Regulatory Notice 4.1.8 — SGX-DT Market Error Trade Policy

Issue Date	Cross Reference	Enquiries
Amended on <u>2 July 2007</u>, <u>16 July 2012 and 28 October 2013</u>.	<u>Rule 4.1.8</u>	Please contact: ~~Product Management~~ <u>Derivatives</u> for policy issues: Telephone No. : ~~6236 5308~~ <u>6236 8888</u> Derivatives Market Control ("DMC") for operational issues: Telephone No. : 6236 8433 Facsimile No.: 6536 6480 Email address : <u>derivatives.mc@sgx.com</u>

1 Introduction

1.1 This Regulatory Notice explains the error trade policy applied to Contracts traded on the SGX-DT Market.

2 Error Trade Policy Applicable to Contracts Traded on the SGX-DT Market

2.1 General Principles

2.1.1   An error trade occurs when a transaction is effected on QUEST as a result of an error in the entry of a bid or offer that was subsequently matched.

2.1.2 Subject to sub-paragraph 2.1.4, the Exchange will only exercise its discretion to:

(a) cancel an error trade partially or fully; or

(b) adjust the trade price of the error trade partially or fully to the nearest limit of the error trade price range,

if a party to the trade makes a request as specified in sub-paragraph 2.6.1 below, and the trade price falls outside the error trade price range for the Contract for that day. If an error trade is done <u>within</u> the error trade price range, then the trade will stand, and no further action will be taken. The upper and lower limit of the error trade price range is determined in relation to a reference price calculated by the Exchange in accordance with paragraph 2.2.

2.1.3 However, there will be no trade price adjustments for:

(a) transactions in strategies listed for trading by the Exchange;

(b) trades involving implied orders as a result of strategy matching; and

(c) option trades, except those ~~which are approved as~~ involving designated Option Contracts when the underlying cash market is open for trading.

In relation to error trades in the transactions specified in sub-paragraphs (a)-(c) above, the Exchange may at its discretion, cancel such error trades partially or fully, if a party to the trade makes a request as specified in sub-paragraph 2.6.1 below, and the relevant counterparties to the error trade agree to the cancellation within the time specified by the Exchange.

2.1.4   Notwithstanding sub-paragraph 2.1.2 and 2.1.3 above, the Exchange retains the power to cancel an error trade partially or fully or adjust the trade price of an error trade if, in the Exchange's opinion, it is desirable to do so, to protect the financial integrity, reputation or interests of the Markets established or operated by the Exchange. The Exchange's discretion to adjust the trade price or cancel a trade, either partially or fully, may be exercised even where the trade is within the error trade price range.

2.1.5 For the avoidance of doubt, error trades will not be cancelled except as provided for under sub-paragraphs 2.1.3 and 2.1.4.

2.1.6 A Member shall take all necessary steps and exercise due diligence in monitoring trades done for any errors.

2.1.7 A Member requesting an error trade cancellation or price adjustment shall promptly take all necessary mitigating actions to minimize the losses suffered.

2.2 Error Trade Price Range

Futures Contracts

2.2.1 The Exchange will approve a list of designated Futures Contracts as set out in Appendix A. For designated Futures Contracts traded when the underlying cash market is open for trading, the dynamic futures reference price shall be the average of the high and low traded prices in the minute before the error trade. If there are no trades in the minute before the error trade, the dynamic futures reference price will be determined by theoretical pricing models using, among other variables, the latest cash index value before the error trade.

Refer to Appendix A of Regulatory Notice 4.1.8.

2.2.2 If an error trade occurs in connection with a Futures Contract which is not a designated Futures Contract, or when the error trade occurs in connection with a designated Futures Contract when the underlying cash market is not open for trading, the opening price shall be assigned as the static futures reference price. If the opening price is not available, the Exchange may use other prices that it thinks in its discretion are reasonable. For instance, the Exchange may use the previous day's closing price.

2.2.3 The Exchange computes the error trade price range for a Futures Contract by taking into account the trading and closing prices of the Contract or any other relevant information (for example, relevant market information in a recent three (3) month period). The upper and

lower limits of the error trade price range are determined in relation to the relevant futures reference price.

2.2.4 The following is an example for the calculation of the dynamic futures reference price in relation to a designated Futures Contract.

For designated Futures Contracts, it is possible to establish a fairly accurate dynamic reference price when the underlying cash market is open. Therefore, the Exchange will apply a smaller error trade price range, with reference to the dynamic futures reference price. A dynamic futures reference price may be calculated as follows:

(a) If there are trades in the minute before the error trade, calculate the average of the high & low prices in the last minute as the dynamic futures reference price.

