. system failure), they shall be transferred on the next day it is possible to do so (Regulation 44).

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					27(b)(i). Additional regulation relating to “invoicing back” (closing out) contracts in event of war or government intervention (Regulation 26).				
CREST*	Chief Executive or Deputy Chief Executive.	Circumstances beyond CRESTCo’s reasonable control – gives CRESTCo the power to suspend operation of its systems or services or vary its timetable (Terms and Conditions clause 5.2.8)	No.	Yes. If there is a system failure, CRESTCo is under a <u>duty</u> to take reasonable care to minimise the disruption and to operate its stand-by procedures (Terms and Conditions clause 17.5). As part of its contingency plans, CRESTCo has geographically	No. Changes to the <u>Terms and Conditions</u> generally only take effect 40 days after notice has been served on the Member (see further “Other Powers”). However, changes to the <u>Rules</u> can be made urgently without consultation (see further “Power to	Yes. Where an urgent change is required to the <u>CREST Rules</u> to deal with “an unforeseen situation”, changes may be made on a temporary “as necessary” basis until a consultation process has been followed. (CREST Reference Manual, Chapter 1,	Yes. Force majeure clause gives CRESTCo the right to suspend operation of its systems or services in whole or in part if, in its discretion, it considers it appropriate to do so by reason of circumstances beyond its reasonable control. (Terms and Conditions	No.	“...the provisions of the CREST Manual, the CREST Rules and these Terms and Conditions may be changed from time to time... Such changes will be made in the manner described, and subject, where relevant, to the applicable prior consultation procedure set out in the

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				<p>separate “hot” back-up processing and operations sites. Also contingency arrangements between CRESTCo and the Bank of England in the event that there is any operational disruption to the link between CREST and the RTGS processor.</p>	Amend Rules”).	Section 1).	<p>clause 5.2.8). CRESTCo can also vary the “daily timetable” or extend a settlement day if it would mitigate the effects of operational disruption (also under 5.2.8).</p>		<p>CREST Manual.” (Terms and Conditions clause 19.1). Changes which restrict or exclude CRESTCo’s liability or which impose additional obligations or liabilities on the participant must be subject to prior consultation (Terms and Conditions clause 19.2). “No change to the Terms and Conditions shall take effect until the earlier of 40 days after service of notice on the Member”, or, in the case of an optional service</p>

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									<p>the date the Member first uses the service (Terms and Conditions clause 19.3). If services are interrupted, CRESTCo is under a duty to take reasonable care to minimise the duration of any interruption and to operate its stand-by procedures (Terms and Conditions 17.5). CRESTCo may suspend a member if it is in breach, threatens the security or integrity of the system or is disruptive to other members or the networks</p>

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									(Terms and Conditions 16.1).
Euroclear	Euroclear Bank	Force majeure clause does not give affirmative powers to address disruptive events (instead excluding liability) (Terms and Conditions Article 12). However, other non-emergency clauses give Euroclear Bank the discretion to refrain from acting / delay processing in certain situations.	No.	Yes. Detailed business continuity plans and back-up site.	No.	Yes. In “exceptional or contingency situations”, Euroclear may adjust the rules that govern its processing services (Operating Procedures, Part I, Article 12.1(h)).	No such express emergency power but non-emergency powers to refuse to accept any securities for deposit, and to refuse to deliver to any participant securities where it is necessary in the best interests of participants generally or of the Euroclear system (Operating Procedures, Part I, Article 4.2). Also, if Euroclear Bank is unable, for <u>any</u> reason, to perform	No.	If an account holder suffers loss as a result of any act of any other depository, clearance system etc, then Euroclear shall take steps to effect a recovery as it deems reasonably appropriate (and will charge the holder for any cost incurred in so doing) (Terms and Conditions Article 12(c)).

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							overnight settlement or real-time processing, it may perform such settlement / processing at such time as it in its sole discretion determines (Operating Procedures, Part I, Article 12.1(f)).		
Clearstream	Clearstream Banking, Luxembourg ("CBL")	Broad force majeure clause lists events beyond CBL's reasonable control (and excludes CBL from liability) (General Terms and Conditions, Article 48).	Yes. If, in CBL's judgment, a force majeure event occurs, CBL reserves the right, exercisable in its sole discretion (Art. 63), to undertake such measures as it may deem necessary to protect the	Yes. "Such measures as it may deem necessary".	Yes. "Such measures as it may deem necessary")	Yes. "Such measures as it may deem necessary")	Yes. "Such measures as it may deem necessary")	Yes. "Such measures as it may deem necessary")	If a customer suffers loss as a result of any act of any of CBL's depositories, custodians etc, then CBL shall take steps to effect a recovery as it deems reasonably appropriate (and will charge the holder for any cost incurred in

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			interests of CBL and/or its customers (General Terms and Conditions, Article 48).						so doing) (General Terms and Conditions, Article 48).

SUMMARIES

A. UK Payment Systems

A.1 CHAPS

CHAPS¹ is the UK same day interbank system designed originally for high-value wholesale payments, run by the CHAPS Clearing Co. Ltd. The generic term CHAPS is frequently used to describe both CHAPS and the Bank of England real-time gross settlement (“RTGS”) system, but they are in fact separate with CHAPS settling through the Bank of England RTGS system. The Bank of England also provides the accounting engine, whilst SWIFT provides the secure networks and messaging standards. This means that, in terms of contingency, it is necessary not only to consider CHAPS itself, but also the Bank of England RTGS system and SWIFT.

An RTGS system processes payments individually and continuously in real-time during business hours. CHAPS operates in sterling (CHAPS Sterling) and euro (CHAPS Euro, which is linked to TARGET). CHAPS Sterling and CHAPS Euro operate on a common technical platform using the same RTGS processor.

Under the NewCHAPS rules (effective 3 July 2003), a Business Day is defined as any day on which the NewCHAPS Systems are (or one of them is) operating, and a NewCHAPS Sterling Business day is a day on which the NewCHAPS Sterling System is open for making sterling payments.

CHAPS can suspend and/or exclude a member if circumstances have arisen which could be prejudicial to the relevant system or represent a threat to the security, integrity or reputation thereof. There is no general force majeure clause, which is because in normal operational RTGS mode payments are only released after settlement has occurred.

CHAPS operates a prime site and a warm back-up site, both of which are located within the affected area in the Hypothetical Scenarios. If neither of these is available, CHAPS could also operate from a Bank of England site, and in the event of loss of CHAPS personnel, the Bank of England personnel are familiar with the CHAPS system. By a memorandum of understanding between them, the Bank of England and CHAPS Clearing Co Ltd have agreed (albeit on a basis which is not legally binding) that, in the event of a failure of one of the systems, they will act flexibly and will co-operate closely to make all reasonable efforts to restore the full service as soon as possible. CHAPS also relies on SWIFT and its back-up site (if appropriate).

The Bank of England RTGS system back-up site implements non-overlapping shifts so that the skilled personnel will not all be located at the primary site at the same time. In addition, in the event of loss of both Bank of England prime and back-up sites, CHAPS can revert to RTGS By-Pass Mode operation for either or both CHAPS systems, involving a single amount end-of-day settlement algorithm supported by a legally robust multilateral netting facility.

A.2 BACS² and Cheque and Credit Clearing

BACS Limited runs electronic clearings for the direct credit and the direct debit schemes. Cheque & Credit Clearing Ltd runs clearings for the cheque scheme and the paper credit and debit schemes.

The Settlement Agreements signed in respect of each of these high-volume, low-value clearing systems uses the definition "Processing Day" rather than "business day". The Processing Day is not necessarily adjusted if it falls on a bank holiday. In addition, each Settlement Agreement contains definitions of a broadly drafted force majeure event, and allows the system operator to take such reasonable action as it deems necessary for the continued operation of the system. The system operator can also suspend a participant in the system if it determines that it is necessary to ensure the orderly operation and integrity of the system. These systems

¹ Clearing House Automated Payment System.

² Bankers' Automated Clearing Services.

currently operate on a three day settlement cycle, ie payment messages submitted on D will be netted same day but the single net settlement amount will be paid (or received) by the participants through the Bank of England RTGS system on D+2.

BACS's business continuity processes include comprehensive and thoroughly tested monitors and controls to ensure that BACS is able to manage and reduce the impact of any risks that might pose a threat to the smooth running of its service. Regularly tested back-up systems are in place in the event of a disruption to the primary processing centre. BACS also has an established emergency team to enable a quick reaction and prompt business resumption.

The Cheque & Credit Clearing Co. shares the back-up site for CHAPS Ltd (although not the back-up site for the CHAPS system which, as stated above, uses the Bank of England and SWIFT back-up sites). However, as a largely paper based clearing other options could be easier to implement than for electronic clearings in an emergency.

B. International Payment and Messaging Systems

B.1 TARGET³

TARGET is the RTGS system for the euro. It consists of 15 national RTGS systems (one from each EU Member State, being CHAPS Euro in the case of the UK) and the ECB payment mechanism, which are interlinked using a SWIFT network to provide a uniform platform for the processing of cross-border payments. It was originally designed for large value payments but due to its capability to reach upwards of 5,000 European banks carries a significant number of smaller payments.

TARGET provides intra-day finality, which means that settlement will be final once the funds have been credited to the receiving NCB's accounts. The money received will be central bank money.

The legal framework of TARGET is built on:

- (i) a Guideline of the European Central Bank on a Trans-European Automated Real-Time Gross Settlement Express Transfer system addressed to National Central Banks ("NCBs") of member states which have adopted the euro⁴;
- (ii) an Agreement on a Trans-European Automated Real-Time Gross Settlement Express Transfer system between the ECB and the NCBs which provides a mechanism whereby the NCBs of member states which have not adopted the euro can connect to TARGET and adhere to the rules and procedures of the system (this is not a public document); and
- (iii) Correspondent Central Bank rules (which deal with, for example, the holding of collateral) and each of the sets of rules and procedures for the national regulations and/or contractual provisions applying to each of the national RTGS systems which are component parts of TARGET (e.g. the NewCHAPS Rules). For participants in a national RTGS system participating in or connected to TARGET, the applicable rules will continue to be the national RTGS rules for that system, as these rules have been amended to reflect the Guideline and the Agreement referred to above.

In the event of a national RTGS going down, TARGET Rules require that the stricken RTGS advise all other TARGET linked RTGSs within a maximum of 30 minutes. Because of the functionality built into CHAPS Euro, which monitors the timeliness of payment message confirmation returns from individual RTGS via

³ Trans-European Automated Real-time Gross settlement Express Transfer system.

⁴ Guideline ECB/2001/3 of 26th April 2001.

TARGET, CHAPS will know of a problem at TARGET or another RTGS generally within minutes. CHAPS has a paging system to alert designated officers at CHAPS Euro member banks.

All constituents of TARGET and the ECB payment mechanism will be open on any day on which at least two NCBs are open to make payments. From a continuity point of view, this means that a bank holiday in one TARGET country will not generally be a complete obstacle to making a euro payment through TARGET since the payer can use a branch, affiliate or correspondent bank which has access to another payment system linked to TARGET.

All components in TARGET, which includes all RTGS systems, have both back-up and contingency arrangements. In case of a failure on the primary site, each RTGS system is able to switch to a remote secondary site and to be operational again within a maximum of 4 hours. If both the primary and secondary sites are unavailable at the beginning of a business day, or if settlement account information is not available during the day, each NCB has a contingency plan which enables it to continue processing at least the most critical payments, which include monetary policy operations and the processing of net settlement system and securities clearing system settlement payments and liquidity transfers, in conjunction with other NCBs and the ECB. The stricken NCB may ask other NCBs to stop sending payments.

Liquidity is provided by the European System of Central Banks (“**ESCB**”) to NCBs of EU Member States that have adopted the Euro under the ECB Guideline in (i) above. The eligibility of collateral required for this is currently subject to review. The ESCB also provides liquidity to NCBs of non-EU Member States (up to €3 billion for the Bank of England) provided that it is fully collateralised with eligible collateral as set out in the ECB/NCB agreement in (ii) above.

B.2 EBA Euro 1

Euro 1 is the major Euro Same Day Non-RTGS System. Like CHAPS, it is based on SWIFT messaging, but in this case SWIFT also provides the core processing service. It has 74 members covering all 15 EU Member States plus multiple sub-participants throughout the same area.

It is operated by the EBA Clearing Company and based in Paris, but is effectively country neutral. At its simplest, it is an end of day multilateral net settlement system, ultimately settling in central bank funds but underpinned by a legal concept known as the Single Obligation Structure (“**SOS**”). Under SOS, the participants agree to establish payment obligations and claims directly in respect of the net amounts that they in fact intended to pay. Consequently, during the entire period from the first payment instruction a participant sends or receives on a particular day, until the settlement of the net amount payable by or to such participant, there will only ever be one single payment obligation or claim of that participant.

The concept relies on contractual agreement between the participants, but is strengthened by being governed by German law, which has two supporting legal concepts. The first of these legal concepts is *Skontration*, generally recognised under German law since the 19th Century. The German Supreme Court has consistently held that as a result of an agreement of *Skontration*, the payments of the negative balances arising in a multilateral payment system constitute due performance of the obligations arising from payment instructions issued within the payment system. The second legal concept enhancing the acceptability of certain SOS elements is *Anrechnung*, according to which a payment obligation may be agreed to be from the outset for the balance of several positive and negative amounts, without such amounts representing separate claims and obligations. Under German civil law, a payment obligation for a net amount is not necessarily considered as a product of several gross payment claims and obligations, but may result from the single computation of amounts in a manner agreed by the parties. Robust legal opinions have been obtained on the ensuing documentation, not only under German law but also all other relevant jurisdictions, including England and Scotland.

The EBA Euro 1 documentation contains a force majeure clause covering events arising from causes beyond the control of the System Operator, the European Central Bank, the Processing Agent or the Participants, such as power outages, sabotage, terrorist acts, natural disasters, war and insurrection or any other event that in the reasonable opinion of the System Operator is likely to significantly affect the operation or integrity of the system, except for an Exclusion Event or a Suspension Event.

As far as operational contingency is concerned, EBA Clearing operates a permanently manned “hot” standby site in Brussels, with independent utility suppliers and communications plus separate connections to SWIFT. It is designed so that even in the event of total destruction of the Paris site and all personnel located there, the system could continue to operate.

B.3 Fedwire

Fedwire is an electronic transfer system developed and maintained by the U.S. Federal Reserve System, which enables financial institutions to transfer funds and book-entry securities nationwide. It connects Federal Reserve Banks and Branches, the U.S. Treasury and other U.S. government agencies, and more than 9,000 on-line and off-line depository institutions.

Payment Orders accepted by a Reserve Bank through Fedwire must be executed, or the beneficiary paid, on the same funds transfer business day that it received the order even if it is not the same calendar day (ie where the system's opening hours are extended beyond midnight). Fedwire users are responsible for developing their own contingency and recovery plans, such as back-up computer and operations facilities, to ensure their ability to continue Fedwire operations in the event of equipment failure or other operational disruption. If an emergency occurs or a Reserve Bank's computer or operations facilities fails, Payment Orders may be delayed until the emergency or failure is resolved. During extended disruptions, the Reserve Bank's Fedwire operations may be relocated to a back-up site. Each Reserve Bank has its own contingency guidelines, but these are not publicly available information.

B.4 CHIPS

CHIPS is a private-sector funds transfer network specialising in international transactions. It is owned and governed by the Clearing House Interbank Payments Company (“**CHIPCo**”), in which each CHIPS customer has an ownership interest and ten large banks hold directorships. Together, CHIPS and Fedwire handle most large U.S. dollar transfers. Traditionally, most CHIPS transfers resulted from international transactions, and were settled on a net basis at the end of the day using Fedwire funds transfers to and from a special settlement account on the books of the New York Federal Reserve Bank. In January 2001, CHIPS introduced intra-day hybrid settlement, which provides payment finality through a real-time system that employs an algorithm to determine the order and timing in which payments are matched, netted and settled. Since then, CHIPS's focus has shifted more to domestic U.S. business.

To promote business continuity, CHIPS maintains multiple computers at both its primary and back-up operational sites. Each site employs its own power sources, support systems, and telecommunications feeds so that it can operate independently. They are also linked by dedicated, fibre optic cables that enable each site to reinforce the other by recording every transaction in real time at both sites. Maintaining a “hot” back-up site allows CHIPS to switch from primary to back-up in five minutes, with no loss of payments or data. CHIPS tests its contingency plans annually in mandatory simulations involving all CHIPS participants, and the plans have proven effective when relocation was required.

The President of CHIPCo has absolute discretion to direct a course of action he deems necessary in the event of a break in communications between the CHIPCo computer and one or more participants, a closure of the CHIPS system, or some other emergency. If the President declares that CHIPS is closed, but does not order any action, participants may transfer payments to other participants via a selected Designated Receiver using Fedwire.

B.5 CLS Bank International

CLS Bank International (“CLS”) is a special purpose bank that provides a continuously linked settlement service that simultaneously settles both payments under a foreign exchange transaction in eleven currencies⁵. CLS does not guarantee the settlement of every payment instruction that is submitted for settlement, nor does it become a central counterparty to any foreign exchange transaction which is submitted for settlement. It is not linked to the settlement of transactions on any exchanges or clearing houses.

Payment instructions are finally settled under the CLS Rules when CLS debits and credits the relevant participants’ accounts for the amounts involved (using PVP), which can occur throughout the settlement process. Participants will fund their payment obligations to CLS on a net basis by specified times, and will receive payments from CLS, throughout the business day. CLS has an account with the national central bank or monetary authority of each currency in which it settles instructions. In the UK, payments in sterling to and from CLS are dependent on CHAPS Sterling being in operation. On days that the national central banks or monetary authorities of both currencies involved are open, CLS settles transactions in the five hour window of overlapping business hours (three hours for Asia-Pacific).

If CLS is, by reason of a (broadly defined) force majeure event, prevented from performing its obligations, then CLS is relieved of the obligation to perform until the impediment is removed. The declaration of non-Banking Days in relevant jurisdictions entitles CLS to change the value date of instructions to the next appropriate Banking Day. If CLS is prevented from settling a currency, it may suspend settling affected instructions or change the value date for affected instructions.

B.6 SWIFT⁶

SWIFT is used to connect financial institutions⁷ securely and reliably to one another. Its payment message is an instruction to transfer funds, though the actual transfer of funds takes place over a payment system. The financial institutions collectively exchange millions of messages valued in trillions of dollars every business day. Importantly for this FMLC analysis, SWIFT is the messaging hub for numerous domestic and cross-border clearing and settlement systems (it supports 10 clearing and securities settlement systems and 30 payment systems).

SWIFT has two operating centres; one in the Netherlands and one in the U.S. These are both capable of managing the entire network should the other be unavailable either in whole or in part.

SWIFT provides a resilient network by duplicating lines and equipment, eliminating single points of failure and has an advanced business continuity plan. It provides close to 100 per cent. availability year after year. SWIFT does not hold accounts for its financial institutions so it does not directly contribute to settlement risk, though its messaging services are designed to assist account holding institutions with controlling settlement risk. This is done, for example, by services such as Ycopy which prevent release of the payment message until settlement has been made. However, in the event of major operational disruption, such techniques may be overridden by fallback procedures.

SWIFT’s governing rules, which are embodied in its Articles of Association, By-Laws and General Terms and Conditions, limit SWIFT’s liability and obligations and provide it with limited additional powers in an emergency. The SWIFT By-Laws and General Terms and Conditions use two means to contain its liability and obligations. First, they expressly exempt SWIFT from liability for damages resulting from its failure to

⁵ The currencies offered are sterling, U.S. dollars, euro, yen, Swiss francs, Australian dollars, Canadian dollars, Singapore dollars, Danish krone, Norwegian krone and Swedish krona. These should be joined in 2004 by the Hong Kong dollar, the New Zealand dollar and the Korean won.

⁶ Originally standing for 'The Society for Worldwide Interbank Financial Telecommunication'.

⁷ Including banks, broker-dealers, investment managers, stock exchanges, depositories, trustees, payment systems, clearing systems, settlement systems, banks’ corporate customers; provided that they comply with SWIFT’s eligibility criteria.

act due to force majeure or technical failure. For this purpose, "force majeure" is defined broadly to include all circumstances that prevent SWIFT against its will from performing its obligations. Second, they limit SWIFT's obligations to using "*all commercially reasonable efforts*" to provide the SWIFT Services and Products.

In the event of an emergency, or to comply with an order of a regulatory authority, SWIFT may suspend the provision of its services and products for as long as reasonably necessary in the circumstances. However, there is no apparent power to take affirmative actions to protect its customers' best interests nor to amend relevant operating procedures so as to mitigate the effects of an emergency without halting services entirely.

C. UK Exchanges

C.1 London Stock Exchange

The London Stock Exchange ("**LSE**") is the home to Europe's largest and the world's most international markets. In addition to the Main Market, AIM and EDX London, it also provides trading services (including SETS and SEAQ⁸) and information products.

Under the Rules of the LSE, a business day is simply defined as "*any day on which the Exchange is open for business*". This suggests that a declaration of an unscheduled bank holiday under s. 1 of the Banking and Financial Dealings Act 1971 ("**BFDA**") does not necessarily require the LSE to close on that day. Market makers and committed principals are not excused from their obligations by the mere existence of a bank holiday.

This is different to the Listing Rules definition of a business day as "*any day which is not a Saturday, Sunday, Christmas Day, Good Friday or a bank holiday in England under the Banking and Financial Dealings Act 1981*". This could potentially lead to problems with the LSE being open, but certain requirements of the Listing Rules not being applicable. Most importantly, however, chapter 9 of the Listing Rules on notification requirements states that they must be made "without delay", and there is no mention of them having to fall on a business day, so it would seem that listed companies are still required to make usual disclosures on bank holidays.

The LSE can prohibit any transaction or class of transactions from being dealt on exchange for whatever reason, and may postpone or extend a settlement period for all transactions or for specified transactions indefinitely or for a specified certain period. The listing of securities may be suspended by the FSA if it thinks that the orderly operation of the LSE's markets is, or may be, temporarily jeopardised. If listing is suspended, the admission and trading of those securities will also be suspended. The LSE may also suspend trading without suspending the listing. These powers are likely to be important in an event of major operational disruption.

Through its EquityClear service, the London Clearing House acts as a central counterparty in relation to trades across SETS of shares which can be settled in CREST. If the London Clearing House so requests in accordance with its rules, automatic trading will be suspended. The LSE may itself suspend automatic execution of orders in one or more order book securities if an exchange problem occurs or it considers it appropriate to do so. These powers could also be useful in an event of operational disruption.

The LSE can waive enforcement of its Rules at its discretion.

The trading services agreement between brokers and the LSE contains a force majeure clause which exonerates the parties from performance where the delay or failure in performing is due to a Force Majeure Event, which is defined as an event beyond the parties' control.

⁸ SETS is the LSE's electronic order book used for around 200 of the UK's largest companies. SEAQ is the real-time quote display mechanism for around 2000 UK securities less suited to trading on SETS. There are other trading services available for international securities.

Many OTC contracts rely on LSE prices. Problems arising as a result of disruption to those LSE prices should be dealt with in the contracts themselves. In addition, the Johannesburg Stock Exchange relies on LSE systems, as do Dutch brokers for trading in certain shares.

The LSE has comprehensive contingency plans⁹ in place to deal with system and premises related disruptions, which are continuously reviewed to ensure they are up-to-date and remain appropriate to the level of attendant risk. The LSE operates from three buildings: the primary systems site, the back-up systems site, and the primary business operations centre. IT facilities are run from the primary systems site; the system recovery facilities (which run on duplicated systems) are at the back-up systems site. Business operation recovery facilities are available at both the primary and backup systems sites.

The LSE's recovery services are exercised regularly. The business operations facilities are tested and validated monthly; the system back-up facilities are tested regularly with full alternate site invocation tests conducted quarterly. The LSE undertakes pure technical testing to validate its internal backup invocation processes and full market testing where its customers participate in scheduled tests to ensure they can connect to the LSE's back-up systems. In addition, the LSE undertakes regular simulation or scenario testing to ensure its incident management procedures and facilities are fit for the purpose and to provide business continuity training for staff involved in recovery activities. These resiliency arrangements are regularly reviewed by the FSA as the LSE is a Recognised Investment Exchange.

C.2 Euronext.liffe

Euronext.liffe is the international derivatives business of Euronext. It provides futures and options across five different currencies and product lines: bonds, short term interest rates, swaps, equities and equity indices, and commodities.

The Board of Euronext.liffe may determine that the market shall be open or closed on any day, or that any Exchange Contract shall or shall not be available for trading. A Trading Day is defined in the general Euronext rules as any day on which the Euronext markets are open for trading. The rules specific to Euronext.liffe state that the market shall normally be closed on public holidays and days on which trading is suspended under the BFDA.

The Board shall implement such procedures as it deems appropriate to determine opening and closing ranges of contract prices. The Board may also implement such procedures as it deems fit, including in relation to any aspect of business conducted on the market.

Two designated Euronext.liffe officials are empowered to restrict or suspend business on the market in any Exchange Contract at any time if in their opinion it is necessary in the interests of Euronext.liffe or its members, or to maintain a fair and orderly market. Furthermore, one exchange official may be authorised to suspend business on the market in any Equity Option Contract where the trading of the underlying shares is restricted or suspended by any exchange on which it is listed.

In addition, the Board may take any steps whatsoever (after consulting a Market Advisory Committee where applicable) to preserve or restore the orderly conduct of business or the due performance of contracts where they are under threat from circumstances that in the opinion of the Board call for emergency action, and shall invite the London Clearing House to attend the Board meeting. These steps may include the suspension or curtailment of trading in one or more Exchange Contracts or delivery periods for such time as may be specified, and liquidation of open contracts (invoiced back at a price determined by the Board).

In addition, there are force majeure and/or emergency provisions contained within LIFFE's various Contract Terms, the terms of which differ depending on the nature of the contract concerned. Broadly speaking, the

⁹ Technical documentation is available on the LSE's website at www.londonstockexchange.com describing the back-up systems in detail. The relevant documents in the technical library are TSI102 on Interface Specification and TSI103 on Network Specification.

standard force majeure language (where the event is beyond a party's reasonable control) is expressed to be subject to the emergency powers of the Board of Euronext.liffe under its Rules (and to LCH's default rules, where applicable) but then provides for invoicing back at a price to be fixed by the Board (in consultation with the LCH, if appropriate), either immediately or after a period of time. Some contracts have wider powers if there is a war or the exercise by government of its powers etc which is likely to affect the normal course of business; in that situation, the Board can require contracts due to deliver in certain months to be invoiced back. The emergency provisions give the Board powers, for example, to adjust the last trading day for a contract or to suspend trading and extend or defer performance where there is "an excessive position or unwarranted speculation" etc.

