

Operational Clearing Procedures for Options Trading Exchange Participants

III. CLEARING SERVICES

4. SERVICE SCHEDULES

4.1.4 Exercise Request / Deny Auto

SEOCH Participants can input exercise requests or rejections or deny exercise requests automatically generated for expiring contracts on the expiry day on their long open positions.

5. TRADE AND POSITION MANAGEMENT

Options trades concluded during the trading day will be updated on-line to various accounts of the SEOCH Participant in DCASS. The following information will be kept in relation to a position in each option series and in each account type:

- i. Repealed
- ii. the DCASS Customer Code of the SEOCH Participant that is responsible for clearing this position
- iii. the DCASS account (see 5.1 below)
- iv. details of the option series i.e.
 - underlying stock
 - expiry
 - exercise price
 - put/call
- v. the number of long option contracts held by this SEOCH Participant for this option series in this account
- vi. the number of short option contracts held by this SEOCH Participant for this option series in this account
- vii. the number of contracts exercised by this SEOCH Participant for this option series in this account
- viii. the number of contracts assigned to this SEOCH Participant for this option series in this account

6. EXERCISE CRITERIA, EXERCISE AND ASSIGNMENT

6.1 No Automatic Exercise Except on Expiry

A SEOCH Participant shall input its exercise requests through DCASS in respect of each and every OCH Contract it wishes to exercise. DCASS will not automatically generate exercise requests in respect of in-the-money expiring contracts on behalf of SEOCH Participants except on an expiry day.

On an expiry day, DCASS will automatically generate exercise requests in respect of each and every open long position in expiring contracts which meets the exercise criterion, prescribed (i) by the relevant SEOCH Participant; or (ii) if no such exercise criterion is prescribed by the SEOCH Participant, by SEOCH. A report showing only those expiring contracts which are expired and to be exercised automatically based on SEOCH's prescribed criteria will be available shortly after the close of the underlying market on each Business Day. SEOCH Participants shall enquire via DCASS for a complete list of automatically generated exercise requests, including those generated based on the exercise criteria prescribed by themselves. SEOCH Participants may elect to deny any automatically generated exercise requests for positions in any particular series at any time prior to the System Input Cutoff Time on the expiry day (see 6.1.3). For the purposes of the Clearing Rules and these Procedures, exercise requests automatically generated by DCASS, if not so denied, are deemed as exercise requests input by SEOCH Participants and shall be binding and irrevocable.

Exercise requests will not be automatically generated by DCASS for those expiring contracts which do not meet the exercise criterion prescribed (i) by the relevant SEOCH Participant; or (ii) by SEOCH as aforesaid. SEOCH Participants shall exercise such contracts by input of exercise requests themselves via DCASS (see 6.1.1).

SEOCH will determine the in-the-money percentage criteria for automatic generation of exercise requests for expiring contracts in its absolute discretion from time to time and inform SEOCH Participants of such in-the-money percentage.

The in-the-money criterion is the difference between the strike and fixing price as a percentage of the strike or a fixed amount. For this purpose, the fixing price of the underlying stock will be determined by SEOCH at its absolute discretion and, under normal circumstances, it will be the closing price quoted on the Exchange of the underlying stock on the expiry day.

The automatic exercise feature of expiring contracts described above will be applicable on any expiry day which is a Business Day.

6.1.3 Denying Exercise Requests Automatically Generated by DCASS

SEOCH Participants may deny exercise requests automatically generated by DCASS for any expiring contracts by specifying the quantity of contracts which should not participate in the automatic exercise via DCASS at any time prior to the System Input Cutoff Time on the expiry day. SEOCH Participants can enquire about the result of their denial of automatically generated exercise requests and obtain the report for all positions exercised or assigned which is generated by DCASS.

9. MARGIN REQUIREMENT

9.2.1 Mark-to-Market Margin

Each day, after the close of trading, SEOCH marks the marginable positions to market with the fixing price of each option series determined by SEOCH. The resulting amount is called the Mark-

to-Market Margin, which will be a credit for a long option position and a debit for a short option position.

Unless otherwise determined by SEOCH under special circumstances, the fixing price of an option series shall be calculated as follows:

- i. Subject to paragraph v, if there was a trade during the final fifteen-minute period, the following will apply:
 - (a) if the last trade was at or below the best bid price amongst the last bid price(s) that had any corresponding offer price(s) during the final fifteen-minute period, the fixing price will be such best bid price;
 - (b) if the last trade was at or above the best offer price amongst the last offer price(s) that had any corresponding bid price(s) during the final fifteen-minute period, the fixing price will be such best offer price;
 - (c) if the last trade was between the best bid price amongst the last bid price(s) that had any corresponding offer price(s) during the final fifteen-minute period and the best corresponding offer price, then the fixing price will be the price of such last trade; and
 - (d) if no pairs of bid and corresponding offer prices were available during the final fifteen-minute period, then the fixing price will be the price of such last trade.
- ii. If there was no trade during the final fifteen-minute period, the fixing price will be calculated as the midpoint between the best bid price amongst the last bid price(s) that had any corresponding offer price(s) during the final fifteen-minute period and the best corresponding offer price, rounded to the nearest tick. However, if SEOCH determines that the bid-offer spread is not consistent with those of other expiries with similar strike prices, and the resultant fixing price does not reflect the true market conditions, SEOCH will disregard this fixing price and proceed to the procedures laid down in paragraph iii.
- iii. If neither a trade nor a pair of bid and offer prices was available during the final fifteen-minute period, or if SEOCH determines according to paragraph ii that the procedures laid down in this paragraph iii should be followed, the fixing price of an option series shall be calculated by SEOCH using a model as prescribed by SEOCH with the volatility determined with reference to the following:
 - (a) the prices of the option series with the same expiry during the final fifteen-minute period;
 - (b) the prices of the option series with the same expiry prior to the final fifteen-minute period if no sufficient prices of the option series of the same expiry during the final fifteen-minute period were available to determine the volatility of such option series;