(b) If the error trade occurs for a contract month other than the spot month, use the theoretical model with the latest cash index value to derive the theoretical spread between the spot month and the error trade contract month. This spread is then added to the spot month reference price calculated using (a) above to derive the dynamic futures reference price.

(c) If (a) and (b) above are not applicable, calculate the theoretical price of the error trade contract month as the dynamic futures reference price.

2.2.5 The following is an example for the calculation of the error trade price range in relation to a designated Futures Contract.

This example uses the Yen-denominated SGX Nikkei Stock Average Futures Contract. Based on an evaluation of historical data the Exchange could set the following:

Error Trade Price Range of +/- 50 points for the spot quarter month

Error Trade Price Range of +/- 100 points for other contract months

The spot quarter month has a narrower error trade price range because its dynamic futures reference price, calculated using market traded prices, will be relatively accurate. The other contract months have a wider error trade price range because the dynamic futures reference price would likely have a theoretical component. A wider range is needed to ensure that bona-fide trades do not fall within the error trade price range. The Exchange may periodically adjust the error trade price range to reflect prevailing market conditions. ~~MCD~~ DMC will broadcast the necessary information to Members in accordance with sub-paragraph 2.2.10.

Based on the dynamic futures reference price, an erring party's losses from error trades should be limited to fifty (50) points (¥25,000) per lot in the spot quarter month or one hundred (100) points (¥50,000) per lot in other contract months.

Options Contracts

2.2.6 The Exchange will approve a list of designated Option Contracts as set out in Appendix A. The option reference price for designated Option Contracts when the underlying cash market is open for trading shall be determined by theoretical pricing models using:

(a) in the case of an Option Contract that grants an option on a Futures Contract, among other variables, the futures reference price of the underlying Futures Contract and the volatility of the Option Contract implied from the previous settlement price of the option contract.

(b) in the case of an Option Contract that grants an option on an Underlying, among other variables, the reference price of the underlying index and the volatility of interest rates, dividend, time to maturity and the option strike price.

Refer to Appendix A of Regulatory Notice 4.1.8.

2.2.7 The Exchange computes the error trade price range for designated Option Contracts when the underlying cash market is open, by taking into account the trading and closing volatility of the Option Contract or any other relevant information (for example, relevant market information in a recent three (3) month period) to determine a volatility range. The Exchange may, in its discretion, determine different volatility ranges for the purpose of calculating the error trade price range. The option error trade price range shall be determined by theoretical pricing models using, among other variables, the dynamic futures reference price of the underlying Futures Contract and the volatility range. The Exchange may adjust the trade price of an error trade involving designated Option Contracts when the underlying cash market is open for trading in accordance with sub-paragraph 2.1.2(b).

2.2.7A If an error trade occurs in connection with an Option Contract which is not a designated Option Contract, or when the error trade occurs in connection with a designated Option Contract when the underlying cash market is not open for trading, the opening price shall be assigned as the static option reference price. If the opening price is not available, the Exchange may use other prices that it thinks in its discretion are reasonable. For instance, the Exchange may use the previous day's closing price. The Exchange computes the error trade price range for such Option Contracts by applying a percentage to the option reference price referred to in this sub-paragraph. The Exchange may cancel an error trade involving Option Contracts referred to in this paragraph in accordance with sub-paragraph 2.1.2(a).

2.2.8 The following is an example for the calculation of the error trade price range in relation to a designated Option Contract.

For designated Option Contracts, it is possible to establish a fairly accurate dynamic futures reference price when the underlying cash market is open. The option error trade price range is calculated using a theoretical option pricing model with variables including the dynamic reference price of the underlying Futures Contract and a volatility range.

This example uses the SGX Option Contract on Nikkei Stock Average Futures. The

Exchange could set the following volatility range (with reference to the previous day settlement implied volatility):

	Within 1,000 points from at-the-money	Other Strikes
Spot Month	+/- 4%	+/- 6%
Other Months	+/- 5%	+/- 8%

The option reference price will be calculated using the option pricing model with variables including the dynamic futures reference price of the underlying Futures Contract and the previous day settlement implied volatility.

In addition, the option error trade price range is subject to a minimum level (to prevent frivolous price adjustments) and a maximum level (to cater to special circumstances for Option Contracts).