However, in relation to a major disruptive event which affects the LIFFE market generally, as opposed to an event affecting a particular LIFFE contract, any emergency action is likely to be taken under the Rules.

C.3 International Petroleum Exchange

The International Petroleum Exchange ("IPE") is Europe's leading energy futures and options exchange¹⁰. It is a recognised investment exchange and uses the London Clearing House as central counterparty on all contracts.

The IPE regulations provide that the market shall be closed on public holidays and days on which trading is suspended under the BFDA. It appears that there is nothing in the IPE regulations which would permit the IPE to open on a bank holiday. The Directors can declare any day a non-Business Day by giving notice to the Members. The IPE regulations also permit the Directors to close the market for such hours on any day as the Directors may decide is necessary or appropriate in the circumstances (different contracts may trade at different times). An IPE official can temporarily suspend trading following an event such as a bomb scare if, in the opinion of the IPE official, it is necessary to do so to maintain a fair and orderly market. Trading will resume as soon as reasonably practicable after the interruption, and may resume by telephone or electronically. In addition, the IPE's Trade Emergency Panel can take any steps whatsoever in relation to "*an excessive position or unwarranted speculation or any other undesirable situation or practice affecting or capable of affecting the Market*", which could be useful following a major operational disruption.

A large number of OTC and off-exchange trades use IPE's settlement prices as reference prices. The contracts used in those trades should set out what happens in the event of the IPE settlement prices being unavailable.

The IPE regulations provide that in the event of an emergency closure of the trading floor there are arrangements which might be invoked which would lead to a declaration of the telephone trading market, or a switching to electronic trading in a particular contract if applicable. If floor trading in an IPE contract is suspended for the day the settlement prices for that contract shall be determined by the Senior Exchange Official who may consult the Settlement Advisory Committee. However, in some circumstances this could be problematic due to incapacity of the Senior Exchange Official or lack of communication facilities and contact with the Members.

In respect of electronic trading, two designated Exchange officials might suspend electronic trading. In the event of such electronic trading being suspended for the day a declaration of the telephone trading market might be made if applicable, or alternatively settlement prices will be determined by the two designated Exchange officials in accordance with the IPE Regulations.

The Regulations will be revised on the introduction of parallel trading of IPE contracts on the trading floor and in the electronic trading medium.

¹⁰ The IPE currently lists contracts for three major energy products: IPE Brent Crude futures and options; IPE Gas Oil futures and options; and IPE Natural Gas futures.

The IPE excludes itself from any losses incurred as a result of any trading suspensions or restrictions, and losses arising from the trading facilities.

The IPE has detailed business plans in order to respond to an operational failure. It operates a “warm” disaster recovery site in South-East London which will become operational within 24 hours of the invocation decision, and is in the process of moving towards fully electronic trading.

C.4 London Metal Exchange

The London Metal Exchange (“LME”) is the world’s premier non-ferrous metals market, with highly liquid contracts. It accounts for over 95 per cent. of the international exchange trading in the contracts it offers. The official published prices of the LME are the international reference prices for physical trading in those metals¹¹. It is a recognised investment exchange and uses the London Clearing House (“LCH”) as central counterparty on all contracts.

By the terms of the LME’s Articles of Association, the Directors of the LME may from time to time make, alter and carry out such Rules as they may think fit with respect to the rights, duties and obligations of Members and grant waivers of such rules in such circumstances as they may think fit and shall generally on behalf of the Members regulate and control the LME and the business conducted on the LME.

A Business Day is defined under the rules of the LME as not including any public or bank holiday, a day on which trading on the LME has been suspended by or under an enactment or a day which the directors of the LME declare not to be a Business Day.

If an emergency occurs outside the LME and is outside its control, which in the Directors’ opinion may prevent free trading in a contract or distort trading or pricing, the Directors may cease trading in the metal or Index Contract until they are satisfied, in their discretion, that it is appropriate to resume. They must consult the LCH before taking this action. If such cessation or suspension or limitation of trading prevents delivery of the metal or settlement of the Index Contract, the Directors shall close such open contracts by invoicing back at a price they determine.

The LME has dispute recovery procedures (which have been practised) and market rules to ensure the continued trade in an orderly market and that such trading continues to produce a valid international reference price.

The LME trades through open outcry, telephone and electronic trading. In the event of a major disruption, the different trading methods will provide flexibility for the LME market in applying detailed dispute recovery procedures, which include fully equipped off-site facilities. A three-man crisis management team would make the necessary decisions, and there are provisions for nominated deputies in case any of the crisis management team cannot be present to make decisions.

In addition, the LME rules grant broad powers to the LCH. These allow LCH (i) in the event of a default, to take such steps as it deems appropriate to achieve an amicable settlement, and if that fails to refer it to the Directors; and (ii) if the Quotations Committee fails to determine a Closing Price or Settlement Price, to determine such price in its absolute discretion.

D. International Exchanges

D.1 New York Stock Exchange

The New York Stock Exchange (“NYSE”) is the world’s largest stock exchange in terms of market capitalisation, and is one of the few that still conducts trades using open outcry rather than electronic trading.

¹¹ There is an immense OTC metals market, whose contracts rely on Official LME prices.

The Chairman of the Board has the power to halt or suspend trading in some or all securities traded on the NYSE, to close some or all NYSE facilities, and to determine the duration of any such suspension or closure, when he deems necessary for the maintenance of a fair and orderly market or the protection of investors or otherwise in the public interest, due to extraordinary circumstances, such as typical force majeure events or the loss or interruption of facilities utilised by the NYSE. This power was exercised following 11 September 2001 when the NYSE was closed for 4 days (there is some uncertainty over whether it ever opened on 11 September).

If the Board determines that an emergency exists, they may delegate all powers that can lawfully be delegated (by simple majority vote) to three or more directors.

In the event of an “attack” the emergency committee (consisting of 6 particular directors) will assume all powers of the Board.

D.2 Hong Kong Stock Exchange

The Hong Kong Stock Exchange and Hong Kong Futures Exchange are operating subsidiaries of Hong Kong Exchanges and Clearing Limited (“**HKEx**”).

The Board of HKEx has the power to determine trading hours on any day other than weekends and public holidays. Unless agreed otherwise by the relevant market participants, no delivery shall take place on a non-trading day or on such other days determined by the HKEx.

There are specific provisions relating to trading and settlement hours on a particular day in the event of a typhoon or a black rainstorm warning being lowered on that day. A more general emergencies clause allows the Board, if it thinks that trading and/or trading systems are likely to be severely and adversely affected, to take such action as it deems necessary or appropriate to deal with such emergency.

The HKEx trading in options may be temporarily suspended if a sufficiently strong typhoon signal is made or there is a black rainstorm warning, though again there are specific trading times designated for trading on a day on which the warning is lowered.

E. UK Clearing and Securities Settlement Systems

E.1 London Clearing House

The London Clearing House (“**LCH**”) clears the contracts traded on four UK exchanges (LSE¹², LME, IPE and Euronext.liffe) through LCH EquityClear®, and OTC products (such as swaps¹³ and repos¹⁴) through LCH SwapClear® and LCH RepoClear® respectively. It acts as central counterparty on all these transactions. The LCH is totally autonomous and not tied to any one electronic trading platform or messaging system, which suggests it should be robust in the event of a major operational disruption.

A business day is simply defined as a day on which the LCH is open for business.

The General Regulations of the LCH permit it to (i) decline to register contracts with members if it considers such action advisable for its own protection or the protection of the relevant market; (ii) “invoice back”¹⁵ contracts whose performance is affected by war or Government intervention; and (iii) “invoice back” contracts where the seller’s performance is impossible for any other reason. In addition, there is a force

¹² Excluding securities held in uncertificated form, which are held in CREST.

¹³ Swaps clearing is provided for plain vanilla interest rate swaps of up to 30 years maturity in sterling, U.S. dollars, euro and Yen. Up to 10 years maturity is offered for five other currencies, and up to 5 years in three more currencies.

¹⁴ Repos clearing is provided in, inter alia, Austrian, Belgian, Dutch, German, Irish, Finnish, Portuguese and UK government bonds, international bonds, German Jumbo Pfandbriefe cash and repo trades.

¹⁵ “Invoicing back” is where an open position is closed by the LCH entering into an “opposite contract” which effectively cancels out the open position. The price at which the opposite contract is entered into is determined by either the board of the relevant exchange on which the contract is traded or the LCH.

majeure clause exonerating LCH and its members from liability in respect of obligations they are unable to perform because of events beyond their control. Moreover, upon the occurrence of a force majeure event, the LCH may “invoice back” Cleared Exchange Contracts which have been affected and, in relation to other types of contract, the LCH may require the contract’s performance or “invoicing back” or the taking of such other action as the LCH may direct.

All cash payments (other than for DvP transactions) are made through the Protected Payments Systems (“PPS”). Calls for payment (usually routine margin calls) to PPS participating banks are made through a special SWIFT message.

LCH has established standards for the performance and recovery times of all major systems. It has a remote data centre and two back-up sites, and has fully tested its facilities by moving to back-ups in the recent past.

On 25 June 2003, LCH and Clearnet¹⁶ announced their intention to merge into LCH.Clearnet. One of the goals of this merger is to harmonise operating procedures, which is favourable from the point of view of this FMLC analysis.

E.2 CREST

CREST is operated by CRESTCo, which merged with Euroclear in September 2002. CREST is a real-time securities settlement system for transactions in domestic and international securities and money-market instruments (including gilts, Treasury bills and commercial paper), held and transferred in dematerialised (uncertificated) form. It also provides optional settlement netting for LSE trades cleared through LCH. CRESTCo, as part of the Euroclear Group, has proposed a programme for the development and implementation of a “single settlement engine” which will, ultimately, enable or facilitate users through a single interface to settle transactions in domestic securities in each of the Euroclear Group jurisdictions (UK, Ireland, France, the Netherlands and Belgium) as well as non-Group securities.

CREST uses an “embedded payment system”, which is independent of CHAPS. This facilitates DvP settlement, and payment is provided in central bank money. The sterling and euro payment system for CREST is an RTGS system, and operates by way of a link to the Bank of England’s RTGS processor.

In addition, the CREST system allows for DvP settlement in US dollars, although this is not achieved through an RTGS system. The resulting assured payment obligations between the settlement banks are settled at the end of the day.

The FSA has supervisory powers over recognised bodies based on FSMA. CRESTCo is a recognised clearing house, and must therefore comply with the Recognition Requirements and rules made by the FSA in relation to recognised clearing houses (RCHs).

The FSA has also designated the CREST UK system (i.e. the system in so far as it relates to UK securities) under the Financial Markets and Insolvency (Settlement Finality) Regulations 1999 (SI 1999/2979). The CREST Irish system (i.e. the system in so far as it relates to Irish securities) is designated under the corresponding Irish regulations.

In a number of aspects of CREST’s operation it is possible that both CRESTCo’s status as Operator under the USRs (defined below) and as RCH might apply. Its RCH status also covers a number of activities associated with its role as a settlement system which may not obviously be covered by the USRs.

The FSA also has supervisory powers over CRESTCo (delegated by HM Treasury) pursuant to the Uncertificated Securities Regulations 2001¹⁷ (“USRs”) which govern the holding and transfer of title to UK

¹⁶ Clearnet is the clearing system and central counterparty used for all Euronext exchanges.

¹⁷ SI 2001/3755.

securities in uncertificated form by means of the CREST system (a “relevant system”). The USRs require¹⁸ CRESTCo as operator of a “relevant system” to ensure that its core processor can send and respond to dematerialised settlement instructions in sufficient volume and at sufficient speed. However, this relates more to processing capacity than to a contingency situation.

Although CREST has not always distinguished between things it does as a recognised clearing house and as operator of a relevant system (and some activities might be caught by both) the distinction can be important. CREST regards their main legal/regulatory status (and most of the things the CREST system is required to do) as being covered by the USRs. Those things CREST is required to do so by reason of this status are the subject of a specific exemption from FSMA by statutory instrument (whether they could fall within recognised clearing house status or not). Although CREST is a recognised clearing house for historical and continuing practical reasons, it is not a recognised clearing house by reason of being an operator of a relevant system as that term is understood within the USRs.

The CREST Glossary of Terms defines a business day as a day on which the CRESTCo systems are operational and (i) in relation to settlement in euro, TARGET is open; (ii) in relation to settlement in U.S. dollars, a day on which banks are generally open for business in New York and it is not a bank holiday in England or a day on which banking transactions in England are suspended under s.2 BFDA; and (iii) in relation to all other transactions, a day which is not a bank holiday in England or a day on which banking transactions in England are suspended under s.2 BFDA.

CRESTCo is not obliged by its rules to close CREST if a bank holiday is declared under BFDA. However, in practice CRESTCo can be expected to suspend settlement operations if such a declaration is made, unless the declaration is made under s.1 BFDA, and the Bank of England and the CREST settlement banks¹⁹ are willing to continue to make payments in support of CREST settlement on a bank holiday.

Members of CREST are required to maintain cash memorandum accounts (“CMAs”), in CREST, for each settlement currency (sterling, euro and US dollars) in which they wish to make payments in support of the settlement of securities transactions. Under its contract with CRESTCo and each other CREST settlement bank, upon the debit of a payment to a buying member's CMA and corresponding credit to the selling member's CMA, the settlement bank acting for the buying member is irrevocably and unconditionally obliged to effect payment of the purchase price to the settlement bank acting for the selling member. For sterling and euro payments, the moment of debit/credit to the CMAs also triggers an irrevocable and unconditional obligation of the Bank of England to effect the payment across the settlement accounts of the relevant settlement banks held in its RTGS processor. This process effects final payment, at the point of CMA debit/credit (which occurs simultaneously with the transfer of legal title to the purchased securities to the buying member across the operator registers maintained in CREST), as between the settlement banks and as between the members.

If banks are ordered to close under s.2 BFDA, CREST will clearly have to suspend settlement operations for DvP transactions as the settlement banks will be shut. If a bank holiday is declared under s.1 BFDA, CREST is likely in practice to suspend settlement (at least for DvP transactions) because the payment contracts put in place by CRESTCo with the Bank of England and the CREST settlement banks contemplate that the irrevocable and unconditional obligations of a paying settlement bank and of the Bank of England, which arise on the debit/credit to CMAs, may only arise on a business day (as defined in the CREST Glossary). However, if the Bank of England and the CREST settlement banks were willing to open on a bank holiday declared under s.1 for the purpose of enabling or facilitating CREST settlement, in practice this might be achieved by CRESTCo (with the consent of the Bank and the CREST settlement banks) declaring that the

¹⁸ At paragraph 6 of Schedule 1.

¹⁹ There are 13 sterling settlement banks and 12 euro settlement banks. In addition, there are 9 U.S. dollar settlement banks that use the end-of-day (net) settlement assured payments mechanism provided by CREST.

operation of CREST on that day shall be treated as an extension of the previous settlement day (as a business day) under CRESTCo's powers to vary the daily timetable.

CREST is required by its Terms and Conditions to take reasonable care²⁰ to cause the CRESTCo systems and the CREST services to operate in all material respects in the manner described in the CREST Manual, which is effectively a contractual reasonable care obligation to continue to provide settlement facilities, thereby enabling market participants to perform their contractual obligations under market contracts (e.g. to deliver securities for a trade executed on the LSE's SETS system) on the settlement date specified by their contract or in accordance with market custom.

To protect CREST's liability position, a limited force majeure provision is contained in the Terms and Conditions at clause 5.2.8, under which CRESTCo reserves the right to suspend operation of the CRESTCo systems or the CREST services in whole or in part if it, in its absolute discretion, considers it appropriate to do so by reason of any circumstances beyond CRESTCo's reasonable control. Under this clause 5.2.8, CRESTCo also has the right to vary the "daily timetable" (which is the settlement timetable for identified securities settlement/payment events) if it, in its absolute discretion, considers it appropriate to do so. This provision enables CRESTCo to "extend" a settlement day (in practice the consent of the settlement banks would be obtained), potentially into another calendar day, in the event of major operational disruption if such an extension would facilitate the integrity of securities settlement and assist in mitigating the systemic effects of operational disruption.

The contractual obligation and the limited force majeure provision must be considered in the light of the FSA's supervisory powers under FSMA and the USRs and are supplemented by clause 17.5 of the Terms and Conditions, in which CRESTCo undertakes that if the services provided by the CRESTCo systems on the CREST services are interrupted (whether by CRESTCo or otherwise) for any reason, it will take reasonable care to minimise the duration of such interruption and, wherever practicable and appropriate, operate its standby procedures²¹.

CREST has, as part of its contingency arrangements, two geographically separate processing sites, one live and one "hot" standby. A move from the live to the contingency site can be performed intra-day, with processing being suspended for approximately one hour. The procedure was implemented "in anger" in 2002 when the main site was struck by lightning and, intra-day, CREST moved to contingency. This switch occurred smoothly without major disruption to users or processing.

In addition to the processing sites, CREST also has two geographically separate operations sites, one live and one "hot" contingency. In the event of the need to move from the live to the contingency site, this is performed intra-day, as would be expected. This switch is fully tested once a year, when for one day CREST runs from the contingency site. The 2003 contingency test was carried out successfully on Friday, 14 March.

CRESTCo and the Bank of England have contingency arrangements in place which allow for CREST payments, in central bank money, to continue to be made (by recycling earmarked liquidity) in the event that there is any operational disruption to the link between CREST and the RTGS processor. U.S. dollar settlement in CREST operates as an "assured payment system", which does not require a processing link between CRESTCo and a National Central Bank. Finality of U.S. dollar payment between buyer and seller occurs simultaneously with transfer of title, but the CREST settlement banks of the parties incur an intra-day/overnight insolvency exposure to each other until they settle their inter-settlement bank payment obligations on a net basis under arrangements agreed between them at the end of the day/next day (e.g. across accounts of their correspondent banks in CHIPS).

²⁰ Clause 17.1 Terms and Conditions.

²¹ These procedures are described in Chapter 1, ss.1 and 2 of the CREST Reference Manual, and are designed to comply with the FSA Handbook and the USRs.

F. International Clearing and Securities Settlement Systems

F.1 Euroclear Bank

Euroclear Bank is a Brussels based securities settlement system, and therefore an international central securities depository (“**ICSD**”), for international securities transactions covering bonds and equities including investment funds. It is market owned and market governed, and provides securities services to financial institutions all over the world. Other members of the Euroclear Group in addition to CREST (described above) act as the central securities depository (“**CSD**”) for all French and Dutch securities, and this role will soon be extended to Belgian securities. The Euroclear Group is currently developing a single settlement engine which will give its participants access to all Group securities through existing ICSD interfaces held in a single securities account. Euroclear Bank’s banking activities involve the provision of extensive credit lines to its participants in connection with their securities settlements.

Euroclear Bank (“**Euroclear**”) and Clearstream have established a bridge which enables automatic real-time cross-system settlement of trades between participants in each. Euroclear also has a link to the Hong Kong Monetary Authority’s Central Moneymarkets Unit.

Euroclear’s relevant documents, namely the Terms and Conditions governing use of Euroclear (the “**Terms and Conditions**”) and the Operating Procedures of the Euroclear System (the “**Operating Procedures**”), allow Euroclear some discretion in responding to contingency situations. A Business Day is simply defined as a day on which the Euroclear Operations Centre is open for Business. The Terms and Conditions contain a force majeure clause that limits Euroclear’s liability (in a manner very similar to Clearstream’s corresponding provision). Euroclear is liable only for damages caused by its negligence or wilful misconduct, and is exempt from liability from its acts, or failure to act, caused by any event beyond its reasonable control. The list of examples of such events is likely to encompass any possible major operational disruption.

Euroclear’s force majeure clause does not grant it power to address or to pre-empt disruptive events. Instead, other clauses permit Euroclear discretion to refrain from acting in certain situations, for example by refusing to deposit securities when necessary to promote the best interests of its Participants, or by declining to credit a Participant’s account in order to avoid violating an applicable law or regulation. In “exceptional or contingency situations” though, Euroclear may adjust the rules that govern its Processing services.

Euroclear is the sole judge of whether the circumstances necessitate action. Its power is to adjust existing rules, rather than to eliminate or add to them.

F.2 Clearstream

Clearstream Banking, S.A., Luxembourg (“**Clearstream**”) is an ICSD which is part of the Clearstream Group which provides settlement and custody services in respect of domestic and internationally traded bonds and equities. Clearstream’s rules define a ‘Business Day’ as a day on which it is open for business. Clearstream limits its liabilities and obligations, along with any risk of gaps emerging in its governing rules, by carefully specifying its obligations and employing a broad force majeure clause in its General Terms and Conditions. Clearstream’s duties are expressly limited to those described in its General Terms and Conditions and the Customer Handbook.

It also retains discretion to refuse to execute incomplete or incorrect transactions, as well as transactions that are, or that it believes to be, illegal. The force majeure clause bolsters these provisions by limiting Clearstream’s liability to damages caused by Clearstream’s own negligence or wilful misconduct. It also exempts Clearstream from liability for any damages caused by Clearstream’s acts, or failure to act, caused by “*events beyond [Clearstream’s] reasonable control.*” The list of enumerated events is long and inclusive, and it is likely that it would cover any conceivable major operational disruption.

Further, where an enumerated event has occurred or seems likely to occur, the clause also grants Clearstream the power to take any actions it deems necessary to protect itself or its customers. The scope of this clause provides Clearstream with significant flexibility to shape its response to any operational disruption.

PRIMARY SOURCE MATERIALS

A. UK Payment Systems

A.1 CHAPS

NewCHAPS Rules

1.1 Definitions

Business Day

Any day on which the NewCHAPS Systems are (or one of them is) operating.

NewCHAPS Euro Business Day

A day on which TARGET and the NewCHAPS Euro System are open for business for the purpose of making payments denominated in euro.

NewCHAPS Sterling Business Day

A day on which the NewCHAPS Sterling System is open for business for the purpose of making payments denominated in sterling.

Clause 2.6

Each Member undertakes to the Company to notify the Company Manager immediately upon becoming aware of the occurrence of any of the following events:

Clause 2.6.5

The Member ceasing to satisfy the membership and access criteria specified in Rule 1.4.

4 NewCHAPS Timetable

4.1 Frequency of the Clearings

4.1.1 A Clearing for Payments denominated in sterling shall take place on each NewCHAPS Sterling Business Day.

4.1.2 A Clearing for Payments denominated in euro shall take place on each NewCHAPS Euro Business Day.

4.2 Daily Timetable

4.2.1 The daily timetable for the operation of the respective Clearings for Payments denominated in sterling or in euro, as the case may be, is given in the NewCHAPS Procedural Documentation.

4.3 NewCHAPS Timetable Amendments

4.3.1 The Company Manager has the authority to amend any part of the NewCHAPS Timetable in exceptional circumstances. The Company shall use its reasonable endeavours to give Members prior notice of any such amendments where reasonably practicable.

6 RTGS By-Pass Mode

Clause 6.1.1

In the event that the Bank of England is, for any reason, unable to receive or process settlement requests, then the Company and the Bank of England may, in the exercise of their joint discretion, operate either or both NewCHAPS Systems in RTGS By-Pass Mode in accordance with this Clause 6.

Clause 6.1.4

Settlement relating to Payment Messages sent between Members after the initiation of operation of RTGS By-Pass Mode will not take place in real time but will be settled in accordance with Rule 6.2.

6.2 Settlement of Payment Obligations in RTGS By-Pass Mode

Clause 6.2.1

If a sending Member has sent a Payment Message, and a UAK has been transmitted to SWIFT by the receiving Member's CBT, then, immediately transmission of such UAK takes place, the Payment Message shall be unconditional and irrevocable and shall be accepted by the relevant NewCHAPS System.

Clause 6.2.2

In respect of a particular Business Day and a particular NewCHAPS System which is in RTGS By-Pass Mode (and until settlement of the relevant Single Amount), there will only be one Single Amount payable to or by each Member which will be determined by the Company (acting as principal and not as agent of any Member) at the relevant Close of Processing as being the net sum of the amounts set out in all Payment Messages accepted by that NewCHAPS System in accordance with these NewCHAPS Rules in which the Member is expressed to be a sender and/or receiver.

7.2 Suspension and Exclusion of a Member

The Company Manager may suspend or the Board may suspend or exclude a Member with immediate effect (or with effect from such time and date as the Company Manager or the Board as appropriate may specify) in respect of the NewCHAPS Sterling System and/or the NewCHAPS Euro System, in the following circumstances:

- (i) where, in the opinion of the Company Manager or the Board as appropriate, the Member is in material breach of any provision of these NewCHAPS Rules or ceases to satisfy the membership and access criteria referred to in Rule 1.4;
- (ii) if, in the opinion of the Company Manager or the Board as appropriate, circumstances have arisen which could be prejudicial to the relevant NewCHAPS System or represent a threat to the security, integrity or reputation of the relevant NewCHAPS System; and
- (iii) if any of the events set out in Rule 2.6 occurs.

Clause 8 - Amendments to these NewCHAPS Rules

Clause 8.2

Any Member or the Company Manager may propose changes to these NewCHAPS Rules by submitting proposals in writing to the chairman of the NewCHAPS Legal Committee.

Clause 8.2

After consulting all Members and appropriate CHAPS Committees, the chairman of the NewCHAPS Legal Committee shall forward the recommendations of the NewCHAPS Legal Committee to the Board, where appropriate.

Clause 8.3

The Board shall then decide in its absolute discretion if the recommendations are acceptable, and if they are acceptable, the appropriate length of notice to be given to each Member before the consequent changes are implemented.

Clause 14

To be eligible to become and remain a Member, a financial institution must:

- (i) hold a sterling and/or a euro Settlement Account at the Bank of England which the Bank of England has agreed may be used for the purpose of settling NewCHAPS payment obligations;
- (ii) have the ability to comply a continuous basis with the technical and operational requirements of the NewCHAPS Systems as set out in the Reference Documents from time to time;
- (iii) be a shareholder of the Company; and

pay a single entrance fee as determined by the Board from time to time when first becoming a Member of any NewCHAPS System or existing Member of a NewCHAPS System if they join another NewCHAPS System. Such entrance fee is to be based on a contribution to the cost of developing the NewCHAPS System(s) and the cost of technical implementation relating to such Member.

