An HKEX Company

Quality of Execution User Guide

MiFID II

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1 Document Control

1.1 Change History

Version	Change Date	Summary of Change
1.0	27-06-2018	1st Version
1.1	**02/11/2018**	**Added change from percentage to fractions for Options to section**: **3.4** Price; **3.8** Best Bid Price, Best Offer Price and; **3.9** Average Effective Spread, Average Spread at Best bid and Offer, Average Book Depth for 3 Price Increments

2 Introduction

Under MiFID II, RTS 27 seeks to provide both the public and investment firms with relevant data on execution quality to help them determine the best way to execute client orders. This document describes the quality of execution reports as determined by RTS 27 (see associated documents for a link to the RTS). The reports are split into 9 different reports as described in section 3.1.

2.1 Associated Documents

Title	Link
RTS 27 - Commission Delegated Regulation supplementing Directive 2014/65/EU of the European Parliament and of the Council on markets in financial instruments with regard to regulatory technical standards concerning the data to be published by execution venues on the quality of execution of transactions	http://ec.europa.eu/finance/securities/docs/isd/mifid/rts/160608-rts-27_en.pdf
RTS 27 Annex – Annex to the Commission Delegated Regulation supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards for the data to be provided by execution venues on the quality of execution transactions Data to be provided by execution venues on the quality of execution of transactions	http://ec.europa.eu/finance/securities/docs/isd/mifid/rts/160608-rts-27-annex_en.pdf

2.2 Information

- Report names are in the format:
  - QOE_YYYYQn_ddMM_NameOfReport.csv is for daily reports where the YYYYQn defines the year and the quarter to which the report relates and the ddMM defines the day and month.
  - QOE_YYYYQn_NameOfReport.csv is for quarterly reports where the YYYYQn defines the year and the quarter to which the report relates

- Report 2 provides a full list of all tradeable instruments with, amongst other information, an instrument name, a description and the ISIN. In all the other reports the description is used to identify the instrument so should an ISIN for an instrument in one of the reports be required report 2 should be used as a reference.

- All prices in all reports are defined in USD ($). If the base currency of the instrument is not USD then the relevant dated ‘Report 9 – Exchange Rates’ can be used to convert into the base currency.

- Only instruments where information is available are included in the reports i.e. if an instrument only traded in one time period in report 7 then only that time period will be present, the other time periods will be excluded from the report for that instrument.

3 Report Specifications

3.1 Report Summary

Table 1 shows the report naming convention, frequency, summary of file content and the relative location of the requirement within the MiFID II regulatory documentation.

Table 1

Report No.	*Report Name*	*Frequency*	*Content Summary*	*RTS27*	*RTS27 Annex*
1	*QOE_YYYYQn_ddMM_MarketInformation.csv*	*One file per day per quarter*	*Publication of information on execution venue and financial instrument*	*Article 3 (1)*	*Table 1*
2	*QOE_YYYYQn_TypeOfInstruments.csv*	*One file per quarter*	*Identification of Financial Instruments*	*Article 3 (2)*	*Table 2*
3	*QOE_YYYYQn_ddMM_PriceInformationIntraday.csv*	*One file per day per quarter*	*Intra-day Price Data*	*Article 4 (a)*	*Table 3*
4	*QOE_YYYYQn_ddMM_DailyPriceInformation.csv*	*One file per day per quarter*	*Daily Price Data*	*Article 4 (b)*	*Table 4*
5	*QOE_YYYYQn_CostInformation.csv*	*One file per quarter*	*Costs*	*Article 5*	*Table 5*
6	*QOE_YYYYQn_ddMM_LikelihoodOfExecution.csv*	*One file per day per quarter*	*Likelihood of Execution*	*Article 6*	*Table 6*
7	*QOE_YYYYQn_ddMM_LikelihoodOfExecutionAdditionalInfo.csv*	*One file per day per quarter*	*Additional price and volume data for LMEselect*	*Article 7 (1)*	*Table 7*
8	*QOE_YYYYQn_ddMM_AdditionalInfoExecutionVenues.csv*	*One file per day per quarter*	*Additional information for LMEselect*	*Article 7 (2)*	*Table 8*
9	*QOE_YYYYQn_ddMM_FXConversionRates.csv*	*One file per day per quarter*	*Exchange Rates*	*N/A*	*N/A*

3.2 Report 1 – Identification Information

Report Name: *QOE_YYYYQn_ddMM_MarketInformation.csv*

This report identifies key information regarding the execution venue as defined in Article 3(1) of RTS 27 (see associated documents for a link to RTS 27)