- (c) the volatility and skewness of the option series with the same expiry on the previous Business Day if no sufficient prices of the option series with the same expiry prior to the final fifteen-minute period were available to determine the volatility of such option series; and
 - (d) other information provided by the Market Makers if no volatility or skewness of the option series with the same expiry on the previous Business Day was available.
- iv. SEOCH will adjust, where appropriate, the fixing price of an option series calculated under paragraph i, ii or iii according to the following and rounded to the nearest tick:
- (a) if the fixing price so determined is smaller than the intrinsic value of the option series, it will be adjusted to such intrinsic value;
 - (b) if the fixing price so determined is greater than the upper boundary set by SEOCH based on a prescribed percentage of the theoretical price of the option series calculated according to the procedures laid down in paragraph iii, it will be adjusted to such upper boundary;
 - (c) if the fixing price so determined is smaller than the lower boundary set by SEOCH based on a prescribed percentage of the theoretical price of the option series calculated according to the procedures laid down in paragraph iii, it will be adjusted to such lower boundary;
 - (d) starting from the at-the-money to the most in-the-money option series of the same underlying, expiry and call/put type, if the fixing price is smaller than or equal to the fixing price of the preceding option series, it will be adjusted to a value not lower than the fixing price of such preceding option series;
 - (e) starting from the at-the-money to the most out-of-the-money option series of the same underlying, expiry and call/put type, if the fixing price is greater than or equal to the fixing price of the preceding option series, it will be adjusted to a value not higher than the fixing price of such preceding option series; and
 - (f) starting from the most recent to the most distant option series of the same underlying, strike price and call/put type, if the fixing price is smaller than or equal to the fixing price of the preceding option series, it will be adjusted to a value not lower than the fixing price of such preceding option series.
- v. Block Trade prices will not be used by SEOCH in determining the fixing price.
- vi. Notwithstanding the above, SEOCH may, in its discretion, adjust or otherwise determine the fixing price of an option series.

APPENDIX D. PORTFOLIO RISK MARGINING SYSTEM OF HKEX (PRiME)

INTRODUCTION

Step 5: Calculate Intra-commodity Spread Charge for each option class

As PRiME scans underlying prices within a single underlying instrument, it assumes that price movement correlates perfectly across contract expiries. Since the price movement across contract expiries does not generally exhibit perfect correlation, PRiME adds an Intra-commodity Spread Charge to the Scan Risk associated with each underlying instrument under net margining. No Intra-commodity Spread Charge will be applied for gross margined accounts.

There may be different deltas calculated for an option series under different scenarios in the risk array. However, PRiME employs only one delta value per option series, called the "Composite Delta". It is derived as the weighted average of the deltas associated with each scenario. The weighting associated with each scenario is based upon the probability of the associated price movement. The more likely the price movement, the higher is the weighting applied.

The Composite Delta for each option series is calculated by multiplying the series Composite Delta by the corresponding position size. The Composite Delta for each contract expiry is then calculated by the summation of the Composite Delta values of all the option series with the same contract expiry. From the Composite Delta values obtained for all contract expiries, the total net long and net short Composite Delta values are identified. The absolute value of the total net long Composite Delta value is then compared with the absolute value of the total net short Composite Delta value and the smaller absolute value is selected. The Intra-commodity Spread Charge can then be calculated by multiplying the smaller absolute value by the Intra-commodity Spread Charge Rate for this option class.

EXAMPLE OF PRiME MARGINING

D) Calculate Intra-commodity Spread Charge for each option class

Assume the Composite Deltas of the series and the Intra-commodity Spread Charge Rates are as follows:

Option Class	Series	Composite Delta	Spread Charge Rate for each Composite Delta
HKZ	HKZ DEC 95 C	0.45	HK\$900
	HKZ JAN 100 P	-0.52	
RMZ	RMZ JAN 90 P	-0.50	RMB720

Composite Delta for each contract expiry and Intra-commodity Spread Charge of HKZ for each account:

Contract Expiry	Omnibus Client	Individual Client 001	Client Offset Claim	House
DEC	NA	2.25	-13.5	-2.25
JAN	NA	0	15.6	20.8

Net Long	NA	2.25	15.6	20.8
Net Short	NA	0	-13.5	-2.25
Minimum of absolute value of Net Long and absolute value of Net Short	NA	0	13.5	2.25
Intra-commodity Spread Charge ^c	NA	0	HK\$12,150	2,025

Composite Delta for each contract expiry and Intra-commodity Spread Charge of RMZ for each account:

Contract Expiry	Omnibus Client	House
JAN	NA	-15
Net Long	NA	0
Net Short	NA	-15
Minimum of absolute value of Net Long and absolute value of Net Short	NA	0
Intra-commodity Spread Charge ^c	NA	0

(c) Intra-commodity Spread Charge = Minimum (| net long | , | net short |) * Spread Charge Rate for each Composite Delta