A.2 BACS and Cheque and Credit Clearing

Settlement Agreement (same for each)

Definitions

“BACS Cycle” means the three day cycle comprising of the Input Day, Processing Day and Settlement Day, each of which must be days: (a) on which the Bank of England RTGS System for the making of sterling-denominated payments is operational; or (b) as otherwise specified by the System Operator.

“Bank of England Force Majeure Event” means:

- (a) the suspension of the Bank of England RTGS System (the “RTGS System”) for the making of sterling-denominated payments or euro-denominated payments;
- (b) operation of the RTGS System in the RTGS By-Pass Mode;
- (c) any other material disruption of the Bank of England’s systems or operations which prevents the transfer of funds between the RTGS accounts of Members or between the RTGS accounts of Members and the Bank of England; and/or
- (d) any other circumstances (including, without limitation, partial or total failure, malfunction or overload of the RTGS Central Systems (as that term is defined in the RTGS Reference Manual) or the TARGET Interlinking or closure for any reason of TARGET or other emergency) to the extent that they are outside the Bank of England’s reasonable control.

“Credit/Debit/Cheque Cycle” means the Credit/Debit/Cheque processing cycle comprising of three consecutive Processing Days.

“Input Day” means with respect to a BACS Cycle, the first day of that BACS Cycle.

“Processing Day” [in relation to BACS] means, with respect to a BACS Cycle, the second day of that BACS Cycle.

“Processing Day” [in relation to Cheque and Credit Clearings] means each day (other than a Saturday or a Sunday) on which the Bank of England RTGS System for the making of euro-denominated payments is operational; or such day specified from time to time by the System Operator as a Processing Day.

“Settlement Day” means with respect to a BACS Cycle, the third day of that BACS Cycle.

“Settlement Service Provider” means the Bank of England in its capacity as the provider of settlement services to the System.

4 Settlement

4.1 Due Date

The Single Amount in respect of each member, each Sub-system and a BACS Cycle is due for settlement on the earlier of:

(a) (i) the relevant time specified in the Operational Documents on the Settlement Day of that BACS Cycle; or (ii) if a Member does not make funds available to the Settlement Service Provider equal to its Single Undertaking at the time specified in sub-paragraph (i) above and the System Operator has contacted that Member and the Settlement Service Provider to enquire whether funds will be made available by 2.00 p.m. (London time) on that Settlement Day, the time specified by the System Operator (in its absolute discretion) but such time specified will not be later than 2.00 p.m. (London time); or

(b) at the moment when the System Operator serves a notice under clause 6.1(a) (Exclusion Event) in respect of a Member in relation to which an Exclusion Event has occurred.

5.2 Suspension

Each of the following events is a Suspension Event (whether or not caused by or outside the control of any Member or Indirect Clearer or any other person) but subject always to clause 5.3 (Exclusion Event and Force Majeure);

5.2(c) Threat to the System

The System Operator determines in its discretion that a Member’s continued participation in the System threatens the orderly operation and integrity of the System.

10.1 Force Majeure Events

Subject always to clause 5.3 (Exclusion Event and Force Majeure), each of the following events is a “Force Majeure Event”:

(a) any material disruption in communications between any or all of the System Operator, one or more Members and the Settlement Service Provider;

(b) any shut down, failure, malfunction or impairment of the System;

(c) any substantial disruption in the operations, resulting from a shortage of staff, technical failures (including failures affecting computer facilities) or a similar cause, that the System Operator reasonably believes is likely to have a significant impact on a Member’s ability to perform its obligations in the System; or

(d) an event of force majeure arising from causes beyond the control of the System Operator, the Settlement Service Provider or the Members, such as power outages, sabotage, terrorist acts, natural disasters, war and insurrection

10.2(a) Powers on the occurrence of a Force Majeure Event

Subject to clause 14.3(a) (Members and the System Operator), upon the System Operator becoming aware of a Force Majeure Event or a Bank of England Force Majeure Event, the System Operator shall, acting reasonably, decide whether any reasonable action (including, without limitation, issuing instructions to the Members or their Indirect Clearers) is necessary or desirable to manage the

continued operation of the System and, if it decides that any such action is necessary or desirable, it shall carry out those acts.

B. International Payment and Messaging Systems

B.1 Fedwire

Operating Circular 6

Rule 10.1 Transfer Hours and Extensions

For purposes of determining a Reserve Bank's rights and obligation under Regulation J, Article 4A and this Circular, each Reserve Bank's funds transfer business day is 12:30 a.m. Eastern Time to 6:30 p.m. Eastern Time regardless of the Reserve Bank's geographic location or time zone. A Reserve Bank satisfies its obligations under Regulation J, Article 4A and this circular, if, upon acceptance of a Payment Order, a Reserve Bank executes the order or pays the beneficiary of the order on the same funds transfer business day that it received the Payment Order even if it is not the same calendar day.

Rule 16.1 Emergency Conditions

On-line senders, receiving banks, and beneficiaries are responsible for developing their own contingency and recovery plans, such as back-up computer and operations facilities, to ensure their ability to continue Fedwire operations in the event of equipment failure or other operational interruption. The Reserve Banks assume no responsibility for providing any back-up access facilities.

Rule 16.2 Emergency Conditions

In the event of an emergency or failure of a Reserve Bank's computer or operations facilities, Payment Orders may be delayed until the emergency or failure is resolved. During extended disruptions, the Reserve Bank's Fedwire operations may be relocated to a back-up site. Senders, receiving banks, and beneficiaries should refer to the Reserve Bank's contingency guidelines regarding their requirements and responsibilities during contingency operations.

[Note: each Reserve Bank's contingency guidelines are not publicly available information.]

Federal Reserve Act

Section 11 Powers of Board of Governors of the Federal Reserve System

The Board of Governors of the Federal Reserve System shall be authorized and empowered:...(j) To exercise general supervision over said Federal reserve banks

Section 14 Open Market Operations

Every Federal reserve bank shall have power...(d) To establish from time to time, subject to review and determination of the Board of Governors of the Federal Reserve System, rates of discount to be charged by the Federal reserve bank for each class of paper, which shall be fixed with a view of accommodating commerce and business; but each bank shall establish such rates every fourteen days, or oftener if deemed necessary by the Board.

B.2 CHIPS

Rules and Administrative Procedures

Rule 1 Definitions

(a) For the purpose of these Rules, the terms listed below have the following meanings:

(6) Clearing House: the Clearing House Interbank Payments Company, L.L.C.

(11) President: the President of the Clearing House or his or her designee.

Rule 15 No Liability

(a) GENERAL RULE. Except as provided in Rule 16, the Clearing House shall have no liability whatsoever to any Participant or any other person for any loss, liability, or expense suffered by such Participant or person arising from the Clearing House's acts or omissions in connection with the System (a "loss"), including, without limitation, a loss resulting directly or indirectly from a failure to store, release, authenticate, or otherwise process a payment message or administrative message; from the design or operation of the formula for calculating the desired opening position described in Rule 12(b)(1); from the choice or operation of the release methodology described in Rule 13(a); from an error caused by the System; or from the release of a Participant's internal account numbers contained on the CHIPS Name and Address File. If, notwithstanding the first sentence of this Rule 15, the Clearing House is found liable for a loss or an action or proceeding is brought alleging that the Clearing House should be liable for a loss, each Participant (including any Participant suffering or alleging a loss) agrees (in the proportion set forth below) to indemnify and to hold harmless the Clearing House from any loss arising from such finding, action, or proceeding (including, but not limited to, attorneys' fees and expenses of litigation). Pursuant to its indemnity, each Participant shall pay to the Clearing House promptly on demand that portion of the Clearing House's loss that is equal to the proportion of the average daily CHIPS usage as described in Rule 15(b)) of such Participant to the average daily CHIPS usage of all Participants. If one or more Participants fail to make any such payment (each a "Defaulting Participant"), the obligations hereunder of the remaining Participants shall be determined without regard to the average daily CHIPS usage of the one or more Defaulting Participants. Each Defaulting Participant shall be liable to each other Participant in the amount by which such other Participant's payment or payment obligation was increased as a result of the Defaulting Participant's failure to make payment, plus interest thereon for each day of such failure at a rate equal to one percent above the effective rate for federal funds as published on a daily by FRBNY for such day.

(b) TIME PERIOD FOR MEASURING AVERAGE DAILY CHIPS USAGE. The time period for measuring average daily CHIPS usage in Rule 15(a) shall be the 30 calendar days preceding the date on which the Clearing House has determined a loss occurred.

Rule 17 Emergencies

In the event that communications between the Clearing House computer and one or more participants are halted, the System is closed down, or some other emergency affects its operations, transactions shall be handled in accordance with the decisions of the President. Without limiting the discretion of the President, he may:

- (a) extend the hours of the system;
- (b) extend the time for completing the final prefunding, netting, and release;
- (c) obtain payment of a Participant's closing position requirement by ordering FRBNY to debit the Participant's account on its books in the amount of the Participant's closing position requirement and crediting the amount to the prefunded balance account;
- (d) direct any Participant or several or all to not make payments through the System pending resolution of the problem;
- (e) direct any Participant to continue to operate within the System by using emergency backup facilities of the Clearing House; or
- (f) direct such other action as he may deem necessary.

Unless the President shall direct otherwise, Participants shall also follow the procedures set forth in the CHIPS Administrative Procedures that apply upon the occurrence of certain events.

Administrative Procedures No. 1 Use of the System Following a Breakdown

Whenever the System becomes operational after a breakdown, it shall be the duty of all Participants in using the System after such breakdown to ensure that the CHIPS facilities are utilized in accordance with any special procedures set forth from time to time by the Clearing House.

Administrative Procedures No. 2 Errors Other than System

All types of errors not covered by CHIPS Rule 15 are to be referred to the appropriate rules prevalent in the New York marketplace on adjustment of payments made in error; provided, that any two Participants may by written agreement adopt inter se any alternative compensation rules which may apply to claims relating to such errors arising after and while such agreement is in effect.

Administrative Procedures No. 4 Designated Receiver

(a) Emergency Procedures. If the President declares that the System is closed because of an operational failure or some other emergency, a Participant (herein "sending participant") that wishes to send a payment order to another Participant (herein "receiving participant") may send the payment order by Fedwire to the receiving participant's Designated Receiver as listed in the current "Schedule of Designated Receivers" published from time to time by the Clearing House. The Designated Receiver (if other than the Participant itself) will notify the receiving participant that it has received a payment order for it. The availability of this arrangement shall not preclude the sending and the receiving participants from making other arrangements for transferring funds during the emergency which are mutually satisfactory to them.

(b) Designated Receiver. A Designated Receiver may be (i) the Participant itself, (ii) the Funding Participant designated under Rule 12(a)(1), or (iii) any other Participant. Each Participant must select a Designated Receiver and, if it selects a Designated Receiver other than itself, provide the Clearing House with a letter from the selected Designated Receiver in which the Designated Receiver acknowledges that it agrees to perform the obligations of a Designated Receiver for that Participant under this Procedure. The Clearing House will publish the designations received from Participants in the "Schedule of Designated Receivers."

Administrative Procedures No.8 Guidance for Requesting Emergency Extensions of CHIPS Cutoff

Extensions will not be granted except in unusual circumstances. A request by a Participant for an extension of CHIPS cutoff past the time specified in Administrative Procedure No. 12 must be telephoned to the President by a senior official of the requesting Participant (Vice President or above). Any Participant may continue to store and release payment messages during the extension period. No request for an extension will be considered unless the requesting Participant can give assurances that:

- (1) Internal computer systems affecting CHIPS connections are, or have been for an extended period, inoperative or inaccessible. The location of a primary or backup computer shall not be a valid reason for requesting an extension of CHIPS cutoff.
- (2) There is a reasonable probability that the operating problem can be corrected if CHIPS is extended.
- (3) Senior management has carefully considered the request, weighed the effect of an extension against the value of the payment messages that otherwise would remain unsent, and concluded that an extension is necessary for the benefit of all of the Participants on the System and not just necessary

for the benefit of the requesting Participant. In this connection, the Participant will be asked to state the estimated number of payment messages yet to be processed, the estimated dollar value of the payment messages, and the estimated time needed to complete the outstanding payment messages. In arriving at a judgment that an extension is required for the benefit of all Participants, consideration should be given to whether the dollar amount unpaid could greatly increase the volatility in the federal funds market or hamper another Participant's ability to make settlement.

Participants are expected to so order their CHIPS activity that the normal day's work load will not artificially peak immediately preceding the time the System closes. Participants should know well before cutoff time that they can complete sending their payment messages before the scheduled cutoff. The System will monitor the number of payment messages released and their dollar amount prior to 9:00 A.M. and the number of extensions requested.

Any serious systems problem having the potential to generate a request for an extension must be reported immediately and as early in the day as possible to the Clearing House. Early notification will permit Clearing House personnel to suggest remedial action and will mark the length of time a Participant has experienced operating difficulties.

The President shall have the sole authority to extend the cutoff time for the System. He must advise the Federal Reserve Bank of New York, at the earliest time possible, of an intention to extend and of any delay this might cause in making settlement over the Fedwire.

B.3 CLS Bank International

Rules

Definitions

"Banking Day" means, for an Eligible Currency, a calendar date on which the applicable Approved Payment System in respect of such Eligible Currency is regularly scheduled to be operational.

Rule 1.1.46

"Force Majeure" means an event caused, directly or indirectly, by (i) revolution or other civil disorders, wars or acts of enemies, (ii) labor disputes, (iii) fires, floods, electrical outages, or acts of God, or (iv) without limiting the foregoing, any other causes not within an entity's reasonable control, and which, by the exercise of reasonable due diligence, it is unable to prevent, whether of the class of cases hereinbefore enumerated or not.

Rule 1.1.94

"Settlement Disruption" has the meaning ascribed to such term in Rule 5.4(d).

Rule 1.1.95

"Settlement Disruption Event" means any event, including those described in Rule 1.17, which in the good-faith judgment of CLS Bank makes it impossible, impracticable or inadvisable to proceed with the Settlement of Settlement Eligible Instructions.

Rule 1.2 Amendment of Rules

The Board of Directors may waive any term of, or amend, the Rules from time to time. CLS Bank shall provide not less than sixty days' advance notice to each Member and Liquidity Provider of any proposed waiver of or amendment to the Rules prior to the effectiveness of any such waiver or amendment. During this sixty day period, CLS Bank shall provide the Members with an opportunity to review and comment on the waiver or amendment. If as a result of such review and comment period, the Board of Directors determines that the Rules shall be modified in a manner that differs

from the original proposed waiver or amendment to the Rules, CLS Bank shall provide the Members, and any applicable legal or regulatory authority to the full extent required by applicable law, regulation or agreement, with not less than fifteen days' advance notice of the effectiveness of such modifications. Notwithstanding the foregoing, the Board of Directors or President of CLS Bank may cause any waiver or amendment to become effective at any time prior to the end of such sixty day review and comment period or fifteen day advance notice period, as applicable, if the Board of Directors or President of CLS Bank determines in its, his or her reasonable discretion that exigent circumstances exist which require that such waiver or amendment becomes effective for the protection of CLS Bank or its Members or to comply with legal or regulatory requirements, and CLS Bank will provide notice hereof as soon as practicable.

Rule 1.17 Force Majeure, Act of State and Illegality

If by reason of Force Majeure or act of state CLS Bank or CLS Services is prevented from or hindered or delayed in the performance of any of its obligations under the CLS Bank Documents, or if it becomes or, in the good faith judgment of CLS Bank or CLS Services, may become unlawful or impossible for CLS Bank or CLS Services to perform any of its obligations under the CLS Bank Documents, CLS Bank or CLS Services, as the case may be, shall (a) notify the relevant Members as soon as practicable when it becomes aware of any such impediment or preclusion to the performance of any such obligations and (b) be relieved of its obligations to perform such obligations until CLS Bank or CLS Services, as the case may be, concludes in its sole discretion that such impediment or preclusion no longer exists.

Rule 4.5 New Banking Holiday

Except as provided in Rule 5.4, if an Instruction specifies a Value Date that is no longer a Banking Day for at least one of the Eligible Currencies specified in the Instruction because the relevant Approved Payment System has announced that it will no longer be operational on that previously scheduled Banking Day and the Instruction has been rejected by the CLS System, CLS Services shall, as agent for the Submitting Member (and, if applicable, the Designated Settlement Member specified in the Instruction) or, if the Instruction has been transferred to CLS Bank pursuant to Rule 4.3.6, CLS Bank shall:

(a) change the Value Date of the Instruction to the next day following such Value Date that is a Banking Day for both Eligible Currencies specified in the Instruction if such Instruction has specified a Value Date that is no longer a Banking Day for at least one of the Eligible Currencies specified in the Instruction because the relevant Approved Payment System has announced that it will no longer be operational on that previously scheduled Banking Day;

(b) if changing the Value Date as specified in paragraph (a) above results in a new Value Date that is in the next calendar month, change such new Value Date of the Instruction to the day immediately preceding the new Value Date that is a Banking Day for both Eligible Currencies specified in the Instruction; *provided, however, that* this paragraph (b) shall not apply if such immediately preceding day has already passed; and

(c) ...

CLS Services or CLS Bank, as the case may be, shall notify the Submitting Member or (and, if applicable, the Designated Settlement Member specified in) the Instruction of any such change in the Value Date.

Rule 5.4 Disruptions to Settlement

If, at any time during the Settlement Period, a Settlement Disruption Event occurs, CLS Bank shall:

(a) continue to attempt to Settle each Instruction on the Settlement Processing Queue that specifies the affected Eligible Currency;

(b) temporarily refrain from Settling any Instruction on the Settlement Processing Queue that specifies the affected Eligible Currency;

(c) as agent for each Submitting Member (and, if applicable, any relevant Designated Settlement Member), (A) change the Value Date of each Submitting Member's Instructions on the Settlement Processing Queue that specifies the relevant Eligible Currency to the next day that is a Banking Day for both Eligible Currencies specified in the Instruction, (B) notify the Submitting Member (and, if applicable, the relevant Designated Settlement Member specified in the Instruction) of the change in the Value Date and (C) transfer the Instruction back to CLS Services; upon any such transfer of an Instruction back to CLS Services, CLS Services shall, as agent for the Submitting Member (and, if applicable, the Designated Settlement Member specified in the Instruction), continue to process any Instructions described in this paragraph (c) in accordance with Rule 4 and Rule 5, as applicable; and/or

(d) declare a Settlement Disruption with respect to the affected Eligible Currency or Eligible Currencies (a "Settlement Disruption"), in which case CLS Bank shall refrain from Settling any Instruction on the Settlement Processing Queue that specifies such Eligible Currency or Eligible Currencies and notify the Submitting Member (and, if applicable, the Designated Settlement Member) of such Instruction that such Instruction will not Settle.

B.4 SWIFT

By-Laws

Clause 12

The Company shall not be responsible for any loss or damage caused by failure to carry out, or delay of, messages resulting from technical failure, unless otherwise provided in the User Handbook, or force majeure. Force majeure shall include acts of authorities including P.T.T. authorities, strike or industrial dispute, political disturbance, catastrophes in nature, fire, war, epidemics and all other circumstances which prevent the Company against its will from carrying out its activities. Moreover, the Company shall not be responsible for any loss or damage caused by the performance of non-authorized transmission orders unless the prejudiced party proves that the Company could not reasonably assume the validity of those orders. The Company shall be entitled to make use of any reputable third party with regard to the transmission of messages, at the risk of the ordering User.

General Terms and Conditions, April 2003

Article 1.5 Definitions

“Force Majeure” has the meaning given in clause 8.8

General Terms and Conditions, July 2003

Article 2.5 Interpretation

In the event of any conflict or inconsistency between these General Terms and Conditions and other documents which are part of the Service Documentation the following order of precedence shall apply:

- the SWIFT Contractual Arrangements
- these General Terms and Conditions
- any specific terms and conditions applicable to the SWIFT Services and Products whether in the Service Description or elsewhere in the Service Documentation.

Article 4.3 SWIFT Responsibilities

SWIFT will use all commercially reasonable efforts to provide the SWIFT Services and Products in all material respects in accordance with the Service Description.

Article 4.4.2 Suspension of the SWIFT Services and Products

SWIFT may suspend the provision of the SWIFT Services and Products at any time in whole or in part after having given the Customer as much advance notice as possible:

- for purposes of security or proper performance or, more generally, in an emergency;
- to comply with an order, instruction, or request of a Regulatory Authority; or
- in case of a material default of the Customer or the Service Administrator concerned.

Any suspension under this clause may last as long as is reasonably necessary in the circumstances. Furthermore, and for the purposes of this clause 4.4, SWIFT may notify the Customer by various means, including but not limited to a message on SWIFT website.

Article 5.1 Warranties

SWIFT warrants that it shall provide the SWIFT Services and Products using care and skill consistent with good industry practice.

Article 5.3 Warranties

No warranty is given by SWIFT that the SWIFT Services or Products shall be uninterrupted or error free or that all defects will be corrected.

General Terms and Conditions, April 2003

Article 8.6 Responsibility and Liability

SWIFT shall in no circumstances be obliged to perform any obligation or have any liability to the extent resulting from...

- Force Majeure

Article 8.8 Responsibility and Liability

If any party is unable to perform its obligations (except payment obligations) due to causes beyond its reasonable control then that party shall not be held responsible for any loss or damage which may be incurred by the other party as a result of such inability. Such causes include but are not limited to acts of God, governmental acts, acts of authorities (including Regulatory Authorities), acts of telecommunications operators, facilities management contractors and service providers (but excluding to the extent such acts were caused by SWIFT's default), catastrophes in nature, war, fire, flood, strike or industrial disputes, political disturbance, explosion, bombs or civil disturbances, epidemics and all other circumstances which prevent or hinder a party against its will from performing its obligations (each a "Force Majeure")

Each party will give notice to the other as soon as possible upon becoming aware of a Force Majeure. If due to a Force Majeure a party remains unable to perform its obligations in respect of the SWIFT Services and Products for more than sixty (60) days, then the other party may terminate the so affected SWIFT Services and Products immediately. Neither party shall have any liability to the other as a result of such termination, but any such termination shall be without prejudice to any rights which may have arisen prior to termination.

C. UK Exchanges

C.1 London Stock Exchange

Rules

Definitions

business day: any day on which the Exchange is open for dealing

Rule 2001

The Exchange may, at its discretion, waive the enforcement of these rules.

Rule 2126

If LCH, in accordance with LCH rules, gives notice to the Exchange of its intention to suspend the open offer, no central counterparty contract shall arise from the point that the open offer is suspended. From the point that the open offer is suspended the Exchange may:

Rule 2126.2

suspend automatic execution under rule 4145.

Rule 3040

The Exchange may prohibit any transaction or class of transactions from being dealt on Exchange for any reason.

Rule 3705

The Exchange may postpone or extend a settlement period for all transactions or for transactions in specified securities effected on a given day, indefinitely or for a specified period.

Rule 4145

The Exchange may suspend the automatic execution of orders on the Exchange trading system in one or more order book securities if:

Rule 4145.3

an Exchange systems problem occurs; or

Rule 4145.4

the Exchange considers it appropriate to do so.

Rule D100

A member firm may, and shall if the Exchange is so directed pursuant to section 166 or 167 Companies Act 1989, be declared a defaulter by direction of the Chairman or Deputy Chairman or by direction of two members of the Board where the member firm:

Rule D100.1

is unable to fulfil its obligations in respect of one or more Stock Exchange market contract (s); or

Rule D100.2

appears to be or to be likely to become so unable.

Rule S810

The Exchange may, at its discretion, suspend, postpone (either for a defined period or indefinitely) or cancel the buying-in of securities at any time, either generally, or in relation to a particular member firm, or a particular security.

Admission and Disclosure Standards

Clause 3.1

Issuers must comply with all of the UKLA Listing Rules and the provisions set out in the Standards including any modification to the Standards which has been notified to an Issuer, in order for its securities to be admitted to trading and to remain on the Exchange's markets.

Clause 3.13

The Exchange will suspend the admission to and the trading of any securities on its markets if the listing of such securities is suspended.

Clause 3.14

The Exchange may suspend trading of such securities with effect from such time as it may determine, and in such circumstances as it thinks fit where the ability of the Exchange to ensure the orderly operation of its markets for listed securities is, or may be, temporarily jeopardised.

Clause 3.16

Where trading has been suspended, the Exchange may impose such conditions as it considers appropriate prior to resumption of trading.

London Market Information Link User Agreement/Licence Agreement

[The relevant clauses are identical to those in the Trading Services Agreement.]

Trading Services Agreement

Clause 1

"Force Majeure Event" means any cause beyond a party's reasonable control affecting the performance of its obligations hereunder including but not limited to fire, flood, explosion, accident, war, strike, embargo, governmental or regulatory requirement, civil or military authority, Act of God, industrial disputes or omissions of providers of telecommunications services.

Clause 12.1

Neither party shall be liable to the other for any delay or failure to fulfil any obligation under this Agreement to the extent that such delay or failure was due to a Force Majeure Event.

Clause 12.2

Either party may terminate this Agreement on notice in writing to the other if due to a Force Majeure Event a party is unable to fulfil its obligations under this Agreement for more than 45 calendar days. Neither party shall have any liability to the other in respect of termination of this Agreement as a result of such Force Majeure Event.

Listing Rules

Definitions

The following terms have the following meanings when used in these listing rules unless the context otherwise requires:

...

business day: any day which is not a Saturday, Sunday, Christmas Day, Good Friday or a bank holiday in England under the Banking and Financial Dealings Act 1971

C.2 Euronext.liffe

Rules Book I – Harmonised Euronext Rules relevant to LIFFE

Definitions

“Trading Day” means any day on which the Euronext Markets are open for trading.

Rules Book II – Rules specific to LIFFE

4.2 Business days and trading hours

The market shall normally be open from Monday to Friday in each week and shall normally be closed on Saturdays, Sundays, Public Holidays in England and on any day on which trading is suspended under the Banking and Financial Dealings Act 1971. Notwithstanding the generality of the foregoing, the Board may determine from time to time that the market shall be open or closed on any day and that any Exchange Contract shall, or shall not, be made available for trading on any day. Any such day shall be notified by means of a general notice.