3.2.1 File Specification

Column Header	Field Description
Name	The name of the trading venue
MIC Code	The MIC code associated with the trading venue
Country Of Competent Authority	The Country code of the competent authority under which the trading venue is governed
Market Segment	The MIC code of the relevant market segment
Date of Trading Day	The date of the trading day for which all the contents fo this report corresponds
Nature of Outages	A description of the outage (where outage is an interruption to trading across all instruments available to trade on the trading venue within the trading venues normal trading period)
Number of Outages	The number of outages
Duration of Outages	The duration of the outages
Nature of Scheduled Auction	This field will be blank as auctions are not valid for LME trading.
Number of Scheduled Auctions	This field will be blank as auctions are not valid for LME trading.
Average Duration of Scheduled Auctions	This field will be blank as auctions are not valid for LME trading.
Number of Failed Transactions	The total number of failed transactions (where failed transactions are transactions voided by the trading venue).
Value of Failed Transactions	The total value of all failed transactions.

3.3 Report 2 – Financial Instruments

Report Name: *QOE_YYYYQn_TypeOfInstrument.csv*

This report identifies key information regarding the tradeable instruments as defined in Article 3(2) of RTS 27 (see associated documents for a link to RTS 27).

3.3.1 File Specification

Column Header	Field Description
Financial Instrument Name	A description of the instrument constructed using the instrument name, the instrument type, the currency, the prompt and for Options and TAPOs the strike price and call or put.
ISIN	The ISIN assigned to the instrument.
Description	A description of the instrument constructed using the 2 letter instrument code, a single character currency code (EUR = E, USD = D, GBP = S, JPY = Y), the prompt date in format DDMMYY, and either a single character for options (C = CALL, P = PUT) or 2 characters for TAPO's (TC = TAPO CALL, TP = TAPO PUT)
CFICode	The CFI code attributed to the instrument.
Currency	The Currency of the instrument

3.4 Report 3 – Intra-day Price Information

Report Name: *QOE_YYYYQn_ddMM_PriceInformationIntraday.CSV*

This report identifies key information regarding intra-day price information as defined in Article 4(a) of RTS 27 (see associated documents for a link to RTS 27)

3.4.1 File Specification

Column Header	Field Description
Contract Name	A description of the instrument constructed using the 2 letter instrument code, a single character currency code (EUR = E, USD = D, GBP = S, JPY = Y), the prompt date in format DDMMYY, and either a single character for options (C = CALL, P = PUT) or 2 characters for TAPO's (TC = TAPO CALL, TP = TAPO PUT)
Time (T)	The starting time of the two minute reference time window used to perform the report calculations in the format HH:MM:SS. Time ranges are 09:30:00, 11:30:00, 13:30:00 and 15:30:00.
Size Range	The size range into which the transactions fall. The ranges are as follows: 1 – greater than zero and less than or equal to the Standard Market Size of the financial instrument; 2 – greater than Standard Market Size of the financial instrument and less than or equal to the Large in Scale; 3 – greater than Large in Scale
Simple Avg Executed Price	The simple average price of all transactions that were executed in the two minutes starting at each of the reference times and for each size range. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency.
Total Value Executed	The total value of trades executed during the two minutes starting at each of the reference times and for each size range. Total value is expressed as price x volume x lots size. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency.
Price	If no transactions occurred during the first two minutes of the relevant time periods then this field will be populated with the price of the first transaction executed within each of the size ranges after each of the reference times. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency. O**n all reports up to and including 29/09/2018 Option prices are**

	expressed as percentages. On all reports after 29/09/2018 Option prices are expressed as fractions.
Time of Execution	If no transactions occurred during the first two minutes of the relevant time periods then this field will show the execution time for each transaction of the first transaction executed within each of the size ranges after each of the reference times. Time format is HH:MM:SS
Transaction Size	If no transactions occurred during the first two minutes of the relevant time periods then this field will show the transaction size in terms of value for each transaction expressed as price x volume x lots size
Trading System	If no transactions occurred during the first two minutes of the relevant time periods then this field will show the trading system under which the transaction was executed. Possible values are ‘Voice’ and ‘Continuous order book’. Where the report is populated with ‘Unmapped’ it should be assumed that this corresponds to ‘Voice’.
Trading Mode	This field will be blank as the LME has no concept of trading mode.
Trading Platform	If no transactions occurred during the first two minutes of the relevant time periods then this field will show the trading platform under which the transaction was executed. Possible value are ‘Electronic’, ‘Voice’ or ‘Outcry’. Where the report is populated with ‘Unmapped’ it should be assumed that this corresponds to ‘Voice’.
Best Bid and Offer or Closing Price	If no transactions occurred during the first two minutes of the relevant time periods then this field will show the best bid and offer at the time of execution or the previous closing price if no trades have occurred. For bid and offers the values will be ‘/’ separated. Closing prices are indicated by the prefix ‘CP:’