This example uses the SGX Option Contract on Nikkei Stock Average Futures. Based on evaluation of its historical data, the Exchange could set:

Maximum price range of   +/- 100 points for contracts with 6 months or less to expiry
    +/- 200 points for other contract months
Minimum price range of   +/- 30 points

The Exchange may apply the maximum price range to all Option Contracts that are more than 1,500 points in-the-money and all expiring options on the Monday of the week of expiration to the Last Trading Day. Deep in-the-money Option Contracts have high delta and thus the price change largely mirrors the price change of the underlying. It is thus appropriate to use a fixed error trade price range. In addition, as the Option Contract approaches expiry, small changes in traded option prices cause relatively large changes in traded implied volatility. The result is that the volatility range may not be sufficient to encompass the volatility changes near the expiry of the contract. Based on historical data, the traded implied volatility of the Option Contract would start to change rapidly during the week of expiration. Hence, the maximum price range will generally be imposed during this period. The Exchange may adjust, with prior notice, the maximum price range and applicable circumstances as market conditions change.

Exchange's discretion

2.2.9 Notwithstanding sub-paragraphs 2.2.1 to 2.2.8 above, the Exchange retains the discretion to take into account other relevant market information to determine the error trade price range or the reference price, and determine error trade price ranges using any other methodology, if, in the Exchange's opinion, it is desirable to do so to protect the financial integrity, reputation or interests of the Markets established or operated by the Exchange.

~~MCD~~ DMC notification of error trade price range or volatility range

2.2.10 ~~MCD~~ DMC will notify all Members of the error trade price range or volatility range, in terms of absolute prices or percentages, as the case may be, via the broadcast message on a daily basis. In addition, the Exchange will inform all Members, via circular, of any changes in the size of the error trade price range or volatility range at least one (1) week before effecting such change.

2.3 Factors That the Exchange may Consider in its Exercise of Discretion

2.3.1 The Exchange may consider the following factors when deciding whether to adjust the trade price or cancel any trades:

(a) the difference between the price at which the error trade was done and the preceding traded prices of the Contract;

(b) market conditions, including market liquidity in the Contract at the time the error trade occurred;

(c) the monetary loss involved and the financial impact on the parties if the error trade is or is not adjusted or cancelled;

(d) the reason(s) given by the erring party for the error;

(e) whether the error trade was caused partially or fully by problems with the Exchange's systems; and

(f) any other relevant factors.

2.4 Compensation and Dispute Resolution

2.4.1 Under sub-paragraph 2.1.3, certain error trades may be cancelled if the counterparties consent to the cancellation. The terms of the cancellation of the error trade (including any compensation payable) are for the relevant parties to agree on. The Exchange will not be involved in this process or in any disputes arising from this process.

2.5 Administration Fee For Trade Cancellation / Price Adjustment Requests

2.5.1 A trade review administration fee ("Administrative Fee") will be imposed on every request received to adjust the price of or cancel an error trade. The following table sets out an estimate for the Administrative Fee, which is set at a maximum of SGD$1,000 for each request.

No of Requests in a year starting from 1 July to 30 June	Fee
1st request	SGD$250
Next 2 requests	SGD$500
Next 2 requests	SGD$750

6th request and above	SGD$1000

> If the Exchange deems the error trade to be serious, it may charge a higher amount than the fee indicated in the above table which does not exceed the maximum fee.

2.5.2 The Member shall pay the Administrative Fee to the Exchange within such time specified by the Exchange following its fourteen (14) days of the Exchange's determination of the fee. The Administrative Fee shall be paid regardless of whether the error trade has had its price adjusted or is cancelled by the Exchange.

2.6 Procedure For Error Trade(s)

2.6.1 The Member's authorised co-ordinator intending to report an error trade shall:

(a) contact the MCD DMC within ten (10) minutes from the time the trade is done, and request for the trade to have its price adjusted or cancelled. The Exchange may, in its discretion extend this period depending on the situation; and

(b) immediately complete the QUEST ERROR TRADE INFORMATION FORM and send it by fax or email to MCD DMC.

2.6.2 Once an error trade has been brought to the attention of the MCD DMC in accordance with this Regulatory Notice, the following procedures will apply:—

(a) MCD DMC will send an alert to all QUEST terminals indicating that a specified trade may be in error; and

(b) For cancellation of trades, the Exchange will, at its discretion, cancel a trade, either partially or fully, only if all counterparties to the error trade agree to the trade cancellation within fifteen (15) minutes of the alert sent by MCD DMC in sub-paragraph 2.6.2(a) above. The Exchange reserves the right to extend this period depending on the situation and the number of counterparties involved in the error trade.

(c) MCD DMC will send a message to all QUEST terminals of the Exchange's decision in respect of any request to cancel a trade or adjust the trade price.

2.6.3 The Exchange will not consider any requests to review its decision following an announcement under 2.6.2(c).