4.14.1

The Board may, from time to time, implement such procedures as it deems fit to permit a member who has been expelled or suspended, or rights conferred by whose trading rights have been suspended, to have contracts made in respect of any account recorded by him or, where applicable, recorded by his clearing member in order to reduce or eliminate any open position or any exposure to future changes in the price of any contract on any such account.

4.14.2

The Board shall from time to time implement such procedures as it deems appropriate for determination of the opening and closing ranges of contract prices.

4.14.7

The Board may from time to time implement such procedures as it deems fit including, without limitation, the following:

- (a) procedures governing the conduct of trading on an ATS and all activities which are related thereto; and
- (b) procedures in relation to any aspect of business conducted on the market.

4.15 Power to restrict or suspend trading

4.15.1 Without prejudice to LIFFE Rule 4.15.2 and to the powers of the Board to take steps under LIFFE Rule 4.16, the Board shall implement procedures pursuant to Euronext Rules 5401 and 5402 whereby two or more designated exchange officials shall be empowered to restrict or suspend business on the market in any Exchange Contract at any time if in their opinion such restriction or suspension is necessary in the interests of the Exchange, or of its members, or to maintain a fair and orderly market. Such procedures shall make provision for the resumption of business on the market following any such decision.

4.15.2 Notwithstanding LIFFE Rule 4.15.1, the Board may implement procedures whereby one exchange official may be empowered to restrict or suspend business on the market in one or more

Exchange Contracts, each being an Equity Option Contract, in the event that trading of an equity share the subject of such an Equity Option Contract is restricted or suspended by a recognised investment exchange or by a designated investment exchange on which such security is listed or quoted. Any such procedures shall also make provision for considering the resumption of business on the market, if feasible or desirable, following the restriction or suspension of an Equity Option Contract.

4.16 Emergency provisions

4.16.1 Without prejudice to any step which has been or may be taken under the default rules, if in its opinion any circumstances calling for emergency action in the interests of the orderly conduct of business on the market or the due performance of contracts have developed or are developing, the Board may after consulting where practicable a Market Advisory Committee appointed under LIFFE Rule 4.16.6, take any steps whatsoever to provide for, correct or check the further development of those circumstances or to preserve or restore conditions enabling the orderly conduct of business or the due performance of contracts to be resumed. The Board shall invite the Clearing House to be represented at any meeting of the Board at which the taking of such steps or the modification or revocation of the same, is to be considered. The Clearing House may by notice to the Exchange request that a meeting of the Board be convened for the purpose of taking, modifying or revoking such steps.

4.16.2 Circumstances within the scope of LIFFE Rule 4.16.1 above may (but without prejudice to the generality of that Rule) include ... circumstances affecting the the orderly conduct of business on, or the due performance of contracts traded on, a Participating Exchange, a state of war or threatened hostilities, the introduction of official controls affecting the market or the performance of contracts or any change in such controls, any other change in legal provision or administrative or financial practice affecting the market or the performance of contracts or the breakdown or failure of any communications or equipment or market facilities or the ATS central processing systems or one or more of ATS workstations, or any other undesirable situation or practice, provided always that such circumstances in the opinion of the Board call for emergency action as aforesaid.

4.16.3 Steps taken by the Board pursuant to LIFFE Rule 4.16.1 above may (but without prejudice to the generality of that Rule) include the suspension or curtailment of trading in respect of one or more Exchange Contracts or delivery periods for such time as may be specified, the suspension of the transfer of contracts in the terms of a Linked LIFFE Contract pursuant to Section 10 of the Rules, the limitation of trading to the liquidation of open contracts subject to any specified condition or exception or to the trading of unexecuted orders existing at the time such steps are taken subject to any specified condition or exception, the modification of contracts already in being, the deferment of delivery under specified contracts, the determination of any compensation or price adjustment to be paid or allowed in respect of such modification or deferment, the instruction of one or more members to disclose to such confidential agent as the Board may nominate their open positions and the open positions of their clients subject to any specified condition or exception, the settlement of contracts by invoicing back at prices specified or to be specified and an ancillary step considered by the Board to be necessary in the circumstances. Such steps may, if the Board thinks fit, extend to contracts made before or on the date the steps are taken.

4.16.4 The Board shall determine any invoicing back price to be specified pursuant to LIFFE Rule 4.16.3, and may determine different invoicing back prices for application to different cases; provided that in any case the price determined shall (in the absence of special reasons to the contrary) be within the range of official quotations fixed under the Regulations in respect of the six business days immediately preceding the date of determination. The Board shall invite the Clearing House to be

represented at any meeting of the Board at which an invoicing back price is to be determined under this Rule and shall consult the Clearing House before making its determination.

4.16.5 ...

4.16.6 ...

5.8 Summary powers of suspension

5.8.1 Notwithstanding and without prejudice to the powers of the Appeal Panel and a Disciplinary Panel to consider and decide upon alleged violations of the LIFFE Rules, or the Settlement Procedure, an exchange official may, with the agreement of another exchange official, suspend the registration of a responsible person for a period of up to two business days upon reasonable belief that such suspension is necessary to protect the interests of the Exchange or its members or to ensure an orderly market.

C.3 International Petroleum Exchange

Regulations

A.2 Spirit of the Rules

A.2.5 Where there is no express provision made in the Regulations, the Directors (or any committee with appropriate powers) may from time to time implement such procedures as they think fit in relation to any aspect of the management of the Exchange and the conduct of business on the Exchange.

A.5 General powers of Directors

A.5.1 The Directors shall have the power to declare any day a non-business day on giving notice thereof to Members.

A.7 Exclusion of liability

A.7.1 The Exchange wishes to draw to the attention of Members and clients that business on the Market or through any other facility provided by the Exchange may from time to time be suspended or restricted or such facilities (including, without limit, the Market) may from time to time be closed for a temporary or longer period. Without limit, this may occur as a result of the occurrence of one or more events which require action to be taken by the Exchange under the Regulations in the interests of, inter alia, maintaining a fair and orderly market. Any such action may result in the inability of one or more Members and through such Member one or more clients to enter into contracts on the Market in accordance with the Regulations. Furthermore, a Member and through the Member one or more clients may from time to time be prevented from or hindered in entering into contracts on the Market as a result of failure or malfunction of communications equipment or trading facilities including but not limited to IPE ETS, or front end application supplied to the Member by the Exchange or any other person. Unless otherwise expressly provided in the Regulations or in any other agreement to which the Exchange is party, neither the Exchange nor its officers, employees, agents or representatives shall be liable to any Member or client for any loss, damage, injury or delay (including any indirect or consequential loss, including without limitation, any loss of profit) arising from or in connection with the trading facilities including but not limited to IPE ETS or the occurrence of a temporary or longer suspension, restriction or closure of business on the Market or the trading facilities including but not limited to IPE ETS or any act or omission of the Exchange, its officers, employees, agents or representatives under the Regulations or pursuant to the Exchange's obligations under statute or from any breach of contract by or any negligence howsoever arising of the Exchange, its officers, employees, agents or representatives which may prevent or hinder a

Member or, through a Member, a client from entering into or closing out a Contract or otherwise affect a Member or client.

A.8 Trading Hours

(a) The Market shall be open from Monday to Friday of each week between the hours each day decided by the Directors from time to time. The trading times for each product, subject to the closures required below, shall be determined by the Directors from time to time.

Without prejudice to A.8 (b) below, changes to floor trading hours or any changes to IPE ETS trading hours which would result in IPE ETS trading in parallel with trading on the floor cannot be implemented unless notified to the Members.

(b) The Market shall be closed on Saturdays, Sundays, public holidays in England, any day on which trading is suspended under the Banking and Financial Dealings Act 1971 and on a temporary basis on any other day for such hours that the Directors shall from time to time decide is necessary or appropriate in the circumstances.

G.14 Emergency Closures

(a) Trading on the Market may be temporarily suspended by an Exchange official in the event of a fire alert, bomb scare or other alarm or in such other event which in the opinion of the Exchange official suspension of trading is necessary in the interests of the Exchange, or its Members, or to maintain a fair and orderly market. Trading will be resumed as soon as reasonably practicable following any such interruption.

(b) In the case of trading on the trading floor:

- (i) the Floor Committee, in consultation with an Exchange official, shall have the authority to order a 5 minute cessation of trading followed by the extraordinary opening procedure (EOP) if, in the opinion of those members of the Floor Committee present on the trading floor, trading has become or is likely to become too hectic or volatile for reasonable open trading conditions. The procedure involved in the EOP shall be the same as that of a standard opening procedure. There is no limit on the frequency of use of the EOP should the volatility continue or reoccur;
- (ii) if the designated Exchange official considers that as a result of action under (a) or (b)(i) above trading on the trading floor either may not be resumed before the time for the commencement of the closing procedures for a contract, or may not be resumed at a time which, in his opinion, would leave sufficient time before the closing time of that contract as would allow the determination of a representative settlement price, such Exchange official shall either:
 - (i) declare trading in that contract suspended for the day. The settlement prices for that contract shall be determined by the Senior Exchange Official who may consult the Settlement Advisory Committee and who may take into account any one or more of the points listed in Floor Trading Procedure 2.4.10; or
 - (ii) refer the matter to the designated Exchange senior management official who may declare that trading continues on the Telephone Trading market pursuant to Rule G.18; or
 - (iii) decide (after consultation with such persons as the Exchange in its sole discretion may decide) whether to bring forward the scheduled starting time for trading any affected Contracts on IPE ETS.

- (c) In the case of trading on the IPE ETS, two designated Exchange officials may declare that trading on the IPE ETS has been suspended and will remain so until all the consequences of such an event have been remedied to their satisfaction. If the two designated Exchange officials consider that as a result of action under (a) above trading in respect of those contracts other than Utility Contracts may not be resumed before the end of the trading session, such Exchange officials will either:
- (iv) declare the trading session suspended; or
 - (v) refer the matter to the designated Exchange senior management official who may declare that trading continues on the Telephone Trading market pursuant to Rule G.18.

If the two designated Exchange officials consider that as a result of action under (a) above, trading in respect of Utility Contracts may not be resumed at a time which, in their opinion, would leave sufficient time before the end of the trading session as would allow the determination of a representative settlement price, such Exchange officials will either:

- (i) declare the trading session suspended and determine the settlement prices; or
- (ii) refer the matter to the designated Exchange senior management official who may declare that trading continues on the Telephone Trading market pursuant to Rule G.18.

1.15 Trade Emergency Panel

(a) In the event of the Exchange, whether by its Compliance Officer or otherwise, identifying or suspecting the development or possible development of a situation or practice referred to below, it shall forthwith refer the matter to a panel (the Trade Emergency Panel) being a minimum of three people comprising: the Compliance Officer; the Chief Executive; two Clearing House senior executives nominated for this purpose by the Clearing House; or lay directors of the Exchange. The Panel may take such professional advice as it sees fit in coming to any decision.

(b) If in the opinion of the Trade Emergency Panel an excessive position or unwarranted speculation or any other undesirable situation or practice affecting or capable of affecting the Market is developing, or has developed, it may take any steps whatsoever to provide for, correct or check the further development of such situation or practice and may give directions to Members accordingly. Such steps may (without prejudice to the generality of this Rule), if the Trade Emergency Panel thinks fit, extend to trading which occurred before or on the date that such step is instigated.

(c) A Member contravening a direction of the Trade Emergency Panel under this Rule shall be liable to the same sanctions (including expulsion or suspension from membership) as if a breach of the Regulations were committed.

EPS Trading Procedures

6 IPE ETS Back-up Facilities

6.1 In the event of a failure of one or more of a Member's IPE ETS workstations or failure of the supply of IPE ETS to one or more of the Members IPE ETS workstations for any reason the Member is advised to take appropriate steps to use another Member who has access to IPE ETS to execute business which it would have conducted on IPE ETS had he been able to use his own IPE ETS workstation. [Note: A Trade Associate Member may not provide this service for another Member.]

C.4 London Metal Exchange

Articles of Association

Article 48

The Directors may from time to time make, alter and carry out such Rules as they may think fit with respect to the rights duties and obligations of Members and grant waivers of such rules in such circumstances as they may think fit and shall generally on behalf of the Members regulate and control the Company and the business conducted thereat.

Definitions and General Rules

Definitions

“Business Day” means any day except Saturday, Sunday or any public or bank holiday in England or a day during which trade on the Exchange has been suspended by or under the authority of an enactment or a day which the Directors declare not to be a Business Day;

“Rules” means the rules and regulations of the Exchange in force from time to time.

“Settlement Business Day” means a Business Day on which commercial banks are open in New York City for the settlement of international transactions in US dollars;

“Default Settlement Amount” means the amount payable by one party to the other in respect of an Unsettled Contract to which a Defaulter is a party which is settled under or pursuant to the Default Regulations;

“Unsettled Contract” means a Contract in respect of which the obligations of the parties have not been discharged whether by performance, set-off or otherwise;

Part 3 Trading Regulations

5 Settlement Prices and Other Official Prices

5.1 At the close of the morning Ring trading session for each metal and before the commencement of kerb trading the Quotations Committee shall determine and post in the Exchange as soon as possible thereafter Official Prices for that metal in its Major Currency. Such prices shall be at the levels which the Quotations Committee determines to have been the last bid and offered prices for Cash, three months and 15 months in the second Ring or, where it determines there were not such prices, at such other level as it may in its discretion decide.

10 Delivery – General

10.2 If there appears to the Clearing House to be a default by either party to an Exchange contract registered with the Clearing House in respect of or arising out of a delivery, the Clearing House shall as soon as practicable take such steps as it deems appropriate to achieve an amicable settlement of the issues between the parties. If it appears to the Clearing House that such steps have not led and are not likely to lead to a settlement within a reasonable time, the Clearing House shall refer the dispute to the Directors.

10.3 If upon reference made to them by the Clearing House, the Directors are of the opinion that the default is of minor significance, they may thereupon determine the issue upon such evidence before them as they may deem relevant and convey their determination to the parties. All parties shall forthwith accept such determination and shall implement its terms without question, provided that such acceptance and implementation shall be without prejudice to the right of any party to refer the dispute or any related dispute to arbitration under the Rules.

13 When the Clearing House may fix prices

13.1 If the Quotations Committee fails at any time to determine or announce to the Clearing House a Closing Price or a Settlement Price in accordance with the Trading Regulations, the Clearing House may fix a Closing Price or Settlement Price as the case may require, of such amount as it may in its absolute discretion determine, and may apply the same in accordance with the Trading Regulations and the General Regulations of the Clearing House as if it had been determined by the Quotations Committee.

15 Emergencies

15.1 In the event of the Special Committee or the Clearing House having cause to suspect the existence or to anticipate the likely development of a corner or undesirable situation or undesirable or improper trading practice which in their opinion has affected or is likely to affect the market, the Special Committee after consultation with the Clearing House may take such steps in their absolute discretion they deem necessary to contain or rectify the situation and they may give directions to Members accordingly. Such directions to a Member may include, but are not limited to:-

- (a) trading out Client Contract positions with one or more particular Clients;
- (b) trading out Exchange Contract positions;
- (c) reducing its net trading position.

15.2 Without prejudice to the generality of this Regulation, such steps may include the suspension or curtailment of trading for such a period or for such Prompt Dates in such metals or Contracts as may be specified or the direction that trading be limited to the liquidation of open Contracts and deferral of settlement of some or all Contracts with Prompt Dates in the current month or in the two succeeding months thereafter, subject to such compensation (if any) as the Special Committee may determine being paid to sellers or buyers.

15.5 Upon the occurrence of any event outside the Exchange which is outside the control of the Exchange, including the commencement of a state of war, revolution, political or economic disturbance or the enactment of legislation or the commencement, suspension or determination of any international agreement, such as may in the opinion of the Directors prevent free trading in any Contract or so distort the same or the price of any metal or the level of the Index as no longer to be truly representative of conditions in the international market in any metal, the Directors shall have the authority to order a complete cessation of trading in such metal or Index Contract until such time as they in their absolute discretion deem it appropriate to resume, or to take any of the steps set out in Regulations 15.1 to 15.3 above as they deem necessary at the time. The Directors shall not take such action as aforesaid without first consulting the Clearing House.

15.6 In the event that a cessation or suspension or limitation of trading in any metal or Index Contract imposed by the Directors in accordance with Regulations 15.1 to 15.3 or 15.5 above be such as to prevent delivery of the said metal or settlement of the said Index Contract or to prevent the closing of an open position, any open Contracts so affected shall be closed by Invoicing Back to the seller at special settlement prices to be determined by the Directors on the date of announcement of cessation or suspension or limitation of trading.

Part 4 Contract Regulations

1 Relationship with Rules and Regulations

1.1 These Contract Regulations shall apply to Contracts made subject to the Rules of the Exchange, whether between Clearing Members or between a Clearing Member and a Member who is not a Clearing Member or between a Member and any other person.

1.2 ...

1.3 Any provision of, or incorporated into, any Contract (other than a provision incorporated by virtue of the General Regulations of the Clearing House) which purports to exclude or is otherwise in conflict with the Rules shall be void.

Part 9 Default Regulations

1 Events of Default

The expression "Event of Default" in relation to any person shall mean:-

1.1 failure by that person duly to perform or comply with any obligation to make payment or deliver Warrants under the terms of a Contract;

1.2 failure by that person to satisfy any margin liability in respect of a Contract or to comply with any other obligation binding on him under a Contract,

1.3 that person

(a)...

(b) stopping, suspending or threatening to stop or suspend payment of all or a material part of his debts,

(c) beginning negotiations or taking any other step with a view to the deferral, rescheduling or other readjustment of all of (or all of a particular type of) his debts (or of any part which he will or might otherwise be unable to pay when due),

(d)...

2 Application of Default Regulations and Determination of Default

2.1 ...

2.2 If a Ring Dealing Member, Associate Broker Member or Designated Non-Member appears to the Exchange to be unable or to be likely to become unable to meet his obligations in respect of one or more Contracts or, without prejudice to the generality of the foregoing, upon the occurrence of an Event of Default in relation to a Ring Dealing Member, an Associate Broker Member or Designated Non-Member, or at any time thereafter whilst such Event of Default is continuing, the Exchange may in its absolute discretion determine that the Member or Designated Non-Member is a Defaulter, whereupon the provisions of Regulation 3 shall have effect.

3 Default Proceedings

3.1 The Exchange shall promptly following a determination that a Member or Designated Non-Member is a Defaulter take any one or more of the steps referred to in Regulation 3.3 as it considers appropriate;

3.2 ...

3.3 The steps referred to in Rule 3.1 are:

3.3.1 ...

3.3.2 ...

3.3.3 to direct that any Unsettled Contract to which the Defaulter is party as principal whose Prompt Date is on, or on the Business Day after, the date of publication of the Default Notice is,

with the consent of any Relevant Office Holder, discharged by performance either in whole or in part;

3.3.4 subject as provided and after taking any action specified, in 3.3.1 to 3.3.3 above, to declare that all rights and liabilities of the parties to each Unsettled Contract to which the Defaulter is part as principal shall be discharged whereupon they shall be so discharged and there shall arise in their place an obligation of the Defaulter to pay to the Counterparty or vice versa the appropriate Default Settlement Amount provided that such discharge shall not extend to rights and liabilities for or in respect of margin which has been paid to the Defaulter by any Counterparty or vice versa nor to rights and liabilities arising out of a failure to perform a Contract in accordance with its terms;

3.3.5 ...

3.5 The Default Settlement Amount in respect of each Unsettled Contract in respect of which the rights and liabilities of the parties are discharged pursuant to Regulation 3.3.4 shall be an amount determined by the Exchange in its absolute discretion taking into account market conditions and any compensation that the Exchange considers should be paid by or to the Defaulter, but without prejudice to the generality of the foregoing may be the difference (if any) between the value of the Unsettled Contract at the contract price (or premium) and its value at the Default Settlement Price provided that if, pursuant to the terms of the relevant Contract or any other agreement between the parties, the said rights and liabilities have become or been converted into an obligation to pay, and a corresponding right to receive, a single liquidated sum the Exchange may treat that sum as the Settlement Amount.

D. International Exchanges

D.1 New York Stock Exchange

Constitution:

Article IV Board of Directors

The Board shall be vested with all powers necessary for the government of the Exchange, the regulation of the business conduct of members, allied members and member organizations of the Exchange and of approved persons in connection with their conduct of the business of member organizations and the promotion of the welfare, objects and purposes of the Exchange and in the exercise of such powers may adopt such rules, issue such orders and directions and make such decisions as it may deem appropriate.

Article XIII Management in an Emergency

Sec.1 Emergency Powers

Whenever it shall appear to the Board that an emergency exists, other than as provided for in the following Sections of this Article, it may by resolution adopted by a majority of the entire Board delegate all of its powers which may lawfully be delegated, for such period as it may determine, to a special committee, to be composed of three or more directors, at least one-half of whom shall be industry directors. The Board by such resolution may designate one or more industry directors as alternates for the members of such committee who are industry directors of the Exchange and one or more other directors as alternates for the members of such committee who are public directors. Directors so designated may replace any absent member or members for whom they are alternates at any meeting of such committee.

Sec.2 Defense Emergency Act

The provisions of the balance of this Article constitute emergency by-laws under Subdivision 17 of Section 12 of the New York State Defense Emergency Act, as amended. In the event that an attack as herein and therein defined occurs and the New York State Defense Council issues an order applicable to the Exchange authorizing or directing the effectiveness of emergency by-laws of New York corporations, then, notwithstanding any provisions of the certificate of incorporation of the Exchange or the provisions of any of the other Articles of this Constitution or of the rules thereunder, all the rights, powers and duties of the Board shall immediately vest in an emergency committee and continue to be so vested during the period of emergency.

The term "attack" for the purpose of this Article means and includes any attack, actual or imminent, or series of attacks by an enemy or a foreign nation upon the United States causing, or which may cause, substantial damage or injury to civilian property or persons in the United States in any manner by sabotage or by the use of bombs, shellfire, or nuclear, radiological, chemical, bacteriological, or biological means or other weapons or processes.

The term "emergency committee" for the purpose of this Article shall mean a committee of six members composed as provided in Section 3 of this Article.

The term "period of emergency" for the purpose of this Article shall mean the period commencing with the vesting of the powers of the Board in the emergency committee and ending on the date when the New York State Defense Council declares that the period of attack has ended or on such earlier date as may be fixed (a) by the Board in office at the inception of the emergency or (b) by a majority vote of the membership at a special meeting of the members called for the purpose or (c) by the emergency committee. On the date so declared or so fixed all of the committee's powers shall revert to the Board.

If there are any vacancies in the Board on the date the emergency committee's powers are to revert to the Board, the emergency committee may make such provisions as it deems advisable for the election, by the members of the Exchange, of persons to fill such vacancies and may, in connection therewith, fix the time, place and manner of nominating persons to fill such vacancies and the time and place for a special meeting of the members of the Exchange for the purpose of such election.

Sec.3 Composition of the Committee

The emergency committee shall, at the inception of the period of emergency, be composed of the following six directors who are available and able to meet together – the Chairman of the Board, the Executive Vice Chairman, if one is then in office, each Vice Chairman of the Board then in office, the President, if one is then in office, and such number of the industry directors in order of seniority as are necessary to bring the committee up to its full complement of six. If any of the foregoing are not available or able to meet together, vacancies shall be filled in the order of their seniority, from the industry directors who retired from the Board at the last annual election. If all of the vacancies cannot be filled from such former directors, they shall be filled in order of seniority, from the industry directors who retired at the next to the last annual election, and so on until there are six such directors or former directors available and able to meet together.

The seniority of a director or former director for the purpose of this Article shall be determined by the length of time he or she has served as a director (including service as Chairman of the Board) whether or not his or her terms of service have been consecutive.

After the emergency committee has been initially constituted as above provided, the committee shall fill any vacancies which occur by appointing directors or former directors of the Exchange, may increase the number of such directors and former directors who constitute the committee, and thereafter may reduce such number, provided the number is not reduced below five. In filling

vacancies and in adding members to the committee, seniority shall not control. The emergency committee may remove any member of the committee with or without cause.

In the event that at any time during the emergency there are less than three members of the committee available and able to meet together, the vacancies shall automatically be filled in the same manner as the committee was originally constituted.

Sec.4 Meetings of Emergency Committee

Meetings of the emergency committee shall be held at such times and places as the committee may designate by resolution and special meetings of the committee shall be held on the call of any member of the committee. A member of the emergency committee calling a meeting shall attempt to give notice thereof by making such reasonable efforts as circumstances may permit to notify each committee member of the meeting. Such notification may be oral, written or by publication and specify the purposes thereof. Failure of any member of the committee to receive actual notice of a meeting of the committee shall not affect the power of the committee members present at such meeting to exercise the powers of the emergency committee.

Three members of the emergency committee shall be sufficient to constitute a quorum for any meeting of that committee, and any action taken pursuant to the vote of a majority of the members of the committee present at a meeting shall be deemed to be the action of the committee, even though this Constitution requires a specified vote by the members of the Board had that action been taken by the Board.

Any action by an emergency committee shall be valid and binding as if taken by the Board if such committee certifies that it is the properly constituted emergency committee even though it may subsequently develop that at the time of such action the committee was not a duly qualified emergency committee.

If the emergency committee elects a person to an office which it believes to be vacant, the acts of such newly elected officer shall be valid and binding although it may subsequently develop that such office was not in fact vacant.

Rules of Board, Rule 51, Dealings upon the Exchange; Hours for Business

Except as otherwise determined by the Board of Directors, the Chairman of the Board shall have the power to halt or suspend trading in some or all securities traded on the Exchange, to close some or all Exchange facilities, and to determine the duration of any such halt, suspension, or closing, when he deems such action to be necessary or appropriate for the maintenance of a fair and orderly market or the protection of investors, or otherwise in the public interest, due to extraordinary circumstances, such as (1) actual or threatened physical danger, severe climatic conditions, civil unrest, terrorism, acts of war, or loss or interruption of facilities utilized by the Exchange, or (2) a request by a governmental agency or official, or (3) a period of mourning or recognition for a person or event. In considering such action, the Chairman of the Board shall consult with the Vice Chairmen, if available, and such available Floor Directors as he deems appropriate under the circumstances. The Chairman of the Board shall notify the Board of actions taken pursuant to this rule, except for a period of mourning or recognition for a person or event, as soon thereafter as is feasible.

D.2 National Association of Securities Dealers (NASD)

By-Laws of NASD, Inc.