3.5 Report 4 – Daily Price Information

Report Name: *QOE_YYYYQn_ddMM_DailyPriceInformation.csv*

This report identifies key information regarding the daily price information as defined in Article 4(b) of RTS 27 (see associated documents for a link to RTS 27)

3.5.1 File Specification

Column Header	Field Description
Contract Description	A description of the instrument constructed using the 2 letter instrument code, a single character currency code (EUR = E, USD = D, GBP = S, JPY = Y), the prompt date in format DDMMYY, and either a single character for options (C = CALL, P = PUT) or 2 characters for TAPO's (TC = TAPO CALL, TP = TAPO PUT)
Simple Average Transaction Price	A simple average of all transaction prices. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency. This field is only published if more than one transaction occurred during the trading day.
Volume-weighted Transaction Price	The volume-weighted transaction price is determined using the (total number of lots traded x total price paid) / Total number of lots traded. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency. This field is only published if more than one transaction occurred during the trading day.
Highest Executed Price	The highest price paid for the instrument. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency. This field is only published if more than two transactions occurred during the trading day.
Lowest Executed Price	The lowest price paid for the instrument. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency. This field is only published if more than two transactions occurred during the trading day.

3.6 Report 5 – Cost Information

Report Name: *QOE_YYYYQn_CostInformation.csv*

This report identifies key information regarding costs as defined in Article 5 of RTS 27 (see associated documents for a link to RTS 27)

3.6.1 File Specification

Column Header	Field Description
Contract Description	A description of the instrument constructed using the 2 letter instrument code, a single character currency code (EUR = E, USD = D, GBP = S, JPY = Y), the prompt date in format DDMMYY, and either a single character for options (C = CALL, P = PUT) or 2 characters for TAPO's (TC = TAPO CALL, TP = TAPO PUT)
Fees for submission & Modification - Information regarding all LME Group Fees and Charges is available in the "LME Group Fees & Charges" download:	The link to information regarding all LME Group Fees and Charges
Fees related to market data - Information regarding market data access is available in the relevant section of the "Accessing Market Data" section:	The link to information regarding Market Data
Link to further information on costs	The link to further information on costs
Total value of all rebates; discounts; or other payments offered (as % of total traded value during reporting period)	The total value of all rebates; discounts; or other payments offered (as % of total traded value during reporting period)
Total value of all costs (as % of total traded value during the reporting period volume)	The total value of all costs (as % of total traded value during the reporting period volume)

3.7 Report 6 – Likelihood of Execution Information

Report Name: QOE_YYYY_Qn_LikelihoodOfExecution

This report identifies key information regarding the likelihood of execution as defined in Article 6 of RTS 27 (see associated documents for a link to RTS 27)

3.7.1 File Specification

Column Header	Field Description
Contract description	A description of the instrument constructed using the 2 letter instrument code, a single character currency code (EUR = E, USD = D, GBP = S, JPY = Y), the prompt date in format DDMMYY, and either a single character for options (C = CALL, P = PUT) or 2 characters for TAPO's (TC = TAPO CALL, TP = TAPO PUT)
Number of orders received	The total number of orders received
Number of transactions executed	The total number of transactions executed if more than one.
Total value of transactions executed	The total value of transaction executed where total value is expressed as price x volume x lots size. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency.
Number of orders received cancelled or withdrawn	The number of orders received that were cancelled or withdrawn excluding passive orders with instructions to expire or to be cancelled at the end of the day
Number of orders modified	The total number of orders that were modified
Median transaction size	The median transaction size if more than one transaction occurred. Transaction size is determined by price x volume of the transaction.
Median size of all orders	The median size of all orders if more than one oder was received.
Number of designated market makers	The number of designated market makers.

3.8 Report 7 – Likelihood of Execution Information Additional Info

Report Name: *QOE_YYYYQn_ddMM_LikelihoodOfExecutionAdditionalInfo.csv*

This report identifies key information regarding the likelihood of execution as defined in Article 7(1) of RTS 27 (see associated documents for a link to RTS 27)