Art. VII, Sec. 3, Authority to Take Action Under Emergency or Extraordinary Market Conditions

The Board, or such person or persons as may be designated by the Board, in the event of an emergency or extraordinary market conditions, shall have the authority to take any action regarding:

- (a) the trading in or operation of the over-the-counter securities market, the operation of any automated system owned or operated by the NASD, NASD Regulation, or Nasdaq, and the participation in any such system of any or all persons or the trading therein of any or all securities; and
- (b) the operation of any or all member firms' offices or systems, if, in the opinion of the Board or the person or persons hereby designated, such action is necessary or appropriate for the protection of investors or the public interest or for the orderly operation of the marketplace or the system.

NASD Rules

Rule 4997, Trading Suspensions and Halts

In the event of a suspension or halt in trading of an Eligible Security pursuant to NASD or SEC Rules, Nasdaq shall suspend the related trading activities respecting that security through the Nasdaq Application. In addition, the trading activities through the Nasdaq Application respecting all Eligible Securities shall halt whenever the Chairman or, in the Chairman's absence, Chief Operating Officer or other Nasdaq Officer(s) as the Chairman may designate, determines that market conditions warrant such a halt pursuant to Nasdaq Market Emergency Rules contained in Article VII, Section 3 of the NASD By-Laws. Nasdaq may suspend the trading activities through the Nasdaq Application relating to one or more Eligible Securities at any other time, if deemed necessary and appropriate for the protection of investors or to preserve system capacity and integrity.

D.3 Hong Kong Stock Exchange, Cash Market (SEHK)

Rules, Chapter 1, Interpretation, Rule 101

In these Rules, unless the context otherwise requires:-

“Articles” means the Articles of Association of the Exchange;

“Board” means the Directors of the Exchange elected or appointed in accordance with the Articles and, where the context so permits, any Committee thereof;

“business continuity centre” means a business address of an Exchange Participant used for the purpose of continuing its trading operations during emergency or for other purpose which is notified to and approved by the Exchange from time to time;

“business day” means a day (excluding Saturday) on which banks in Hong Kong are open for business;

“Chief Executive” means the Chief Executive of the Exchange for the time being appointed by the Board in accordance with Rule 223 or, as the context may require, his designee;

“Exchange” means The Stock Exchange of Hong Kong Limited;

Rules, Chapter 2, Administration, Board, Rule 202

The Board shall exercise all such powers and do all such acts and things as may be exercised or done by the Exchange that are not by the Articles or by any Ordinance required to be exercised or done by the Exchange in general meeting.

Rules, Chapter 2, Administration, Board, Rule 203

Subject to the Ordinance and the Articles, the Board shall have the power to administer, manage, formulate policies and give directions in relation to the affairs of the Exchange and add to, vary, repeal, enforce or waive any of these Rules.

Rules, Chapter 2, Administration, Board, Rule 204

Without prejudice to Rule 203 above and any other provisions in the Articles or these Rules, the following powers shall in addition be vested in the Board, to be exercised in such manner, on such terms and at such times as it shall see fit:

- (1) to admit or refuse to admit any person or company as an Exchange Participant;
- (3) to give directions to the Chief Executive and the Committees in accordance with the Articles and these Rules;
- (4) to vary, supplement or discharge, whether wholly or in part, any decisions that may be reached by the Chief Executive or any of the Committees on such terms as it sees fit;
- (11) to suspend all or part of the trading activities on the Main Board and/or on GEM in the event of an emergency as hereinafter provided in these Rules and to take such remedial actions as it thinks fit;

Rules, Chapter 2, Administration, Board, Rule 205

The Board or the Exchange shall not be required to give any reasons for the exercise of any of its powers and its decision shall be final and binding on all Exchange Participants and their Authorised Clerks, Registered Users and Responsible Officers save and except for matters referred to in Rule 303A(2) and Rule 304(7).

Rules, Chapter 5, Trading, Operational Trading Rules, Rule 501(1)

Trading is conducted on every weekday, unless otherwise determined by the Board (excluding Saturdays and public holidays) at the times specified below or at such other times as may be determined by the Chief Executive in consultation with the Chairman and the Commission:

Morning Session: 10:00 a.m. to 12:30 p.m.

Afternoon Session: 2:30 p.m. to 4:00 p.m.

There is no afternoon trading session on the eves of Christmas, New Year and Lunar New Year.

Rules, Chapter 5, Trading, Transactions, Rule 517(6)

Orders for an automatch stock input into the System for automatic order matching must be within a size limit prescribed by the Board from time to time to be eligible for automatic order matching. The Board has absolute discretion to prescribe from time to time different size limits for different order types or orders input into the System during different trading sessions. The Chief Executive after consultation with the Chairman of the Board and the Commission may vary temporarily the order size limit for different types or categories of securities, or in cases of operational needs, or in emergency situations.

Rules, Chapter 5, Trading, Day-end Review of Sales/Purchases Journal, Rule 528

- (1) It is the duty of every Exchange Participant to review both sales and purchases journals at the end of each trading session. Any discrepancy, erroneous transaction or complaint should be reported to the Exchange in the form prescribed by the Board from time to time not later than 10:15 a.m. of the next trading day.

- (2) In case of typhoon and rainstorm as stipulated in Rule 571(1) or an emergency as stipulated in Rule 572 occurs, the Board may in its absolute discretion extend or vary the time within which any discrepancy, erroneous transaction or complaint should be reported to the Exchange.

Rules, Chapter 5, Trading, Emergency, Rule 572

If in the opinion of the Board or of the HKEx board the functioning of the Trading Hall or the System is, or is threatened or likely to be, severely and adversely affected by an emergency, including but not limited to fire or other casualty or accident, typhoon, rainstorm, power failures, communications breakdowns, computer malfunction, war, riot, civil commotion, labour strike and other similar events, the Board shall have full authority to take such action as the Board may in its absolute discretion deem necessary or appropriate to deal with such emergency or as directed by HKEx board. Under no circumstances shall the Exchange or HKEx be responsible for damages arising from any such emergency or any action taken by the Exchange in respect thereto.

Rules, Chapter 5, Trading, Emergency, Rule 573

If an emergency as stipulated in Rule 572 occurs, the Board may, in its absolute discretion, adjust the trading hours as specified in Rule 501 and the Extended Morning Session and the times for termination of the terminal activities as specified in Rule 502 and Rule 501E(1) to compensate for the loss in trading time arising from the emergency.

D.4 Hong Kong Stock Exchange, Options Trading (SEHK)

Hong Kong Stock Exchange, Options Trading Rules, Chapter 1, Definitions and Interpretations, Rule 101

In these Options Trading Rules, unless the context otherwise requires:

“Business Day” means every day other than:

- (1) Saturdays;
- (2) Sundays; and
- (3) public holidays;

“Exchange Rules” means “the Rules of The Stock Exchange of Hong Kong Limited”

Hong Kong Stock Exchange, Options Trading Rules, Chapter 1, Definitions and Interpretations, Rule 109A

The Options System is complex and the Exchange, SEOCH, HKFE and a recognized exchange controller which is the controller of the Exchange do not accept any liability whatsoever, and no claim may be brought against any of them or their respective staff, officers, agents and employees, in respect of any error in, or interruption in or suspension of the operation of, the Options System, except in respect of anything not done or not omitted to be done in good faith by the Exchange. In particular, neither the Exchange, SEOCH, HKFE nor a recognized exchange controller which is the controller of the Exchange including their respective staff, officers, agents and employees nor any person from whom the Exchange has obtained a licence, directly or indirectly, in connection with the use of the Options System shall have any liability in connection with, or arising out of, any ability or inability to use the computer programs involved in the functioning of the Options System (whether based in contract, tort, misrepresentation, warranty or other legal or equitable grounds and without regard to the circumstances giving rise to any purported claim).

Hong Kong Stock Exchange, Options Trading Rules, Chapter 1, Definitions and Interpretations, Rule 109C

The Exchange, SEOCH, HKFE and a recognized exchange controller which is the controller of the Exchange will not be liable for any action taken or for any failure, hindrance or delay in the provision of services or the performance in whole or in part of their obligations under these Options Trading Rules or under any OCH Contract if such action, failure, hindrance or delay arises out of causes beyond their control. Such causes may include, but shall not be limited to, acts of God or the public enemy, acts of a civil or military authority, embargoes, fires, floods, explosions, accidents, labour disputes, mechanical breakdowns, computer or system failures or other failures of equipment, failures of or defects in computer software, unavailability of or restrictions on any communication media for whatever reason (whether or not such media is used by Options Trading Exchange Participants), interruptions (whether in whole or in part) of power supplies or other utility or services, any law decree, regulation or order of any government, competent authority or any court or tribunal, and any other causes beyond the control of the Exchange (whether or not specified in the Exchange Rules), SEOCH, HKFE or a recognized exchange controller which is the controller of the Exchange.

Hong Kong Stock Exchange, Options Trading Rules, Chapter 9, Emergency Procedures, Rule 901

Facilities for trading Options Contracts on the Exchange may at any time be suspended, restricted or withdrawn for a temporary period or for such longer period as may be determined by the Board in prior consultation with the Commission.

Hong Kong Stock Exchange, Options Trading Rules, Chapter 9, Emergency Procedures, Rule 902

Suspension, restrictions or withdrawals of facilities for trading Options Contracts on the Exchange may be ordered by the Chief Executive, in consultation with the Commission, notwithstanding Options Trading Rule 901 if, in his opinion, it is not possible for a meeting of the Board to be convened immediately. The Chief Executive, in consultation with the Chairman, shall arrange a meeting of the Board as soon as possible after such suspension, restriction or withdrawal. The Chief Executive may not otherwise suspend, restrict or withdraw facilities for the trading of Options Contracts on the Exchange.

Hong Kong Stock Exchange, Options Trading Rules, Chapter 9, Emergency Procedures, Rule 903

If, in the opinion of the Board, or the Chief Executive in consultation with the Commission, the functioning or operation of the Options System is, or is threatened or likely to be, impaired (whether by reason of any fire or other casualty or accident, typhoon, power failure, communications breakdown, computer malfunction or any other event) in relation to one or more Options Trading Exchange Participants, the Board shall have full authority to take such action as it may, in its absolute discretion, consider necessary to deal with such impairment, including, but not limited to, the adjustment of the times for the commencement and closure of various activities in the Options System. Any such action may result in the inability of one or more Options Trading Exchange Participants to enter into Options Contracts and, accordingly, in the inability of one or more Options Broker Exchange Participants to enter into Options Broker Client Contracts and of clients of Options Exchange Participants to enter into Client Contracts. Furthermore, Options Trading Exchange Participants may from time to time be prevented from, or hindered in, entering into Options Contracts as a result of a failure of communications, of a User Device or PC Terminal or an HKATS workstation or of the Options System.

Hong Kong Stock Exchange, Options Trading Rules, Chapter 9, Emergency Procedures, Rule 905

In circumstances where access to the Options Trading System and/or the Options Clearing System is suspended, restricted, or withdrawn pursuant to these Options Trading Rules in relation to one or more Options Trading Exchange Participants, the Exchange may allow those Options Trading Exchange Participants which have entered into a facsimile indemnity agreement with the Exchange to

transmit their orders, quotes and other permitted instructions relating to the Options Trading System functions, and SEOCH may allow those Options Trading Exchange Participants that are SEOCH Participants and have entered into a facsimile indemnity agreement with SEOCH to transmit their give-up, take-up, exercise and other permitted instructions relating to the Options Clearing System functions, by facsimile to designated HKEx staff who will, subject to and in accordance with the Operational Trading Procedures and Operational Clearing Procedures, perform the relevant Options Trading System and/or Options Clearing System functions on behalf of such Options Trading Exchange Participant. All the provisions of these Options Trading Rules and the Clearing Rules, other than in relation to the entry of instructions into the Options System, shall apply to any resulting Options Contracts and other Contracts as if the Options Trading Exchange Participant had itself entered them into the Options Trading System and/or the Options Clearing System.

Hong Kong Stock Exchange, Operational Trading Procedures, The Options System, Chapter 1, 1.7 Control of Trading Periods

The Exchange may vary the sequence and duration of each trading and clearing period in emergency situations, if deemed necessary.

Although the Exchange endeavours to comply with the commencement and termination time for each trading and clearing period as given in 1.5 and 1.6, all timing figures are indicative only. The transition between trading and clearing periods is controlled by the Exchange according to the time kept by the Exchange.

The Exchange may broadcast messages via HKATS and/or TOPS terminals when a system state change is about to happen or has already happened. Appendix I describes some standard broadcast messages used by the Exchange.

Hong Kong Stock Exchange, Operational Trading Procedures, The Options System, Chapter 1, 1.12 Special Events

Special events which may affect trading will be handled by the Exchange in a manner similar to those described in relation to Typhoon Signals or Black Rainstorm Warnings.

Options Exchange Participants will be notified of the exact arrangements and procedures in relation to any suspension of services or facilities via the Broadcast Message and News Board of TOPS or the Market Messages Window of HKATS or via email, or if this is not possible, by other means deemed appropriate by the Exchange.

The guiding principle in each case is to:

- keep the options market running in line with the underlying market
- allow 30 minutes of Pre-Trading at resumption
- start Pre-Trading in TOPS no later than the commencement of Pre-Trading in HKATS.

D.5 Hong Kong Futures Exchange

Rules, Regulations and Procedures of the Futures Exchange

Chapter 1, Interpretation Administration and Amendment of the Rules, Rule 101, Definitions

In these Rules, unless the context otherwise requires, the following expressions shall bear the following meanings:-

“Bank Business Day” means a day on which banks in Hong Kong are open for business;

“Board” means the Board of Directors from time to time of the Exchange or (as the context may require) the majority of directors present and voting at a duly convened meeting of directors at which a quorum is present, or any duly appointed committee of the Board;

“Business Day” means, in relation to an Exchange Contract, any day during which the Exchange is open for trading that Exchange Contract;

“Clearing House” means the body appointed by or established and operated by the Exchange to provide clearing services to Exchange Participants in respect of Exchange Contracts;

“Exchange” means Hong Kong Futures Exchange Limited

“Exchange Contract” means a contract for a commodity approved by the Commission and the Exchange for trading on a Market and which may result in an F/O Contract;

“Market” means one of the markets from time to time established and operated by the Exchange pursuant to Rule 201;

Chapter IX, Emergency and Extraordinary Situations, Rule 901

- (a) The Exchange shall be open on every Business Day unless there is a suspension of trading in accordance with the following provisions of this Rule.
- (b) The Exchange may suspend trading in any Market if, but only if, (A) in its opinion, or (B) it is directed by the HKEx Board to do so as a result of the HKEx Board being of the opinion that:
 - (i) one or more of the events or the circumstances specified in sub-paragraph (c) of this Rule is imminent or threatened or has occurred or developed provided if the imminence or threat or occurrence or development of such event(s) is in respect of or affects HKEx only, HKFE may not suspend trading unless directed by the HKEx Board to do so; and
 - (ii) in consequence no orderly trading in that Market can take place or there is a serious risk of personal injury or death if trading were to be permitted to begin or continue.
- (c) The events or circumstances giving rise to the right to suspend trading in any Market are as follows:
 - (i) a state of war (whether declared or not) or a state of hostilities (whether in Hong Kong or elsewhere);
 - (ii) a riot, civil commotion, political disturbance, a labour dispute or strike, insurrection, revolution or a state of emergency in Hong Kong;
 - (iii) a tropical cyclone, natural disaster or other Act of God in Hong Kong;
 - (iv) any other event or circumstances (such as fire, explosion, accident, flood, HKEx staff labour dispute or strike, disruption or breakdown of HKEx, Exchange or Clearing House equipment or utility supplies to HKEx, the Exchange or Clearing House) directly affecting HKEx, the Exchange or the Clearing House or the operation or availability of their respective facilities; and
 - (v) trading in the underlying cash market has been suspended.
- (d) For the avoidance of doubt, fluctuations in the price at which Exchange Contracts are trading in the Markets operated by the Exchange or at which any commodity is trading in any other market shall not constitute circumstances affecting orderly trading for the purposes of this Rule.

- (e) Suspension of trading under this Rule may be directed by the HKEx Board or ordered by the Board or the Chief Executive. The Chief Executive may suspend trading under this Rule without prior reference to the Board if, but only if, in his opinion it is not possible for a meeting of the Board to be convened immediately. The Chief Executive may not otherwise suspend trading in any Market and whenever trading is suspended by the Chief Executive in accordance with this Rule, he shall arrange for a meeting of the Board to be held as soon as practicable after trading has been suspended.
- (f) To the extent that circumstances permit, there shall be prior consultation with the Commission before any trading is suspended in accordance with this Rule.
- (g) The duration of suspension shall in no circumstances be longer than absolutely necessary to enable the transaction of F.O. Business in an orderly manner to be resumed.

Chapter IX, Emergency and Extraordinary Conditions, Rule 902

Notice of suspension of trading shall be given to Exchange Participants, the Clearing House and HKEx, and prior notice shall be given to the Commission or other appropriate regulatory body. The Exchange shall, if possible, give notice of suspension in writing by facsimile, telex or the posting of a notice on HKATS or by such other means as the circumstances permit.

Chapter IX, Emergency and Extraordinary Conditions, Rule 903

If substantial fluctuations in any Market occur or if the Board or the Chief Executive determines that an excessive position or unwarranted speculation or any other undesirable situation or practice affecting or capable of affecting the market situation in a commodity is developing or has developed, the Board may, after consultation with the Clearing House and either jointly with the Clearing House or on its own take whatever measures are deemed necessary to rectify the situation (short of suspension of trading in any Market) and these measures may include, without prejudice to the generality of the foregoing, the variation of the specification of an Exchange Contract (but not so as to affect any open contracts) and/or deferment of the completion of such Exchange Contracts, a requirement to close out positions and a requirement restricting trading "for liquidation purposes only". To the extent that circumstances admit, there shall be prior consultation with the Commission before any measures are taken pursuant to this Rule.

E. UK Clearing and Securities Settlement Systems

E.1 London Clearing House

Regulations

Definitions

business day: In respect of a Cleared Exchange Contract, an OTC Contract (except where specified otherwise in the relevant OTC Contract Terms), an LCH EnClear Contract (except where specified otherwise in the relevant LCH EnClear Contract Terms) and an EquityClear Contract a day on which the Clearing House is open for business.

Regulation 26 Market Disorders, Impossibility of Performance, Trade Emergency

- (a) Paragraph (c) of this Regulation 26 shall not apply to open contracts which are option contracts.
- (b) In relation to Cleared Exchange Contracts, if a Board, after consultation with the Clearing House, or the Clearing House, if it deems it impracticable to consult with the Board with respect to subparagraph (i) below only, or if the Clearing House, in relation to OTC Contracts or EquityClear

Contracts or EquityClear Contracts (virt-x) or LCH EnClear Contracts, determines that one of the following conditions is satisfied, namely:

- (i) a state of war exists or is imminent or threatened and is likely to affect or has affected the normal course of business, including, but not limited to, performance under a Contract; or
- (ii) the government of any nation, state or territory or any institution or agency thereof has proclaimed or given notice of its intention to exercise, vary or revoke controls which appear likely to affect the normal course of business, including, but not limited to, performance under a Contract; or
- (iii) the EU or any international organisation, or any institution or agency thereof, has introduced, varied, terminated or allowed to lapse any provision so as to be likely to affect the normal course of business, including, but not limited to, performance under a Contract; or has given notice of its intention to do so or appears to be about to do so;

then:

- (aa) in respect of such open contracts which are OTC Contracts or EquityClear Contracts or EquityClear Contracts (virt-x) or LCH EnClear Contracts as specified by the Clearing House, and notified to the affected Members, the Clearing House shall be entitled to invoice back such contracts in accordance with Regulation 28 and the Procedures at a price determined by the Clearing House or to require such Members to comply with any directions issued by the Clearing House regarding the performance of, or any other direction in respect of, such contracts; and
- (bb) such open contracts which are Cleared Exchange Contracts for such delivery months, prompt dates or other delivery periods as the Board in consultation with the Clearing House or (where the Clearing House so determines without consultation with the Board) as the Clearing House shall specify (which may include open contracts under which tender or a notice or some other prescribed form of exercise has been given) shall, (unless the relevant Exchange Rules otherwise provide) upon the Board's (or the Clearing House's, as the case may be) formal announcement that such condition is satisfied, be invoiced back in accordance with Regulation 28 and the Procedures at a price determined by the Board (or the Clearing House as the case may be). In the event that a price falls to be determined by the Clearing House it shall, adopt the settlement price which in the opinion of the Clearing House was last determined or announced by the Board pursuant to Exchange Rules.

Accounts shall be made up by the Clearing House in accordance with the Procedures for each Member who is a party to open contracts invoiced back pursuant to this paragraph. Settlement of such accounts shall be due immediately and settlement thereof shall be made forthwith in discharge of such contracts invoiced back notwithstanding any further change of circumstances.

(c) If, in the opinion of the Clearing House after consultation with the relevant Board, a seller's complete performance of an open contract becomes impossible for any reason whatsoever (except in such circumstances as are set out in paragraph (b) above), the affected contract may at the Clearing House's option thereupon be closed by invoicing back at a price determined by the Board, and such price shall be binding on all affected parties. Accounts shall be made up by the Clearing House in accordance with the Procedures.

(d) If an Exchange determines in accordance with its Exchange Rules that an excessive position or unwarranted speculation or any other undesirable situation or practice is developing or has developed which is affecting or capable of affecting a market in a commodity, the Clearing House may take such

action as is requested of it by such Exchange in respect of one or more open contracts for such commodity in a Member's name as may be provided by Exchange Rules, or as may be agreed between the Exchange and the Clearing House.

Any formal announcement made under this Regulation shall be made by notice posted up on the floor of the market or as prescribed by the Procedures.

Regulation 27 Force Majeure

(a) Neither the Clearing House nor a Member shall be liable for any failure, hindrance or delay in performance in whole or in part of its obligations under the terms of these Regulations or of any Contract if such failure, hindrance or delay arises out of events or circumstances beyond its control. Such events or circumstances may include, but are not limited to, acts of God or the public enemy, acts of a civil or military authority other than the acts referred in Regulation 26(b)(i), (ii) or (iii) above, embargoes, fire, flood, labour dispute, unavailability or restriction of computer or data processing facilities, energy supplies, settlement systems or of bank transfer systems or wires, and any other causes beyond the parties reasonable control including, without prejudice to the foregoing, any causes specified in Exchange Rules.

(b) On the happening of any one or more of the events or circumstances referred to in paragraph (a) above, which shall immediately be notified by the party prevented, hindered or delayed from performing any of the obligations referred to in paragraph (a) above to the other:

- (i) In respect of affected Cleared Exchange Contracts, the Clearing House shall be entitled at the time prescribed in the relevant Exchange Rules or if no such time is prescribed at any time after receipt of such notice, to invoice back in accordance with Regulation 28, some or all Contracts in the Member's name at a price determined by the relevant Exchange, or where Exchange Rules permit, to take such other action as it deems necessary or desirable in respect of some or all Contracts in the Member's name or require the Member to take such action as the Clearing House may direct in respect of the same; and
- (ii) In respect of affected OTC Contracts, affected EquityClear Contracts, affected EquityClear Contracts (virt-x) and affected LCH EnClear Contracts, the Clearing House shall be entitled to require any of the affected Contracts to be performed in accordance with directions issued by the Clearing House or invoiced back in accordance with Regulation 28, or shall be entitled to require the Member to take such action as the Clearing House may direct in respect of such Contracts.

Regulation 28 Invoicing Back

(a) Invoicing back of a Member's Contracts pursuant to Regulation 26 or 27 or the Default Rules or otherwise shall be carried out by the Clearing House effecting and registering pursuant to the Procedures opposite contracts between itself and the Member at the price referred to in the relevant Regulation or, where applicable, in paragraph (d) below, and thereupon settling such Contracts against such opposite contracts.

(b) The Clearing House shall, in addition to carrying out the procedures referred to in paragraph (a) above, register opposite contracts between itself and such other Members as the Clearing House may select in its absolute discretion in proportion to the net position of open contracts in their names for the same commodity and delivery month or prompt date as the Contracts invoiced back under paragraph (a) above to the nearest whole number of lots, or in the case of option contracts on the terms of the exchange contracts specified in the Procedures, for the same expiry month and strike price as the Contracts invoiced back under paragraph (a) above, or in the case of OTC Contracts on the same OTC Contract Terms as the Contracts invoiced back under paragraph (a) above, or, in the

case of EquityClear Contracts on the same EquityClear Contract Terms as the Contracts invoiced back under paragraph (a) above, or, in the case of EquityClear Contracts (virt-x) on the same EquityClear Contract (virt-x) Terms as the Contracts invoiced back under paragraph (a) above in the case of LCH EnClear Contracts on the same LCH EnClear Contract Terms as the Contracts invoiced back under paragraph (a) above, and thereupon settling such open contracts against such opposite contracts.

(c) Where open contracts are invoiced back pursuant to Regulation 26(b) or (c) the Clearing House shall make up the accounts of any Member affected by such invoicing back in accordance with Regulation 26(b) or (c), as applicable. Where a Contract is invoiced back under the Default Rules, the account of such other Member as may be affected under paragraph (b) above shall be made up in accordance with that paragraph.

(d) Opposite contracts effected and registered by the Clearing House pursuant to paragraph (a) and (b) above shall, subject to Regulation 26(b) or (c), be at a price or, where applicable, a premium fixed or determined by the relevant Board or, in the case of OTC contracts or EquityClear Contracts or EquityClear Contracts (virt-x) or LCH EnClear Contracts, at a price determined by the Clearing House, and shall be binding as a final settlement upon the parties affected by invoicing back except that where invoicing back is carried out pursuant to the Default Rules, this paragraph shall be without prejudice to any further liability of the defaulting Member to the Clearing House or to any additional rights which the Clearing House may have against the defaulting Member whether under these Regulations, at law or otherwise.

(e) In this Regulation:

- (i) "net position" means: in respect of open contracts which are Cleared Exchange Contracts, one or more of such Cleared Exchange Contracts against which the Member in whose name they are registered has no matching Cleared Exchange Contracts for the same delivery month, expiry month or prompt date; in respect of open contracts which are SwapClear Contracts, means one or more of such SwapClear Contracts against which the Member in whose name they are registered has no matching SwapClear Contracts on the same Economic Terms; in respect of RepoClear Contracts, means one or more of such RepoClear Contracts against which the Member in whose name they are registered has no matching RepoClear Contracts on the same Economic Terms; in respect of EquityClear Contracts, means one or more of such EquityClear Contracts against which the Member in whose name they are registered has no matching EquityClear Contracts on the same EquityClear Contract Terms; in respect of EquityClear Contracts (virt-x), means one or more of such EquityClear Contracts (virt-x) against which the Member in whose name they are registered has no matching EquityClear Contracts (virt-x) on the same EquityClear Contract (virt-x) Terms, and in respect of LCH EnClear Contracts, means one or more of such LCH EnClear Contracts against which the Member in whose name they are registered has no matching LCH EnClear Contracts on the same LCH EnClear Contract Terms.
- (ii) "opposite contract" means a contract on the same terms (except as to price or premium), as the Contract to be invoiced back in accordance with this Regulation, but:
 - (a) where a Member is a seller, in respect of the Cleared Exchange Contract, the RepoClear Contract, the EquityClear Contract the EquityClear (virt-x) Contract or LCH EnClear Contract to be invoiced back, such Member shall be a buyer in respect of the opposite contract and vice versa.

- (b) where a SwapClear Clearing Member is a floating rate payer, in respect of a SwapClear Contract to be invoiced back, such SwapClear Clearing Member shall be a fixed rate payer in respect of the opposite contract and vice versa.
- (c) where an LCH EnClear Clearing Member is a floating rate payer, in respect of an LCH EnClear Contract to be invoiced back, such LCH EnClear Clearing Member shall be a fixed rate payer in respect of the opposite contract and vice versa.

Regulation 44 Impossibility of Transfer

(a) If it is not possible for any reason (other than for a reason referred to in Regulation 42) (including, without limitation, as a result of any action taken by an Exchange pursuant to Exchange Rules or, as a result of the act of a government or a Regulatory Body or any change in applicable law or as a result of the failure of any systems, communication facilities or other technology) for details of open contracts on the terms of a Linked Exchange Contract to be transmitted on a day pursuant to Regulation 41(b), or for the relevant Participating Exchange to receive such details or to despatch a confirmation as referred to in Regulation 41(c), so that such Contracts cannot be transferred pursuant to Regulation 41(c) on the business day on which such Contracts were registered by the Clearing House, such Contracts shall remain registered with the Clearing House and subject to the Regulations and Procedures. Details of such Contracts which remain as open contracts shall be transmitted to the relevant Participating Exchange pursuant to Regulation 41(b) on the next day on which such Contracts are permitted to be transferred under the Link entered into with the relevant Participating Exchange and on which it is possible for details of such Contracts to be transmitted.

(b) If it is not possible for any reason other than for a reason referred to in Regulation 42 (including, without limitation, as a result of any action taken by an Exchange or a Participating Exchange pursuant to Exchange Rules or Participating Exchange Rules (as the case may be), or as a result of the act of a government or a Regulatory Body or any change in applicable law or a result of the failure of any systems, communication facilities or other technology) for contracts on the terms of a Participating Exchange Contract to be transferred pursuant to Regulation 41A on the day on which such contracts were registered by the Participating Exchange, such contracts shall remain registered with the Participating Exchange and subject to its Participating Exchange Rules. Such contracts shall be transferred to the Clearing House pursuant to Regulation 41A on the next day on which such contracts are permitted to be so transferred under the Link Agreement entered into with the relevant Participating Exchange and on which it is possible to do so.

(c) If the Link entered into with a Participating Exchange is suspended for an indefinite period or terminated, Contracts which have not been transferred pursuant to Regulation 41(c) shall remain registered with the Clearing House and subject to the Regulations and shall be performed in accordance with their terms or may be closed-out or otherwise discharged in accordance with the Regulations or the relevant Exchange Rules.

Schedule to SwapClear Regulations

2 Economic Terms

2.1 The Economic Terms of a SwapClear Contract shall be derived from the information presented to the Clearing House by the parties to the corresponding SwapClear Transaction in respect of the terms designated as Economic Terms in this Schedule.

2.3 The Economic Terms comprise:

- (vii) Business days (see Article 1.4 for definition);

3 Standard Terms

The following terms are designated as Standard Terms of a registered SwapClear Contract:

3.1 Business Days

In addition to the Business Days for the financial centres specified in the Economic Terms, (such Business Days to be determined in accordance with the SwapsMonitor Financial Calendar) the Business Days specified in the calendar published by the Clearing House, from time to time, will apply to a SwapClear Contract.

RepoClear Regulations

Regulation 55 Registration of RepoClear Contracts following submission of details of a RepoClear transaction

(ii) each RepoClear Contract registered under paragraph (a) of this Regulation shall be governed by the RepoClear Contract Terms;

Schedule to RepoClear Regulations Part A RepoClear Contract Terms

Where a RepoClear Contract arises between the Clearing House and a RepoClear Clearing Member pursuant to the Regulations and the terms of any agreement entered into between them, the terms of such RepoClear Contract shall include these RepoClear Contract Terms, which shall comprise:

- (1) Economic Terms;
- (2) Standard Terms; and
- (3) Interpretation section

Procedures

2A.4.2.1 Trade Suspension

The traded price or premium and lot size of all trades presented to LCH for registration are validated against a price or premium range and lots limit file. For each prompt date and option series the price or premium range above and below the previous day's closing price or premium is calculated each day by reference to a pre-determined price limit for each metal and currency combination.

The lots limit is presently set at 1500 futures and 400 options for all contracts. The price limit is normally set to be identical to the prevailing scanning range for each contract, however, during periods of high price volatility this may temporarily be increased to avoid the suspension of trades which are within the days trading range. Lot and price limits may be changed, by member circular, from time-to-time.

Trades input, where either the price or premium range or the lot size limit is exceeded, will be matched in the usual manner, but will be written to a separate 'matched trade file' for subsequent acceptance or rejection by LCH. LCH may alter the price and lots limits to cater for volatile price conditions following consultation with the LME. This will allow trades transacted at 'current' market prices to be input, matched and presented to LCH for registration without requiring acceptance.

2A.4.2.2 Conditions of Acceptance of Suspended Trades

Registration of trades held in the suspended matched trade file is conditional on the provision of margin cover. LCH will first consider any surplus cover held, surplus credit variation margin, and any net credit variation margin in respect of new business, before requesting additional cover from a Member. Margin in this case is net debit variation margin in respect of the suspended trades, calculated automatically by the system with reference to the previous day's closing price or premium.

If LCH decides that additional cover is necessary it will advise the Member as soon as possible. The Member so advised should contact the counterparty to the suspended trade in order to notify them that there may be some delay prior to acceptance of the trade. At the same time, the currency and method of funds transfer, or type of collateral to be provided, will be agreed between LCH and the Member. Only when LCH has received collateral or confirmation from the transferring bank that the funds have been or are in the process of being transferred will it accept the suspended trades.

LCH will carry out the process of accepting suspended trades on an hourly basis throughout the day, or more frequently where possible. The acceptance process will apply to both sides of a trade at the same time.

It is the responsibility of each Member to ensure that any trades likely to require acceptance are input and matched as early as possible in the day; and that either sufficient surplus cover is maintained with LCH (to meet debit variation margin arising from suspended trades) or arrangements are in place to meet additional calls for cover. Matched trades not accepted by LCH will not be registered. In order to achieve registration the trade must be re-submitted (in accordance with LME Rules) the next business day, when the same process will apply.

2A.4.3 Registration

LCH may require a Member in whose name an open contract is to be registered, to provide it with cover for initial and variation margin as a condition of registration.

All matched and confirmed contracts which have been presented for registration are deemed to have been registered by LCH if no notice has been given of the intention to reject them within one hour after a set time. For IPE, and LIFFE contracts this time, except for Link contracts, is the time at which LCH is informed by the relevant Exchange, by such means as may be agreed between LCH and such Exchange from time to time, that TRS is in "end of day" mode with respect to such Exchange's exchange contracts. For LME contracts, it is the time when the Matching System is closed by the Exchange. If LCH does not register a trade presented for registration it will notify the contracting parties within a reasonable time, indicating the reasons for rejection.

2A.7 Official Quotations

Official quotations are based on 'closing settlement prices', 'closing quotations' or 'closing prices' and are supplied by the Exchanges at the close of business each day. The LME also determines the exchange rates applicable to those contracts quoted in more than one currency.

Should an Exchange fail to determine official quotations, settlement prices or exchange rates, LCH will itself determine these as necessary. This will be done at LCH's discretion and be announced as soon as possible.

2A.9.7 Unavailability of Options Exercise System

In the event that either CPS or LME Clearing System option exercise facilities are unavailable (in particular if an expiry or exercise deadline is imminent) it is essential that either: the relevant LCH Operations department is informed; Or the relevant Exchange Compliance Department is informed.

2A.19 Link non-Business Days and Link Emergencies

2A.19.1 LIFFE/TIFFE Link

Trades are transferred on every day including non-business days in Japan. In the event of a 'link emergency' which results in impossibility of transfer contracts will be margined by LCH until transfer is possible.

2A.19.2 LIFFE/CBOT Link

Out-going T-Bond futures & options are transferred on every day which is also a US business day. On US non-business days trades which are due for transfer are held and margined by LCH. Transfer of such trades occurs on the next day that is both a US and UK business day.

In the event of a 'link emergency' which results in impossibility of transfer contracts will be margined by LCH until transfer is possible. During a Link non-business day or Link emergency, LCH will calculate option variation margin for US T-Bond futures and options. This option variation margin is referred to as Net Liquidating value. In-coming Bund futures and options contracts are transferred to LCH on every day which is both a US and UK business day. On days which are a UK nonbusiness day, and a US business day, trades that are due for transfer are held and margined by BOTCC. Transfer of such trades occurs on the next day that is both a US and UK business day.

In the event of 'link emergency' which results in impossibility of transfer trades are margined in the US by BOTCC until transfer is possible.

Appendix 2D.A Definitions

"Business Day" shall mean any weekday except Christmas Day, Good Friday or any English Bank Holiday or other English public holiday.

2E LCH EnClear

2E.3.1 Opening Days

LCH will publish, by means of Member circular, details of the "Business Days" upon which the LCH EnClear Service is operational. This may vary between AETSs. See the individual AETS section in these Procedures for Opening days in respect of that AETS.

2E.10.15 Reference Prices for daily settlement to market

Endex provides these each Business Day to LCH.

Should Endex fail or omit on any day to determine any Reference Price, or if for any other reason LCH deems it appropriate, LCH will itself determine what should be that Reference Price for that day. This will be done at LCH's discretion and be announced as soon as possible.

E.2 CREST

Glossary of Terms

Business day

For any matter relating solely to settlement in euro, a "business day" is a day on which (a) the CRESTCo systems are operational and (b) the Trans-European Automated Real-Time Gross Settlement Express Transfer (TARGET) System is open.

For any matter relating solely to settlement in US dollars, a "business day" is a day on which (a) the CRESTCo systems are operational (other than a Saturday, Sunday, Christmas Day, Good Friday or a day which is a bank holiday in England or on which banking transactions in England are suspended under section 2 of the Banking and Financial Dealings Act 1971); and (b) banks are generally open for business in New York.

For all other purposes, a "business day" is a day on which the CRESTCo systems are operational other than a Saturday, Sunday, Christmas Day, Good Friday or a day which is a bank holiday in England or on which banking transactions in England are suspended under section 2 of the Banking and Financial Dealings Act 1971.

Terms and Conditions

5 General Systems Matters

5.2.8 CRESTCo reserves the right to suspend the operation of the CRESTCo systems or the CREST services in whole or in part if it, in its absolute discretion, considers it appropriate to do so by reason of any circumstances beyond CRESTCo's reasonable control. CRESTCo reserves the right to vary the daily timetable if it, in its absolute discretion, considers it appropriate to do so. Any such suspension or variation will be notified in advance, except in an emergency, to the Member (or in the case of Sponsored Members, to the Sponsor) in accordance with the Crest Manual; and

16 Suspension and termination of membership etc

16.1 CRESTCo may suspend the Member's membership in whole, or in part in relation to any particular function, with immediate effect (or with effect from such time and date as CRESTCo may specify) in the following circumstances:

16.1.1 where, in the opinion of CRESTCo, the Member or the Parent is in breach of any provision of these Terms and Conditions or has not complied with any provision of the CREST Requirements or where, in the opinion of CRESTCo, any such breach or non-compliance is or appears to be threatened or likely to occur;

16.1.2 if, in the opinion of CRESTCo, circumstances have arisen which make it appropriate to do so in order to avoid the risk of a bad delivery or which could be prejudicial to CRESTCo or represent a threat to the security, integrity or reputation of the CREST relevant system or which could involve CRESTCo in material expense or legal proceedings, not being proceedings solely between CRESTCo and the Member arising out of these Terms and Conditions;

16.3 if, in the opinion of CRESTCo, the MemberTMs participation is disruptive to other CREST members, system-participants (or CREST Registrars or CREST IPAs which are not system-participants), the Networks or to participating issuers;

...

17 Obligations and liability of CRESTCo

17.1 CRESTCo undertakes to the Member that it will take reasonable care to cause the CRESTCo systems and the CREST services to operate in all material respects in the manner described in the CREST manual. CRESTCo shall not be liable to the Member for any Liabilities which may be suffered or incurred by the Member as a result of the CRESTCo systems or the CREST services or the manner in which the CRESTCo systems or the CREST services operate at any particular time not being adequate or sufficient for any specific purpose of the Member or any other person, whether or not CRESTCo is aware of any such purpose.

17.2 The undertaking in clause 17.1 is subject and without prejudice to:

17.2.1 the ability of CRESTCo to alter the provisions of these Terms and Conditions, the CREST Manual and the CREST Rules in accordance with these Terms and Conditions;

17.2.2 the limitations on the scope of CRESTCo to the Member, and the limitations on, and exemptions from, CRESTCo's liability to the Member, provided for in these Terms and Conditions.

17.5 CRESTCo undertakes that if the services provided by the CRESTCo systems or the CREST services are interrupted (whether by CRESTCo or otherwise) for any reason (including but without limitation as a result of a software error or fault) it will take reasonable care to minimise the duration

of any interruption and (wherever practicable and appropriate) to operate the stand-by procedures referred to in the CREST Manual. Provided that CRESTCo complies with this undertaking, CRESTCo shall not be liable to the Member for any Liabilities which may be suffered or incurred by the Member as a result of any such interruption, whether caused by CRESTCo's negligence or otherwise howsoever, except where such interruption is caused by CRESTCo's fraud or wilful default.

19 Amendments to these Terms and Conditions, the CREST Manual and the CREST Rules

19.1 The Member acknowledges, agrees and accepts that the provisions of the CREST Manual, the CREST Rules and these Terms and Conditions may be changed from time to time by CRESTCo and, by entering into the Admission Agreement, the Member agrees to comply with such provisions as so altered from time to time. Such changes will be made in the manner described, and subject, where relevant, to the applicable prior consultation procedures set out in the CREST Manual. CRESTCo confirms that the introduction of material new functionality, the use of which will not be optional on the part of the Member, and material changes to existing functionality will be subject to prior consultation.

19.2 CRESTCo confirms that changes to these Terms and Conditions which restrict or exclude liability on the part of CRESTCo or which impose additional obligations or liabilities on the Member (other than changes to Schedule 1 or changes which only relate to new services or new optional functionality) will be subject to prior consultation. No change will affect the ability of the Member to terminate its membership by written notice.

19.3 No change to these Terms and Conditions shall take effect until the earlier of:

19.3.1 40 days after service of notice on the Member; or

19.3.2 the date on which, in the case of functionality or a service the use of which is optional on the part of the Member, the Member (or the Sponsor on behalf of the Sponsored Member) first uses the new or enhanced functionality or additional service, at which time the Member shall be deemed to have accepted the change.

Reference Manual (Issued 01.09.03)

Chapter 1: General; section 1: Changes to the CREST Manual; notification; consultation procedures

Page 1-1-5:

CRESTCo consults on major and permanent changes to the Rules. Where an urgent change is required to deal with an unforeseen situation it may not be practicable to consult, in which case we aim to introduce any such change on a temporary 'as necessary' basis until a consultation process has been followed.

F. International Clearing and Securities Settlement Systems

F.1 Euroclear Bank

Terms and Conditions

Article 7, Blocking of Securities or Cash

Euroclear Bank will not be required to effect any transaction (or take any other action) at the demand or upon the demand or upon the instructions of any Participant pursuant to these Terms and Conditions or pursuant to the Operating Procedures:

(a) to the extent that the same would

- (i) violate any applicable law, decree, regulation or order of any government or governmental body(including any court or tribunal) or,
- (ii) be contrary to any agreement made with Euroclear Bank by such Participant or,

(b) in such other circumstances as may be specified in the Operating Procedures.

Article 12, Duties and Liabilities of Euroclear Bank

- (d) Euroclear Bank undertakes to perform such duties and only such duties as are specifically set forth in these Terms and Conditions or the Operating Procedures. In the absence of negligence or wilful misconduct on its part, Euroclear Bank shall not be liable to any Participant or any other person with respect to any action taken or omitted to be taken by it in connection with furnishing the services contemplated hereby and by the Operating Procedures. However, Euroclear Bank will have no liability to any Participant or any other person for indirect or unforeseeable losses, except where such liability is established in the case of gross negligence or wilful misconduct of Euroclear Bank.

- (e) ...

Euroclear Bank shall not be liable for any action taken, or any failure to take any action required to be taken hereunder or otherwise to fulfil its obligations hereunder (including without limitation the failure to receive or deliver securities or the failure to receive or make any payment), in the event and to the extent that the taking of such action or such failure arises out of or is caused by war, insurrection, riot, civil commotion, act of God, accident, fire, water damage, explosion, mechanical breakdown, computer or system failure or other failure of equipment, failure or malfunctioning of any communications media for whatever reason (whether or not such media are made available to Participants by Euroclear Bank), interruption (whether partial or total) of power supplies or other utility or service, strike or other stoppage (whether partial or total) of labour, any law, decree, regulation or order of any government or governmental body(including any court or tribunal, or any other cause (whether similar or dissimilar to any of the foregoing) whatsoever beyond its reasonable control. Without limiting the generality of the foregoing but without prejudice to its obligations under Section 17, Euroclear Bank shall have no liability for the acts or omissions of (or the bankruptcy or insolvency of) any Other Depository, any subcustodian or depository referred to in Section 4(b), any Other Clearance System, any Other Clearance System Custodian or any carrier transporting securities between Depositories or between a Depository and an Other Clearance System or an Other Clearance System Custodian (provided such carrier shall have been selected by Euroclear Bank with due care and that insurance required by the Operating Procedures shall have been obtained in respect of securities in possession of such carrier). If, however, as a result of any act or omission of, or the bankruptcy or insolvency of, any Other Depository, any Other Clearance System, any Other Clearance System Custodian, any carrier transporting securities held in the Euroclear System, or any subcustodian or depository referred to in Section 4(b), any holder of a Securities Clearance Account (in that capacity) suffers any loss or liability, Euroclear Bank shall take such steps with respect thereto in order to effect a recovery as it shall reasonably deem appropriate under all the circumstances (including without limitation the bringing and settling of legal proceedings), provided that Euroclear Bank, unless it shall be liable for such loss or liability by virtue of its negligence or wilful misconduct, shall charge to such holder the amount of any cost or expense in effecting, or attempting to effect, such recovery.

Operating Procedures

Definitions

“Business Day” means a day when the Euroclear Operations Centre is open for business.

Part I, Article 4.2 Application of eligibility criteria

Euroclear Bank reserves the right in its sole discretion at any time and without notice:

- (a) not to accept for deposit in the Euroclear System any security or issue of securities;
- (b) to withdraw acceptance of any security or issue of securities previously accepted;
- (c) to refuse any deposit into the Euroclear System of securities regardless of any holding of other securities of the same issue, or to deliver any securities out of the Euroclear System to any Participant holding such securities in the Euroclear System, if it determines that such delivery would be necessary:
 - (i) under any applicable law or regulation or any provision of the corporate charter or other constituent document of the issuer of such securities or under the terms of the governing documentation of the issue, or
 - (ii) as a result of any applicable corporate, judicial or administrative decision or in consequence of a corporate, judicial or administrative enquiry; or
 - (iii) in the best interests of Participants generally or of the Euroclear System.

Part I, Article 9.1 Blocking of securities or cash: general rules

- (a) Without prejudice to Section 7 of the Terms and Conditions, Euroclear Bank may block securities or cash standing to the credit of a Participant's account if Euroclear Bank has notice or reasons to believe that this is required under any applicable law, decree, regulation, order or injunction of any government (court or other instrumentality of government (including a central bank)) or otherwise determines that such blockage is necessary or advisable in its best interests or that of the Euroclear System, in response to any such law, decree, regulation or order or other legal proceedings.
- (b) Euroclear Bank may block securities or cash standing to the credit of a Participant's account if Euroclear Bank in its sole discretion determines that such blocking is necessary to enforce any right it has under the Terms and Conditions, the Operating Procedures or any other agreement with a Participant.

Part I, Article 11.2.5 Insurance; Exclusions

The policy is subject to the following exclusions:

- (iii) loss due to war, invasion, acts of foreign enemies, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection, military or usurped power of confiscation or nationalisation or requisition or destruction of or damage to property by or under the order of any government or public or local authority, unless such loss occurs in transit when there was no knowledge of such events on the part of any person action for Euroclear Bank;
- (iv) loss resulting directly or indirectly from the effects of nuclear fission or fusion or radioactivity; provided, however, that this exclusion shall not apply to loss resulting from industrial uses of nuclear energy;

Part I, Article 12.1 Processing General Rules

- (e) Euroclear Bank reserves the right to omit or add Processings to any of the Processings set out in this section.
- (f) Without prejudice to the generality of Section 12(c) of the Terms and Conditions, if Euroclear Bank:
 - (i) is unable for any reason to perform all or part of any Overnight Securities Settlement Process or Real-time Processing as scheduled; or

- (ii) has by the scheduled time not received from any external sources all the data expected to be included in any such Process,

Euroclear Bank may perform such Processing at such time and including such data as it in its sole discretion determines, and accepts no liability for so doing. In such cases, each Participant authorises Euroclear Bank to credit securities or funds to its accounts before having received confirmation that the receipt of securities or funds is final in accordance with local market rules and/or practice.

(g) Processing of instructions may take place only on Business Days

(h) The rules set out for each Processing in this Section 12 are the rules that generally apply, but these may be adjusted in exceptional or contingency situations, as required by such circumstances in Euroclear Bank's sole judgement.

Part II, Article 13.2.5 Internal Settlement; Selection for Processing

If the settlement date in the instruction is not a Business Day, the instruction is selected for submission to the first eligible Processing dated the next Business Day.

Part II, Article 14.2.5.2 Bridge Settlement; Selection for Overnight Securities Settlement Processing

(b) If the settlement date in the instruction is not a Business Day, the instruction is selected for submission to the First Overnight Securities Settlement Processing dated the next Business Day.

Part II, Article 15.3.3.2 Reasons for delay

Euroclear Bank endeavours to ensure that deliveries are made on the date instructed by the Participant or on the relevant Execution Date, but accepts no liability if such instructions or operations requiring a delivery are not executed on such date.

Part II, Article 22.1 General conditions of the Securities Lending and Borrowing Program

(b) Borrowings and Loans are generated and may be reimbursed as a result of each Securities Lending and Borrowing Process. The first Securities Lending and Borrowing Process takes place as an integral part of the Overnight Securities Settlement Process dated S (the "Intra-day Securities Lending and Borrowing Process"). The second Securities Lending and Borrowing Process (the "End-of-Day Securities Lending and Borrowing Process") takes place during the Real-time Processing dated S around 14:00. While Euroclear Bank endeavours to perform any Securities Lending and Borrowing Process around such time as announced, it reserves the right to omit any Securities Lending and Borrowing Process or to perform such Process at such time and including such data as it in its sole discretion determines without accepting any liability therefor.

Part V, Miscellaneous, Article 26.4.1.5 Central Bank Money Settlement; Selection for Processing

(b) If the settlement date in the instruction is not a Business Day, the instruction is selected for submission to the first eligible Processing dated the next Business Day.

Part V, Miscellaneous, Article 27.11.1.1 FundSettle eligible Securities and Currencies; Application of eligibility criteria

Euroclear Bank reserves the right in its sole discretion at any time and without notice:

- (a) not to accept for FundSettle services any Fund Share;
- (b) to withdraw acceptance of any Fund Share held in the Euroclear System, or to cease to provide services in respect of Fund Shares or entitlements for which information is recorded on a Non Deposit Account;...

if Euroclear Bank determines that such actions would be necessary:

- (i) under the applicable laws or regulations or any other provisions of the corporate charter or other constituent document of the Fund or under the terms of the governing documentation of the Fund, or
- (ii) as a result of any applicable corporate, judicial or administrative decision or in consequence of a corporate, judicial or administrative enquiry; or
- (iii) in the best interest of Participants generally or of the Euroclear System.

Part V, Miscellaneous, Article 27.13.1.1 Means of sending FundSettle Instructions to Euroclear Bank; Contingency procedures

(a) In case of unavailability of internet or any other contingency situation whereby a Participant does not have access, or is unable to input FundSettle Instructions through Euroclear Online, such Participant must contact the Euroclear FundSettle team by telephone and inform Euroclear Bank of its intention to send FundSettle Instructions by fax.

Part V, Miscellaneous, Article 27.13.2 Means of sending FundSettle Instructions to Euroclear Bank; FundSettle Instructions by fax

(b) In accordance with Section 12 of the Terms and Conditions, and without limiting the generality of Section 12, Euroclear Bank shall not be liable for any action or failure to take action in connection with FundSettle services in the event and to the extent that such action or such failure arises out of mechanical breakdown, computer or system failure or other failure of equipment, failure of malfunctioning of the fax servers or other fax equipment or fax transmission for whatever reason, or interruptions or delays in the transmission of fax instructions, or for the acts or omissions (or the bankruptcy or insolvency of) any supplier or provider of services in relation to communications by fax.

F.2 Clearstream

General Terms and Conditions

Article 1 (Definitions)

"Business Day"

A day on which CBL is open for business.

"Governing Documents"

The General Terms and Conditions and the Customer Handbook which may be amended from time to time, and such other documents as CBL may, from time to time, so designate.

- NOTE: the Customer Handbook is not publicly available.

"Stop order"

A stop-transfer or similar order lodged with the relevant issuer, registrar or fiscal or similar agent or any court or any governmental body.