3.8.1 File Specification

Column Header	Field Description
Contract description	A description of the instrument constructed using the 2 letter instrument code, a single character currency code (EUR = E, USD = D, GBP = S, JPY = Y), the prompt date in format DDMMYY, and either a single character for options (C = CALL, P = PUT) or 2 characters for TAPO's (TC = TAPO CALL, TP = TAPO PUT)
Time	The starting time of the two minute reference time window used to perform the report calculations in the format HH:MM:SS. Time ranges are 09:30:00, 11:30:00, 13:30:00 and 15:30:00.
Best Bid Price ($)	The best bid price expressed in USD for all instruments except Options which are expressed as a percentage on all report up to and including 29/09/2018. On all reports after 02/11/2018 Options are expressed as fractions. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency.
Bid Size	The total volume at the best bid
Best Offer Price ($)	The best offer price expressed in USD for all instruments except Options which are expressed as a percentage on all report up to and including 02/11/2018. On all reports after 29/09/2018 Options are expressed as fractions. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency.
Offer Size	The total volume at the best offer
Total Value of Depth ($)	The total available liquidity expressed as a product of the price and volume of all bids and offers to a depth of three price increments. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency.

3.9 Report 8 – Additional Information

Report Name: QOE_YYYYQn_ddMM_AdditionalInfoExecutionVenues.csv

This report identifies key information regarding the likelihood of execution as defined in Article 7(2) of RTS 27 (see associated documents for a link to RTS 27)

Note: Field “

3.9.1 File Specification

Column Header	Field Description
Contract Description	A description of the instrument constructed using the 2 letter instrument code, a single character currency code (EUR = E, USD = D, GBP = S, JPY = Y), the prompt date in format DDMMYY, and either a single character for options (C = CALL, P = PUT) or 2 characters for TAPO’s (TC = TAPO CALL, TP = TAPO PUT)
Average Effective Spread	The average of twice the difference between the actual execution price compared with the mid-point of the best bid and offer at time of receipt. **For Options all report up to and including 29/09/2018 are expressed as a percentage and expressed as a fraction after this date.**
Average Volume at best bid and offer	The average of all the best bid and offer volumes
Average Spread At Best Bid and Offer	The average of the best bid and offer spread **For Options all report up to and including 29/09/2018 are expressed as a percentage and expressed as a fraction after this date.**
Number Of Cancellations At Best Bid and Offer	The number of orders at the best bid or offer that were cancelled
Number Of Modifications At Best Bid and Offer	The number of orders at best bid or offer that were modified
Average Book Depth for 3 Price Increments	The average of the best 3 price depth volumes. For Options all report up to and including 29/09/2018 are expressed as a percentage and expressed as a fraction after this date.

Mean Time Elapsed	The mean time elapsed between an aggressive order being received and the subsequent total or partial execution. **This field is currently defaulted to zero.**
Median Time Elapsed	The median time elapsed between an aggressive order being received and the subsequent total or partial execution
Average Speed Of Execution	The average time elapsed between a limit order that matches the best bid and offer being received and the subsequent execution of that order
Number Of Fill Or Kill Orders Failed	Total number of failed fill or kill orders
Number Of Fill Or Kill Orders With Zero Fill	Total number of immediate or cancel orders that got zero fill.
Number of LIS Transactions	The total number of LIS transactions.
Value of LIS Transactions	The total value of all LIS transaction. The total value is expressed as price x volume x lots size. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency.
Number Of Trades	The total number of executed transactions
Value Of Transaction	The total value of executed transactions. The total value is expressed as price x volume x lots size. All prices are in USD. If the underlying contract is not in USD use the corresponding currency conversion detailed in the relevant Exchange Rates report to convert to the base currency.
Number Of Trading Interruptions	The number of trading interruptions as a result of any volatility auction or circuit breaker which occurred during normal trading period
Average Duration Of Trading Interruptions	The average curations of any interruptions as a result of any volatility auction or circuit breaker which occurred during normal trading period
Number Of Any Trading Suspension	The number of trading suspensions

Nature Of Any Trading Suspension	The average duration of trading suspensions
Average Duration Of Any Trading Suspension	A description of the nature of any trading suspensions
Number Of Bids Or Offers	The number of any periods lasting more than 15 minutes during which no bid or offers were provided during normal trading hours
Number Of Bids Or Offers Duration	The average duration of any periods lasting more than 15 minutes during which no bid or offers were provided during normal trading hours
Average Quote Presence	The average quote presence expressed as a percentage of the normal trading hours.

3.10 Report 9 – Exchange Rates

Report Name: *QOE_YYYYQn_ddMM_FXConversionRates.csv*

This report shows the exchanges rates used to calculate any price values used. All value in the reports are expressed as USD therefore where the instrument is priced in EUR, JPY or GBP then the Relevant exchange rates required for conversion are detailed in this report.

3.10.1 File Specification

Column Header	Field Description
Date	Date in format DD/MM/YYYY
Currency	The currency cross description
Fx Rate	The foreign exchange rate