"Stop order notice"

An officially published notice of loss, theft, cancellation, opposition or nullification proceedings, or a listing with any international self-regulatory organisation that a security is lost, stolen, cancelled, opposed or the subject of nullification proceedings or of a stop-transfer or similar order.

Article 5

CBL will accept deposits of securities designated as eligible for deposit and delivery within the CBL system on lists published by CBL. CBL may revise these lists from time to time. In the event that CBL removes securities from such lists, CBL shall return to each relevant Customer such securities in its possession, or, deliver such securities to a third party in accordance with the Customer's reasonable instructions and in accordance with the terms and conditions of the Governing Documents.

Article 8

Securities deposited with CBL must be of good delivery at the time of deposit and thereafter. CBL determines whether securities are of good delivery. Reasons for determining that securities are not of good delivery include, but are not limited to, the following:

(v) deposit of such securities would violate any law, regulation or order of any government, governmental agency (including any court or tribunal), or, self-regulatory organisation, or would subject CBL, its nominee or any third party on whose behalf CBL is acting, to any requirements under any law, regulation or order by reason of the acceptance or holding of such securities by CBL, its nominee or such third party.

Article 16

In the event of the mutilation, loss, theft, destruction or other unavailability of deposited securities, CBL may apply for the issue of stop orders or initiate such other measures as CBL may deem appropriate under the circumstances, and may endeavour to replace such securities in accordance with the laws or practices of the relevant countries and the terms and conditions of the relevant securities. The Customer shall undertake such steps to assist in effecting the recovery of such securities as CBL may reasonably request. Unless such mutilation, loss, theft, destruction or other unavailability is due to CBL's gross negligence or wilful misconduct, the Customer shall bear the expenses of any such measures undertaken by CBL to recover or replace such securities.

Article 34

CBL may refuse to execute an incomplete or incorrect instruction.

Article 37

CBL is not obligated to execute an instruction of a Customer if CBL believes that to do so will or may contravene any law or regulation, any relevant market practice or CBL's general business practice.

If CBL, in good faith, executes an instruction of a Customer which contravenes a law, regulation or market practice, CBL shall not be liable to the Customer for doing so. The Customer shall hold CBL harmless from any loss, claim, liability or expense asserted against or imposed upon CBL as a result of such contravention.

Article 38

CBL will inform the Customer of the pertinent deadlines for the receipt of instructions for particular processing cycles. These deadlines may be amended by CBL from time to time. CBL shall not be obligated to execute (and shall bear no responsibility if it executes) any instruction in a particular processing cycle received after the deadline for such processing cycle.

Article 48

CBL undertakes to perform such duties and only such duties as are specifically set forth in these General Terms and Conditions or in the Governing Documents. In the absence of negligence or wilful misconduct on its part, CBL shall not be liable to the Customer for any loss, claim, liability, expense

or damage arising from any action taken or omitted to be taken by CBL, in connection with the provision of services contemplated hereby and by the Governing Documents. CBL, however, shall not be liable for any indirect or unforeseeable loss, claim, liability, expense or other damage unless such action or omission constitutes gross negligence or wilful misconduct on the part of CBL.

CBL shall not be liable for any action taken, or any failure to take any action required to be taken which fulfils its obligations hereunder in the event and to the extent that the taking of such action or such failure arises out of or is caused by events beyond CBL's reasonable control, including, without limitation, war, insurrection, riots, civil or military conflict, sabotage, labour unrest, strike, lock-out, fire, water damage, acts of God, accident, explosion, mechanical breakdown, computer or systems failure, failure of equipment, failure or malfunction of communications media, or interruption of power supplies; the failure to perform, for any reason, of the Customer's counterparty or of such counterparty's depository, custodian, or financial institution, the acts or omissions of (or the bankruptcy or insolvency of) any of CBL's depositories, sub-depositories, custodians, sub-custodians or of any other clearance system or of any carrier transporting securities between CBL and/or any of the foregoing; the failure to perform for any reason of, or the incorrect performance of, any financial institution used by and properly instructed by CBL to carry out payment instructions; reversal order, law, judicial process, decree, regulation, order or other action of any government, governmental body (including any court or tribunal or central bank or military authority), or self-regulatory organisation.

If, however, a Customer suffers any loss or liability as the result of any act or omission of, or the bankruptcy or insolvency of any of CBL's depositories, sub-depositories, custodians, sub-custodians or of any other clearance system or of any carrier transporting securities between CBL and/or any of the foregoing, CBL shall take such steps in order to effect a recovery as it shall reasonably deem appropriate under all the circumstances. This is provided that CBL, unless it shall be liable for such loss or liability by virtue of its gross negligence or wilful misconduct, shall charge to the Customer the amount of any cost or expense incurred in effecting, or attempting to effect, such recovery.

If, in CBL's judgment, one of the events described in this article occurs or appears likely to occur, CBL reserves the right to undertake such measures as it may deem necessary to protect the interests of CBL and/or its Customers.

Article 62

CBL reserves the right to amend these General Terms and Conditions at any time. CBL shall notify the Customer in writing of any such amendment and of the effective date thereof. Unless the Customer shall inform CBL in writing to the contrary within ten business days following the date of receipt of CBL's notice, the Customer shall be deemed to have accepted such amendments.

Article 63

Any right or authority granted to, or reserved by, CBL in these General Terms and Conditions shall be exercisable by CBL in its sole discretion.

F.3 National Securities Clearing Corporation

Rules & Procedures

Definitions

The term "business day" means any day on which the Corporation is open for business. However, on any business day that banks or transfer agencies in New York State are closed or a Qualified Securities Depository is closed, no deliveries of securities and no payments of money shall be made through the facilities of the Corporation.

Rule 5, Sec.1

Receive data covering the buy side and deliver data covering the sell side of any contract calling for delivery of Cleared Securities may be sent for comparison by a Member to the Corporation; such contracts shall be compared by the Corporation; compared contracts for CNS Securities and other transactions in respect of CNS Securities submitted to the Corporation under these Rules ("CNS Contracts") shall be accounted for in the CNS System; compared contracts for Balance Order Securities and other transactions in respect of Balance Order Securities submitted to the Corporation under these Rules ("Balance Order Contracts") shall be accounted for in the Balance Order System; compared contracts for Foreign Securities and other transactions in respect of Foreign Securities submitted to the Corporation under these Rules ("Foreign Security Contracts") shall be accounted for in the Foreign Security System.1 Delivery of CNS Securities to the Corporation, except as specified in Section 9 of Rule 11, shall be made through the facilities of the Corporation or a Qualified Securities Depository and payment therefore shall be made through the Corporation or such agent as it may designate; delivery of Balance Order Securities may be made through the Corporation in which case payment therefore shall be made through the Corporation or such agent as it may designate; delivery of Foreign Securities shall be made pursuant to arrangements mutually agreed upon by the parties, and the Rules of the Corporation shall not govern such delivery or the failure to deliver such securities. Such comparison, accounting, and, with respect to CNS Securities and Balance Order Securities, delivery and payment shall be effected as hereinafter prescribed in these Rules, in such regulations with respect thereto as the Corporation may from time to time adopt and in the Procedures.

When issued and when distributed cleared transactions shall be settled and payment therefor made at such time, in such manner and by the delivery of securities and/or other property as the Corporation may determine, or shall be cancelled and thereafter shall be null and void if the Corporation determines that the plan or proposal pursuant to which the securities were to be issued or distributed has been abandoned or materially changed.

Rule 11 Sec.6 CNS System

The Corporation may, when it deems it necessary for the protection of Members in view of the price fluctuations in or volatility or lack of liquidity of any security require all Members to make additional mark-to-the-market payments on any Long or Short Position in respect of such security or to make mark-to-the-market payments in respect of all transactions in such security prior to the Settlement Date for such transaction.

Rule 12 Sec.1 Settlement

Settlement of money payments with respect to transactions or matters covered by these Rules, shall be made as provided in this Rule. The Corporation shall debit or credit itself, Settling Members, Insurance Carrier Members and Fund Members with the amounts payable and receivable in accordance with the provisions of such Rules. At such time as determined by the Corporation, the Corporation shall produce, each business day, a settlement statement which will reflect the debits and credits which have been entered into the Settling Member's, Insurance Carrier Member's or Fund Member's account with respect to matters or transactions covered by these Rules, plus debits or credits, if any, reflecting amounts that the Corporation will pay to or receive from any entity under any Clearing Agency Cross-Guaranty Agreement, and shall reflect a net amount payable to or payable by the Corporation. Each Settling Member, Insurance Carrier Member and Fund Member will settle, by such time as established by the Corporation, through a Settling Bank (unless the Corporation permits otherwise), by a Federal Funds wire transfer, the net amount reflected on such settlement statement. A Settling Member, Insurance Carrier Member or Fund Member will be deemed to have

failed to settle when the Corporation receives a Refusal from the Settling Member's, Insurance Carrier Member's or Fund Member's Settling Bank or when its Settling Bank has failed to pay the Settling Bank's net-net debit balance by the time specified by the Corporation from time to time.

If the Corporation does not produce such settlement statement each Settling Member, Insurance Carrier Member or Fund Member shall settle with the Corporation by a Federal Funds wire transfer, by determining the amount payable to or by such Settling Member, Insurance Carrier Member or Fund Member as reflected on such Settling Member's, Insurance Carrier Member's or Fund Member's records. A Settling Member, Insurance Carrier Member or Fund Member that fails to timely settle may be subject to action by the Corporation pursuant to Rule 46 or 48. Such Settling Member, Insurance Carrier Member or Fund Member shall also be subject to such fines as the Corporation deems appropriate pursuant to these Rules. Any difference between said amount and the actual net settlement amount which is not settled on that business day, shall be settled on the next business day by a Federal Funds wire transfer by such time as determined by the Corporation.

Rule 22 Suspension of Rules

The time fixed by these Rules, the Procedures or any regulations issued by the Corporation for the doing of any act or acts may be extended or the doing of any act or acts required by these Rules, the Procedures or any regulations issued by the Corporation may be waived or any provision of these Rules, the Procedures or any regulations issued by the Corporation may be suspended by the Board of Directors or by the Chairman of the Board, the President, the General Counsel or such other officers of the Corporation as the Board of Directors may designate whenever, in its or his judgment, such extension, waiver or suspension is necessary or expedient.

A written report of any such extension, waiver or suspension (other than an extension of time of less than eight hours), stating the pertinent facts, the identity of the person or persons who authorized such extension, waiver or suspension and the reason such extension, waiver or suspension was deemed necessary or expedient, shall be promptly made and filed with the Corporation's records and shall be available for inspection by any Settling Member, Municipal Comparison Only Member, Insurance Carrier Member, TPA Member, Fund Member or Data Services Only Member during regular business hours on business days. Any such extension or waiver may continue in effect after the event or events giving rise thereto but shall not continue in effect for more than 60 calendar days after the date thereof unless it shall be approved the Board of Directors within such period of 60 calendar days.

F.4 Depository Trust Company (DTC)

Rules, Definitions, Rule 1

Business Day

The term "Business Day" means any day on which the Corporation is open for business.

Rules, Waiver or Suspension of Rules and Procedures, Rule 18

The time fixed by these Rules and the Procedures for the doing of any act or acts may be extended or the doing of any act or acts required by these Rules or the Procedures may be waived or any provision of these Rules or the Procedures may be suspended by the Board of Directors, the Chairman of the Board, the President or any Managing Director or Vice President whenever, in its or his judgment, such extension, waiver or suspension is necessary or expedient.

A written report of any such extension, waiver or suspension (other than an extension of time of less than one hour), stating the pertinent facts, the identity of the Person or Persons who authorized such extension, waiver or suspension and the reason such extension, waiver or suspension was

deemed necessary or expedient, shall be promptly made and filed with the Corporation's records and shall be available for inspection by any Participant or Pledgee during regular business hours on Business Days. Any such extension or waiver may continue in effect after the event or events giving rise thereto but shall not continue in effect for more than 60 days after the date thereof unless it shall be approved by the Board of Directors within such period of 60 days.

F.5 Hong Kong Securities Clearing Corporation, Central Clearing and Settlement System (CCASS)

Operational Procedures, Disclaimer

The Central Clearing and Settlement System ("CCASS") is established and operated by Hong Kong Securities Clearing Company Limited ("HKSCC").

The terms and conditions regulating the use of CCASS are set out in the General Rules of CCASS ("Rules").

This document, to be referred to as the Operational Procedures, forms part of the Rules and is binding on all Participants. In case of conflict between the Rules and the Operational Procedures, the Rules shall prevail (except as otherwise provided in the Rules).

Operational Procedures, Definitions

"Back-Up Centre" means a place where terminal back-up facilities are provided by HKSCC to Participants (other than Investor Participants), as referred to in Rule 1301;

"Business Day" means a day on which CCASS is open for business to Participants (except Saturdays, Sundays and public holidays);

"CCASS" means the Central Clearing and Settlement System established and operated by HKSCC;

"CCASS Depository" means, one or more securities depositories for CCASS, providing safe-keeping facilities for Eligible Securities held in CCASS as well as to cater for withdrawals and deposits of Eligible Securities by Participants;

"CHATS" means Clearing House Automated Transfer System operated by Hong Kong Interbank Clearing Limited;

"Commission" means the Securities and Futures Commission referred to in section 3(1) of the Securities and Futures Ordinance;

"HKSCC" means the Hong Kong Securities Clearing Company Limited including, where the context so requires, its agents, nominees, representatives, officers and employees;

Operational Procedures, Section 6, Operational and Service Schedule, 6.1 Processing and Service

In general, CCASS offers processing and servicing facilities to Participants between the hours of 9:00 a.m. and 7:00 p.m., Monday to Friday (except public holidays) and for enquiry and report retrieval services only, also between the hours of 9:00 a.m. to 3:00 p.m. on Saturdays (except public holidays). These hours of service are subject to change as HKSCC may from time to time specify. Further, all or part of the operations of CCASS may be suspended by HKSCC from time to time.

Operational Procedures, Section 7, Depository and Related Services, 7.1 CCASS Depository Services

7.1.1 Service Hours of CCASS Depository

The CCASS Depository currently has one physical outlet to cater for the deposit and withdrawal of Eligible Securities by Participants.

The service hour of CCASS Depository is as follows (or such time as HKSCC may determine from time to time):

Monday to Friday (except public holidays)

- for the deposit of securities: 10:00 a.m. to 3:45 p.m.

- for the collection of securities: 10:00 a.m. to 5:00 p.m.

7.1.2 Back-up premises

If the usual premises of the CCASS Depository become unavailable or unsuitable for providing services to Participants, HKSCC will use its back-up premises to continue CCASS Depository Services.

7.1.3 Notification by HKSCC

HKSCC will notify Participants if there is any change to the location of the CCASS Depository, including when the back-up premises of the CCASS Depository are to be used.

Operational Procedures, Section 17, Suspension of Services, 17.1 General

Under the Rules, if in the opinion of HKSCC the functioning of CCASS or the services and facilities that it provides in relation to the settlement and/or clearance of Foreign Securities held by an Appointed Depository is or is likely to be impaired by any event or circumstances, HKSCC may suspend the whole or any part of the operations of CCASS and the CCASS Depository or the services and facilities available thereunder to Participants, for such duration as it sees fit.

In the event of any situation arising which warrants action, HKSCC may suspend its operation and may also change the operational and service schedule as described in Section 6.

This Section explains in some detail the procedures which HKSCC will adopt in the event of a typhoon and/or a black rainstorm warning. In other similar cases, HKSCC will notify Participants, Designated Banks, the Exchange and the Commission in relation to any action or procedures to be adopted, in the event HKSCC decides to suspend CCASS services or facilities or any other service or facility relating to the settlement and/or clearance of Foreign Securities held by an Appointed Depository.

Operational Procedures, Section 17, Suspension of Services, 17.2 Typhoons

17.2.1 General principles

In general, in the event that a typhoon signal no. 8 is hoisted on any Business Day, all CCASS and CCASS Depository services and facilities will be terminated by HKSCC within fifteen minutes. Provided that if a typhoon signal no. 8 is lowered at or before 12:00 noon, normal CCASS and CCASS Depository services will resume two hours thereafter. If a typhoon signal no.8 or above is still hoisted at 12:00 noon, no CCASS and CCASS Depository services or facilities will be available on that day.

The procedures adopted by HKSCC in relation to typhoons are generally in line with those of the Exchange.

17.2.2 Back-Up Centre and Customer Service Centre

The services and facilities of the Back-Up Centre and Customer Service Centre will normally cease fifteen minutes after a typhoon signal no. 8 is hoisted on a Business Day and will normally resume

two hours after the typhoon signal no. 8 is lowered at or before 12:00 noon. If a typhoon signal no. 8 or above is still hoisted at 12:00 noon on a Business Day, no CCASS services or facilities will be available on that day.

17.2.3 CCASS Terminals, Participant Gateways, the CCASS Phone System and the CCASS Internet System

CCASS Terminals, Participant Gateways, the CCASS Phone System, and certain functions of the CCASS Internet System will normally cease to be available for use by Participants fifteen minutes after a typhoon signal no. 8 is hoisted and operations will normally resume two hours after the lowering of the typhoon signal no. 8, if it takes place at or before 12:00 noon on a Business Day (or 9:00 a.m., on a Saturday). If a typhoon signal no. 8 or above is still hoisted at 12:00 noon (or 9:00 a.m., on a Saturday), no CCASS services or facilities will be available on that day.

17.2.4 Depository services

The services and facilities of the CCASS Depository will normally cease fifteen minutes after a typhoon signal no. 8 is hoisted and will normally resume two hours after the typhoon signal no. 8 is lowered at or before 12:00 noon on a Business Day. If a typhoon signal no. 8 or above is still hoisted at 12:00 noon on a Business Day, there will be no CCASS Depository services for the day and no deposits or withdrawals can be made into or out of the CCASS Depository.

17.2.5 Nominee services

Nominee and similar services will normally cease fifteen minutes after typhoon signal no. 8 is hoisted and will normally resume two hours after the typhoon signal no. 8 is lowered at or before 12:00 noon on a Business Day. If a typhoon signal no. 8 or above is still hoisted at 12:00 noon on a Business Day, no nominee or similar services will be provided by HKSCC for that day.

In relation to Eligible Securities listed on the Exchange which are subject to book-close dates, the last registration day (and the latest time) before book-close to submit Eligible Securities for registration to qualify for corporate entitlements may be extended in certain circumstances and accordingly, the latest time by which Participants may deposit Eligible Securities into CCASS to qualify for the relevant corporate entitlements through CCASS may also be extended (as well as the period during which no further deposits or withdrawals of relevant Eligible Securities will be allowed). The position in general is explained further below:

- (i) if a typhoon signal no. 8 is lowered between 9:00 a.m. and 12:00 noon on the last registration day before book-close (or in the case of Debt Securities in bearer form, the CCASS Record Date imposed by HKSCC), the latest time for submission of relevant Eligible Securities for registration will, under the Exchange's Listing Rules, be extended from 4:00 p.m. to 5:00 p.m. In such a case, the time limit for deposits and withdrawals of relevant Eligible Securities by Participants will also be extended from the normal 12:00 noon to 2:30 p.m. on that day (i.e. the last registration day before book-close or CCASS Record Date imposed by HKSCC, as the case may be);
- (ii) if a typhoon signal no. 8 or above is hoisted between 3:00 p.m. and 4:00 p.m. on the last registration day before book-close (or in the case of Debt Securities in bearer form, the CCASS Record date imposed by HKSCC) but lowered at or before 9:00 a.m. on the next Business Day, then under the Exchange's Listing Rules, the latest time for submission of relevant Eligible Securities for registration will be extended to 12:00 noon on the following Business Day (or 5:00 p.m., if the typhoon signal no. 8 is only lowered between 9:00 a.m. and 12:00 noon on that following Business Day). In such a case, the normal CCASS deadline of 12:00 noon for deposit and 2:00 p.m. for withdrawal on the original

last registration day before book-close (or CCASS Record Date imposed by HKSCC, as the case may be (for the purpose of participating in relevant corporate entitlements through CCASS) will remain but no deposits or withdrawals of relevant Eligible Securities into or out of CCASS will be allowed until 12:00 noon on the following Business Day (or for the rest of the following Business Day, if the typhoon signal no. 8 is lowered between 9:00 a.m. and 12:00 noon on that day); and

- (iii) in other cases where under the Exchange's Listing Rules the last registration day before book-close (or in the case of Debt Securities in bearer form, the CCASS Record Date imposed by HKSCC) is extended to 4:00 p.m. on the following Business Day, the normal CCASS deadline of 12:00 noon for deposit and 2:00 p.m. for withdrawal on the original last registration day before book-close (or CCASS Record Date imposed by HKSCC, as the case may be) (for the purpose of participating in relevant benefits entitlements through CCASS) will also be extended to 12:00 noon on that following Business Day and, thereafter for the rest of that day, no further deposits and withdrawals of Eligible Securities into or out of CCASS will be allowed.

In relation to giving of instructions by Investor Participants and electronic instruction inputs by Participants other than Investor Participants which are both subject to stipulated deadline, the following procedures will usually apply:

- (i) if a typhoon signal no. 8 is lowered between 9:00 a.m. and 12:00 noon on the last day for instructions input by Participants, the deadline for such instructions input may at the sole discretion of HKSCC be extended beyond 3:45 p.m. (for Investor Participants) or 4:15 p.m. (for Participants other than Investor Participants) on that day under certain circumstances. In such case, HKSCC shall notify Participants as to such extension through Broadcast Message function via CCASS Terminals and Participant Gateways and through the CCASS Phone System and the CCASS Internet System as soon as practicable; and
- (ii) if a typhoon signal no. 8 is hoisted at any time between 10:00 a.m. and 3:30 p.m. on the last day for instructions input by Participants, Participants are normally requested to input their instructions within 15 minutes after such typhoon signal is hoisted. HKSCC may at its sole discretion extend the deadline for instructions input, in which case HKSCC shall notify Participants through Broadcast Message function via CCASS Terminals and Participant Gateways and through the CCASS Phone System and the CCASS Internet System.

In relation to Exchange Fund Notes or Specified Instruments, if at any time on the last day for input of Tender Instructions by Participants is affected by the hoisting of a typhoon signal no. 8 or above, the deadline for inputting such Tender Instructions may at the sole discretion of HKSCC be extended beyond 3:45 p.m. on that day. In such case, HKSCC shall notify Participants as to such extension through the Broadcast Message function via CCASS Terminals and Participant Gateways and through the CCASS Phone System and the CCASS Internet System.

Late instructions given or inputted by a Participant will result in such Participant not receiving nominee services provided by HKSCC in relation to the corporate actions or activities concerned.

In relation to corporate activities from which receivable items regarding interest accruing to Eligible Debt Securities (except Exchange Fund Notes or Specified Instruments) will be generated, the following procedures will usually apply:

- (i) if a typhoon signal no. 8 remains hoisted at any time between 10:00 a.m. and 12:00 noon at a date which is between the last registration day before book-close (or the CCASS

Record Date imposed by HKSCC for the determination of interest entitlement) and the interest payment day, the related interest receivables may be adjusted with reference to the announcements made by the Debt Securities issuers; and

- (ii) if a typhoon signal no. 8 remains hoisted at any time between 10:00 a.m. and 12:00 noon on a Business Day, the interest receivables in relation to Debt Securities conversion/redemption instructions input on the Business Day next preceding the typhoon day may be adjusted according to the interest amount to be distributed by the Debt Securities issuers.

In relation to Exchange Fund Notes or Specified Instruments, if a typhoon signal no. 8 or above is hoisted at any time on the interest payment date or redemption date as specified by HKMA or the issuer of the Specified Instruments or the arranger of their issue, the payment of interest or, as the case may be, redemption monies plus interest will be made on the Business Day immediately succeeding the interest payment date or, as the case may be, redemption date which will then be deemed to be the interest payment date or redemption date, as the case may be. All subsequent interest payment and redemption dates for the issue will remain unchanged. Interest payable will, subject to its being so adjusted by the HKMA or the issuer of the Specified Instruments or the arranger of their issue, be adjusted to include interest accrued during the period from the originally expected date of payment to the actual date of payment.

In relation to subscription instructions and Tender Instructions of Investor Participants which are pending Designated Banks' confirmation that any DDIs relating thereto cannot be effected and such confirmation is delayed or affected as a result of typhoon signal no. 8 or above being hoisted, the following procedures will usually apply:

- (i) if the tender day or expiry day or the last registration day before book-close falls on the Business Day of resumption of CCASS services, HKSCC reserves the right not to give effect to the relevant instructions. However, if HKSCC effects the instructions on the same day, HKSCC shall be entitled to withhold the distribution of the entitlements until it has received sufficient monies for such purposes. Without prejudice to any rights it may have at law, HKSCC shall be entitled to sell or apply the securities or cash subscribed for by HKSCC to cover any shortfall and any administrative costs of HKSCC; and
- (ii) if the expiry day or the last registration day before book-close falls on a day after the Business Day of resumption of CCASS services, HKSCC will cause subscription to be made on the Business Day following the day of receipt of Designated Bank confirmation that the DDIs concerned are not rejected.

In relation to Electronic Application Instructions for New Issue Shares affected as a result of typhoon signal no. 8 or above being hoisted, the following procedures will usually apply:

- (i) if a typhoon signal no. 8 or above remains hoisted at 12:00 noon on a Business Day (or 9:00 a.m. on a Saturday) which is not a last application day, all Electronic Application Instructions for New Issue Shares that have been successfully input by Investor Participants through the CCASS Phone System or the CCASS Internet System or at the Customer Service Centre, and by Participants (other than Investor Participants) through CCASS Terminals or Participant Gateways on that day will be maintained and treated as if they were input on the next Business Day; and
- (ii) if a typhoon signal no. 8 or above is in force at any time between 9:00 a.m. and 12:00 noon on a Business Day which is a last application day, the last application day will be postponed to the next Business Day which does not have such typhoon signal in force at

any time between 9:00 a.m. and 12:00 noon or such other day as specified by the relevant Issuer. The deadline for application on the last application day will remain at 12:00 noon unless otherwise specified by the relevant Issuer.

17.2.6 Clearing and settlement of Exchange Trades

If a typhoon signal no. 8 or above is hoisted before 9:30 a.m. and is not lowered by 12:00 noon on a Business Day, that day will not be treated as a Settlement Day for the purpose of determining the date of settlement of Exchange Trades under a T+2 settlement system. Otherwise, it will still be treated as a Settlement Day notwithstanding the fact that part of the day may have been affected by a typhoon.

The issue of outstanding PCSs by HKSCC to Broker Participants in respect of a Business Day's Exchange Trades will take place as soon as practicable following the resumption of CCASS services.

In relation to Exchange Trades where counterparty Broker Participants have not had any opportunity to effect Trade Amendments, where trading resumes during the morning trading session on the Exchange (i.e. at any time between 10:00 a.m. and 12:30 p.m.), Trade Amendments will be allowed until 12:00 noon that day in accordance with Exchange Rules and FCSs (giving details of relevant Trade Amendments) will normally be issued by HKSCC at or about 2:00 p.m. on that day. Where trading resumes during the afternoon trading session on the Exchange (i.e. between 2:30 p.m. and 4:00 p.m.), Trade Amendments will be allowed until 3:00 p.m. that day in accordance with Exchange Rules and FCSs will normally be issued by HKSCC two hours thereafter on that day.

In relation to settlement under the CNS System and the Isolated Trades System, the date of "delivery" by Broker Participants to effect settlement of stock positions may be postponed as a result of a day not being counted as a Settlement Day and any measures which will be taken by HKSCC as a result of late deliveries or defaults may be postponed accordingly. In addition, accrued interest of affected Debt Securities positions may be adjusted by HKSCC to cover the deferred period. In case Debt Securities issuers change last registration day or extend interest period owing to typhoon, or where other circumstances warrant, HKSCC may also adjust the accrued interest in line with market practice. Adjustments will be shown on FCSs, Next Settlement Day Due/Overdue Position Reports, Settled Position Reports and Settlement Reports, where applicable.

However, the adoption of risk management measures by HKSCC will not normally be affected by a typhoon except where it will not be possible to implement such measures in the usual way. For instance, Marks on pending and overdue stock positions of a Broker Participant under the CNS System will be determined in the normal way and will be collected unless CCASS money settlement is affected by a typhoon.

17.2.7 Clearing and settlement of Transfer Instructions

If a typhoon signal no. 8 or above is hoisted before 10:00 a.m. and is not lowered by 12:00 noon on a Business Day, no clearing and settlement of Transfer Instructions between Participants and Recognized Dealers will be provided by HKSCC.

If a typhoon signal no. 8 is hoisted at any time between 10:00 a.m. and 12:00 noon on a Business Day, clearing and settlement of Transfer Instructions between Participants and Recognized Dealers will be terminated by HKSCC within fifteen minutes. Participants will have to re-submit all Transfer Instruction Forms submitted by Participants on such a day on the next business day.

17.2.8 Clearing of ISIs/SIs

If typhoon signal no. 8 is hoisted after 9:30 a.m. on any Business Day, the matching of SIs will continue to be processed in CCASS by HKSCC in accordance with the usual schedule, notwithstanding the fact that Participants may no longer have access to further CCASS services as a result of a typhoon.

In other words, even if CCASS services are to cease as a result of a typhoon being hoisted after 9:30 a.m., the matching of SIs will still be carried out in CCASS, despite the fact that Participants will no longer be in a position to monitor the status of SIs via their CCASS Terminals or Participant Gateways.

If a typhoon signal no. 8 is hoisted between 9:00 a.m. and 9:30 a.m. on any Business Day, Participants are responsible at the time of the resumption of CCASS services to review and make appropriate amendments in respect of any ISIs/SIs already input by Participants on the day.

The stipulated settlement dates of SI Transactions are not affected by any typhoon.

17.2.9 Securities settlement

If settlement services in CCASS have been in operation at all on any Business Day, Batch-settlement-runs will continue to be processed in CCASS by HKSCC in accordance with the usual schedule, notwithstanding the fact that Participants may no longer have access to CCASS services as a result of a typhoon.

In other words, even if CCASS services are to cease as a result of a typhoon (after commencement of operation on a particular Business Day), Batch-settlement-runs will still be carried out in CCASS, despite the fact that it will not be possible for delivering Participants excluding Investor Participants to input DIs to effect settlement and that Participants will no longer be in a position to monitor the status of their outstanding stock positions via their CCASS Terminals or Participant Gateways or the CCASS Phone System or the CCASS Internet System.

17.2.10 Money settlement services

CCASS money settlement facilities in relation to DDIs, DCIs, EPIs and autopay instructions are dependent on the availability of the services of the clearing house for the relevant Eligible Currency. Under their current practices, if a typhoon signal no. 8 or above is hoisted at or before 3:00 p.m. on a Business Day (or 12:00 noon on a Saturday), the overnight clearing services of the clearing houses for Eligible Currencies will not be available with respect to CCASS money settlement instructions.

If the services of the clearing house for the relevant Eligible Currency are available, HKSCC will generate DDIs, DCIs, EPIs and autopay instructions in the usual way. If not, then the day will in effect not be treated as a "Settlement Day" for CCASS money settlement purposes in relation to DDIs, DCIs, EPIs and autopay instructions and the following points should be noted:

- (i) HKSCC will generate the relevant DDIs, DCIs, EPIs and autopay instructions on a Business Day (including a Saturday, unless it is a public holiday) upon resumption of CCASS money settlement services for processing by the clearing house for the relevant Eligible Currency. Any interest loss by Participants will be borne by themselves;
- (ii) no interest or credit charges will be levied by HKSCC in respect of "late" payments by Broker Participants to HKSCC;

- (iii) Participants other than Investor Participants will be informed via their Settlement Reports and the Marks Collection Reports in the event that CCASS money settlement in relation to DDIs, DCIs, EPIs and autopay instructions cannot be effected as scheduled; and
- (iv) accrued interest amount for affected Debt Securities positions arising from Exchange Trades may be adjusted in line with market practice to cover the deferred period. Participants other than Investor Participants will be informed via their FCSs, Next Settlement Day Due/Overdue Position Reports, Settled Position Reports and Settlement Reports, where applicable.

In relation to money settlement services on a RDP basis, CCASS will cease to provide such services within fifteen minutes after a typhoon signal no. 8 is hoisted on a Business Day and will normally resume such services two hours after the typhoon signal no. 8 is lowered at or before 12:00 noon. If a typhoon signal no. 8 or above is still hoisted at 12:00 noon on a Business Day, no such services will be available for that day.

In relation to confirmations by Designated Banks of Participants other than Investor Participants in respect of payments by such Participants to HKSCC pursuant to DDIs, if the typhoon signal no. 8 or above is hoisted at any time before 9:00 a.m. on a Business Day and is lowered at or before 12:00 noon on any Business Day (or 9:00 a.m. on a Saturday), any confirmation already given by Designated Banks on the day will be ignored by HKSCC and Designated Banks will have to issue or re-issue confirmations of payments by Participants within one hour from the time of resumption of CCASS services on such a day. If a typhoon signal no. 8 or above is hoisted at any time before 9:00 a.m. on a Business Day and is not lowered at 12:00 noon on any Business Day (or 9:00 a.m. on a Saturday), any confirmation already given by Designated Banks on the day will be ignored by HKSCC and Designated Banks are required to issue or re-issue to HKSCC the confirmations no later than the specified time on the following Business Day (including Saturday unless it is a public holiday). If a typhoon signal no. 8 or above is hoisted at or after 9:00 a.m. on any Business Day (including Saturday unless it is a public holiday), confirmations by Designated Banks of such Participants in respect of payments by such Participants to HKSCC pursuant to DDIs will continue as usual.

In relation to confirmations by Designated Banks of Investor Participants in respect of payments by such Participants to HKSCC pursuant to DDIs, if the typhoon signal no. 8 or above is hoisted at any time before 9:00 a.m. on a Business Day and is lowered at or before 12:00 noon on any Business Day (or 9:00 a.m. on a Saturday), any confirmation already given by Designated Banks of Investor Participants on the day will be ignored by HKSCC and Designated Banks will have to issue or re-issue confirmations of payments by Investor Participants within the specified time after the time of resumption of CCASS services on such a day. If a typhoon signal no. 8 or above is hoisted at any time before 1:00 p.m. on any Business Day (or 12:00 noon on a Saturday), any confirmation already given by Designated Banks of Investor Participants on that day will be ignored by HKSCC and Designated Banks are required to issue or re-issue to HKSCC the confirmations no later than the specified time on the following Business Day (including Saturday unless it is a public holiday). If a typhoon signal no. 8 or above is hoisted at or after 12:00 noon on a Saturday, unless it is a public holiday, confirmations by Designated Banks of Investor Participants in respect of payments by such Participants to HKSCC pursuant to DDIs will continue as usual.

In relation to cash prepayment, if a typhoon signal no. 8 or above is hoisted at any time between 9:00 a.m. to 10:00 a.m. on a Business Day, any Cash Prepayment Instruction already input by a Broker Participant at any time between 9:00 a.m. to 10:00 a.m. on the day will be ignored by HKSCC and a Broker Participant will have to re-input its Cash Prepayment Instruction from the time of resumption of the Cash Prepayment Instruction Input function. If the Broker Participant

does not re-input its Cash Prepayment Instruction, any cash prepayment received by HKSCC will be refunded without interest to the Broker Participant after receiving written request for repayment supported by evidence of such payment from the Broker Participant.

17.2.11 Enquiry services and statements and reports

The availability of enquiry services and statements and reports in CCASS will normally cease fifteen minutes after a typhoon signal no. 8 or above is hoisted and will normally resume within two hours after the typhoon signal no. 8 is lowered at or before 12:00 noon on a Business Day. If a typhoon signal no. 8 or above is still hoisted at 12:00 noon, no services will be available on that day.

17.2.12 Compulsory Stock Borrowing

If a typhoon signal no. 8 or above is hoisted before 9:30 a.m. and is not lowered by 12:00 noon on a Business Day, that day will not be treated as a Business Day for the purpose of the Compulsory Stock Borrowing and Lending Regulations; including but not limited to the calculation of the time period of HKSCC's redelivery obligations thereunder.

Operational Procedures, Section 17, Suspension of Services, 17.4 Other Contingency Situations

Other contingency situations will be handled by HKSCC in a manner similar to those described in Section 17.2 in relation to typhoons.

Participants will be notified of the exact arrangements in relation to any suspension of services or facilities via the Broadcast Message Service available through their CCASS Terminals and Participant Gateways and through the Enquiry Service via the CCASS Phone System or the CCASS Internet System or if this is not possible, by other appropriate means.

General Rules of CCASS, Part A: Rules of General Application, Chapter 1, Interpretation, Rule 101, Definitions

When used herein, the following expressions shall, unless the context otherwise requires, bear the following meanings:

“Back-Up Centre” means a place where terminal back-up facilities are provided by HKSCC to Participants (other than Investor Participants), as referred to in Rule 1301;

“Business Day” means a day on which CCASS is open for business to Participants (except Saturdays, Sundays and public holidays);

“CCASS” means the Central Clearing and Settlement System established and operated by HKSCC;

“CCASS Depository” means, one or more securities depositories for CCASS, providing safe-keeping facilities for Eligible Securities held in CCASS as well as to cater for withdrawals and deposits of Eligible Securities by Participants;

“CHATS” means Clearing House Automated Transfer System operated by Hong Kong Interbank Clearing Limited;

“Commission” means the Securities and Futures Commission referred to in section 3(1) of the Securities and Futures Ordinance;

“Eligible Security” means an issue of securities including but not limited to Foreign Securities, Debt Securities, Structured Products, Exchange Fund Notes, Specified Instruments and Units which is from time to time and for the time being accepted as eligible by HKSCC for deposit, clearance and settlement in CCASS, in accordance with Rule 501, and (a) where the context so requires shall

include any particular security or securities of such an issue and (b) unless the context will not admit, shall include, upon their issue, all New Issue Shares so accepted as eligible;

“HKSCC” means the Hong Kong Securities Clearing Company Limited including, where the context so requires, its agents, nominees, representatives, officers and employees;

General Rules of CCASS, Part A: Rules of General Application, Chapter 1, Interpretation, Rule 103, HKSCC may disapply Rules

HKSCC may, having notified the Commission, and in the interest of the efficient operation of CCASS and/or in the interest of a Participant waive the application of any Rule.

General Rules of CCASS, Part A: Rules of General Application, Chapter 5, Eligible Securities and Eligible Currencies, Rule 502, Grounds for non-eligibility of Eligible Securities

Without prejudice to any other rights HKSCC may have, HKSCC may refuse to accept an issue of securities as an Eligible Security or may discontinue the eligibility of an Eligible Security, if:

- (ii) a question exists, in the opinion of HKSCC, as to whether or not it has the operational capability to provide services referred to herein in respect of an issue of securities;
- (vii) HKSCC determines in its discretion that an issue of securities is no longer suitable to be an Eligible Security;

General Rules of CCASS, Part A: Rules of General Application, Chapter 7, Services – General, Rule 701, Services

Subject to the Rules, HKSCC may supply to Participants the services referred to in the Rules and such other services as may from time to time be deemed appropriate by HKSCC.

HKSCC may from time to time prescribe new or additional rules and procedures in relation to the provision of the services contemplated in the Rules.

Notwithstanding anything to the contrary in the Rules, HKSCC may decline in its discretion to provide one or more services or facilities with respect to any transaction or class of transactions, or with respect to any Participant or category of Participants

General Rules of CCASS, Part A: Rules of General Application, Chapter 8, Depository and Custodian Services, Rule 804, Right not to accept Eligible Securities

HKSCC reserves the right to reject a deposit or refuse to accept a re-deposit of Eligible Securities.

General Rules of CCASS, Part A: Rules of General Application, Chapter 21, Duties and Liabilities of HKSCC, Rule 2101, Duty to act in good faith

HKSCC undertakes to perform only such duties and obligations as are expressly set out in the Rules and the Participant Agreement. For the avoidance of doubt and recognising that the Rules do not constitute a contract of uberrimae fide, HKSCC shall be under a duty to act in good faith in respect of all matters and things to be undertaken or performed by it under the Rules.

General Rules of CCASS, Part A: Rules of General Application, Chapter 21, Duties and Liabilities of HKSCC, Rule 2102, Liability for anything not done in good faith

Except as otherwise expressly provided in the Rules, HKSCC, the Exchange, and a recognized exchange controller which is the controller of HKSCC shall not be liable to any Participant or to any other person in respect of anything done or omitted to be done by it in good faith in connection with the operations of CCASS, the provision of services and facilities available thereunder, and all other matters as contemplated in the Rules.

General Rules of CCASS, Part A: Rules of General Application, Chapter 21, Duties and Liabilities of HKSCC, Rule 2103, Force majeure

HKSCC, the Exchange, and a recognized exchange controller which is the controller of HKSCC shall not be liable for any action taken or for any failure, hindrance or delay in the provision of services or for any failure to give effect to or delay in giving effect to any instructions from Participants with respect to any nominee, depository or other CCASS services (or in the case of Foreign Securities held by an Appointed Depository with respect to any nominee, depository or other service provided by that Appointed Depository) or the performance in whole or in part of its obligations under the terms of the Rules or under any Market Contract if such action, failure, hindrance or delay arises out of causes beyond its control.

Such causes may include, but shall not be limited to, acts of God or the public enemy, acts of a civil or military authority, embargoes, fires, floods, explosions, accidents, labour disputes, mechanical breakdowns, computer or system failures or other failures of equipment, failures of or defects in computer or system software, unavailability of or restrictions on any communication media for whatever reason (whether or not such media is used by Participants), interruptions (whether in whole or in part) of power supplies or other utility or service, any law, decree, regulation or order of any government, competent authority or any court or tribunal, and any other causes beyond HKSCC's control including, without limitation to the foregoing, any similar causes affecting the Exchange, Hong Kong Interbank Clearing Limited (whether or not specified in the Exchange Rules or the rules and regulations of Hong Kong Interbank Clearing Limited), or the manager or trustee of any Unit Trust or an Appointed Depository.

General Rules of CCASS, Part A: Rules of General Application, Chapter 21, Duties and Liabilities of HKSCC, Rule 2104, HKSCC not to be liable

In the absence of anything not done or not omitted to be done in good faith on the part of HKSCC, HKSCC, the Exchange, and a recognized exchange controller which is the controller of HKSCC shall have no liability for any losses, costs (including legal costs), charges, assessments and damages of any nature whatsoever suffered or incurred directly or indirectly as a result of or in connection with the following matters:

- (ii) the taking by HKSCC of action permitted or contemplated in the Rules;
- (vi) the taking by HKSCC of any action or omission in accordance with the directions of any governmental or regulatory body, or an order made or directions given by a court in exercise of its proper jurisdiction, where it is required to do so by law;
- (vii) any system used by HKSCC, or any third party system upon which HKSCC is reliant in the operation of CCASS or the settlement and/or clearance of transactions involving Foreign Securities is not millennium compliant or is otherwise unable to exchange date information, a Participant fails to conduct appropriate tests of any system on its own or with other systems to ensure it is millennium compliant, or any failure by HKSCC to obtain appropriate warranties, certificates or other commitments from any system's supplier or a failure to take any steps to enforce the same.
- (ix) any acts or omissions of the HKMA or the employees or agents of the HKMA including (a) termination or suspension of HKSCC's appointment as a Recognized Dealer, (b) closure, termination, suspension or freezing of HKSCC's EFCS Securities Account, (c) cancellation, freezing or suspension of trading in any Exchange Fund Notes or Specified Instruments credited to HKSCC's EFCS Securities Account or tendered for by HKSCC in response to Tender Instructions or (d) the conduct of any issue of Exchange Fund Notes or Specified Instruments, including the tendering process and any suspension or cancellation of the issue or the tendering process;

Nothing in this Rule 2104 shall operate to limit or restrict the operation of Rule 2103.

General Rules of CCASS, Part A: Rules of General Application, Chapter 26, Suspension of Services

2602. HKSCC may suspend services

If in the opinion of HKSCC the functioning of CCASS or the services and facilities that it provides in relation to the settlement and/or clearance of Foreign Securities held by an Appointed Depository is or is likely to be impaired by any event or circumstance, HKSCC may suspend the whole or any part of the operations of CCASS or the services and facilities available thereunder to Participants, for such duration as it sees fit.

HKSCC may also take such other action as it may deem necessary or appropriate in the interests of CCASS and Participants.

2602. Notification of suspension

HKSCC shall notify Participants other than Investor Participants, the Exchange and the Commission as soon as practicable upon a decision to suspend any operation or service of CCASS or any other service or facility relating to the settlement and/or clearance of Foreign Securities held by an Appointed Depository and shall also provide information as to any other action it proposes to take.

HKSCC shall notify Investor Participants as soon as practicable via the CCASS Phone System and the CCASS Internet System of any decision to suspend any operation or service of CCASS.

F.6 The Stock Exchange of Hong Kong Options Clearing House (SEOCH)

Options Clearing Rules, Chapter 1, Definitions and Interpretation, Rule 101, Definitions

In these Clearing Rules, unless the context otherwise requires:

“Articles” has the same meaning as in the Exchange Rules;

“Board” has the same meaning as in the Exchange Rules;

“Business Day” means every day other than:-

- (1) Saturdays;
- (2) Sundays; and
- (3) public holidays;

“Exchange Rules” has the same meaning as in the Options Trading Rules;

Options Clearing Rules, Chapter 1, Definitions and Interpretation, Rule 107, Exclusion of Liability

107A. The Options System is complex, and SEOCH, the Exchange, HKFE and a recognized exchange controller which is the controller of SEOCH, do not accept any liability whatsoever, and no claim may be brought against any of them or their respective employees, in respect of any error in, or interruption or suspension of the operation of, the Options System, except in the case of wilful misconduct. In particular, neither SEOCH, the Exchange, HKFE, a recognized exchange controller which is the controller of SEOCH, nor any person from whom SEOCH, the Exchange, HKFE or a recognized exchange controller which is the controller of SEOCH has obtained a licence, directly or indirectly, in connection with use of the Options System shall have any liability in connection with, or arising out of, any ability or inability to use the computer programs involved in the functioning of the Options System (whether based in contract, tort, misrepresentation,

warranty or other legal or equitable grounds and without regard to the circumstances giving rise to any purported claim).

- 107B. SEOCH, the Exchange, HKFE and a recognized exchange controller which is the controller of SEOCH will not be liable to any SEOCH Participant or to any other person with respect to any action or omission by them in connection with the operations of the Options System, the provision of services and facilities available thereunder, and all other matters as contemplated in these Clearing Rules, except in the case of wilful default.
- 107C. SEOCH, the Exchange, HKFE and a recognized exchange controller which is the controller of SEOCH will not be liable for any action taken or for any failure, hindrance or delay in the provision of services or the performance in whole or in part of their obligations under these Clearing Rules or under any OCH Contract if such action, failure, hindrance or delay arises out of causes beyond their control. Such causes may include, but shall not be limited to, acts of God or the public enemy, acts of a civil or military authority, embargoes, fires, floods, explosions, accidents, labour disputes, mechanical breakdowns, computer or system failures or other failures of equipment, failures of or defects in computer or system software, unavailability of or restrictions on any communication media for whatever reason (whether or not such media is used by SEOCH Participants), interruptions (whether in whole or in part) of power supplies or other utility or service, any law, decree, regulation or order of any government, competent authority or any court or tribunal, and any other causes beyond the control of SEOCH, the Exchange (whether or not specified in the Exchange Rules), HKFE or a recognized exchange controller which is the controller of SEOCH.

Options Clearing Rules, Chapter 6, Risk Management and Payment Procedures, Rule 614 Intra-day Margin

SEOCH may, on any trading day, demand Intra-day Margin from one or more SEOCH Participants, the amount of which shall be calculated by SEOCH using such methods as it determines to be appropriate including the possibility that margin may be required in respect of intra-day losses or potential losses arising from the purchase or sale of Options Contracts.

Options Clearing Rules, Chapter 6, Risk Management and Payment Procedures, Rule 615 Intra-day Margin

A SEOCH Participant which receives a demand for Intra-Day Margin shall, to the extent the full amount of any such demand is not covered by SEOCH Collateral held by SEOCH at the time of the demand, satisfy such demand by payment of the amount demanded in cash, no later than one hour after the time of such demand.

Options Clearing Rules, Chapter 9, Emergency Procedures, Rule 901, Suspension of Access to the Options Clearing System

SEOCH may at any time, in conjunction with the Exchange and in prior consultation with the Commission, suspend access of one or more SEOCH Participants to the Options Clearing System on such terms as it may think fit.

Options Clearing Rules, Chapter 9, Emergency Procedures, Rule 902, Emergency Committee

Any Emergency Committee appointed by the SEOCH Board in accordance with the Articles shall have full power to regulate the affairs of SEOCH if the SEOCH Board decides that circumstances so require.

Options Clearing Rules, Chapter 9, Emergency Procedures, Rule 904, Facsimile Instruction Entry

In circumstances where access to the Options Clearing System is withdrawn by SEOCH pursuant to these Clearing Rules in relation to one or more SEOCH Participant, SEOCH may allow those SEOCH Participants who have entered into a facsimile indemnity agreement with SEOCH to transmit by facsimile exercise instructions and other permitted instructions relating to Options Clearing System functions to designated SEOCH personnel or HKEx staff who will, subject to and in accordance with the Operational Clearing Procedures, perform the relevant Options Clearing System functions on behalf of such SEOCH Participants. All the provisions of these Clearing Rules, other than in relation to entry into the Options Clearing System, shall apply as if the SEOCH Participant had itself entered them into the Options Clearing System.

F.7 The HKFE Clearing Corporation (HKCC)

HKCC Rules & Procedures, Chapter I, Interpretation, Rule 101, Definitions

In these Rules the definitions contained in the Exchange Rules (as hereinafter defined) shall where the context permits be incorporated herein by reference and the following expressions shall, unless the context otherwise requires, bear the following meanings:

“Board” means the Board of directors of the Clearing House;

“Business Day” means, in relation to an Exchange Contract, any day during which the Exchange is open for trading that Exchange Contract;

“Clearing House” or “HKCC” means HKFE Clearing Corporation Limited;

“Exchange” means Hong Kong Futures Exchange Limited;

“Exchange Rules” and “Rules of the Exchange” means collectively the Rules, Regulations and Procedures of the Exchange; and any amendments, supplements, variations or modifications thereto from time to time in force;

“HKATS” formerly known as the “ATS”, means the automated trading system operated by the Exchange;

“Market” bears the same meaning as in the Exchange Rules;

Chapter III, Registration, Clearing, Risk, Rule 301 General

- (a) Every HKCC Participant shall at all times procure that every Contract transacted by it or on its behalf or which it has agreed to clear shall be registered and cleared in accordance with the provisions of the HKCC Rules.
- (b) The Board may from time to time prescribe procedures to be followed by HKCC Participants in the registration and clearing of Contracts.

Chapter III, Registration, Clearing, Risk, Rule 302 General

The Clearing House shall be open for business whenever any of the Markets of the Exchange are open for business.

Chapter IV, Clearing House Margin, Variation Adjustment, Cover for Margin and Accounts, Rule 401 General

Every HKCC Participant shall forthwith on demand pay to the Clearing House such margin as the Clearing House or Exchange may from time to time require.

Chapter IV, Clearing House Margin, Variation Adjustment, Cover for Margin and Accounts, Rule 402 Clearing House Margin

- (e) On the written instructions of the Exchange the Clearing House shall require higher Clearing House margin from all HKCC Participants or any individual HKCC Participant notwithstanding that the amount demanded exceeds the level generally demanded by the Clearing House at that time.
- (f) The Board may at any time in its absolute discretion determine that the amount of Clearing House margin to be paid by any HKCC Participant shall be increased and the HKCC Participant in question shall pay such increased amount forthwith on demand.

Chapter IV, Clearing House Margin, Variation Adjustment, Cover for Margin and Accounts, Rule 411 Additional margin and intra-day variation adjustment

- (a) If in the opinion of the Clearing House sudden fluctuations of any Market operated by the Exchange are apparent, the Clearing House may, during any Business Day, call for additional margin and/or intra-day variation adjustment.
- (b) Additional margin shall take the form of additional Clearing House margin and shall be payable immediately.

Chapter VIII, Emergencies, Rule 801

In the event of substantial fluctuations in the markets operated by the Exchange, the Clearing House and the Exchange may jointly require all Exchange Participants and HKCC Participants not to transact or register any new open positions and to close out all their existing open Contracts within a period stipulated by them and for this purpose the Exchange may be open "for liquidation orders only", and only Contracts identified as closing out other Contracts will be accepted for registration and clearing by the Clearing House.