



OSLO BØRS

OSLO STOCK EXCHANGE

FEBRUARY 2018

SOLA - Oslo Børs Derivatives market

# *OSLSOLA 202 FIX 4.2 Specification Guide*

*Issue 5.0*

## IMPORTANT NOTE

This document has been produced by Oslo Børs to assist customers in the use of the SOLA platform on the Oslo Børs market place. Part of the documentation is based on documentation from the London Stock Exchange Group. For more details, please see references in the appendix.

If you have any general queries relating to this document, please email: [technicalsupport@oslobors.no](mailto:technicalsupport@oslobors.no)

Further copies of this document can also be downloaded from the Oslo Børs website at the following link: [https://www.oslobors.no/ob\\_eng/Oslo-Boers/Trading/Trading-systems/SOLA](https://www.oslobors.no/ob_eng/Oslo-Boers/Trading/Trading-systems/SOLA)

## DISCLAIMER

This document has been prepared on the basis of the best information available. Oslo Børs has taken reasonable efforts to ensure that the information in this publication is correct at the time of publication, but shall not be liable for decisions made in reliance on it. Oslo Børs will seek to provide notice to customers of changes being made to this document, but this notice cannot be guaranteed. Therefore, please note that this publication may be updated at any time. The information contained is therefore for guidance only. This document does not form part of the contractual documentation between the Oslo Børs and its customers.

## CHANGE LOG

This document can be updated at any time, and has been through the following iterations:

| Issue | Date             | Description   |
|-------|------------------|---|
| 1.0   | 01 December 2012 | Initial document release  |
| 2.0   | 01 December 2014 | Added Sola 7 Message Impacts  |
| 2.1   | 11 December 2014 | Changed layout<br>Changed messages AE – Trade Capture Report and AR – Trade Capture Report Acknowledgment<br>Added Self Execution Prevention (SEP) impacts  |
| 2.2   | 09 January 2015  | Changed messages AE – Trade Capture Report and AR – Trade Capture Report Acknowledgment<br>Added “Action” in the definition table for the fields  |
| 2.3   | 04 February 2015 | Corrected scenarios: Orders Eliminated by Market Control and Committed Orders cancellation at End of Day.   |
| 2.4   | 23 February 2015 | Update to PublishTrdIndicator Field definition.<br>Update to OrdType Field definition.  |
| 3.0   | 5 August 2016    | New release of document to include upgrade to SOLA release 9.2<br>Pre-Trade Validation functionalities added<br>Drop-copy   |
| 4.0   | 17 April 2017    | New release of document to include upgrade to SOLA release 11<br>Updates listed in Appendix 1, table for Issue 4.0  |
| 4.1   | 13 July 2017     | Amended GrossTrdAmt [Tag 381] tag name<br>DeferralFlag [Tag 2669] and DeferralValue [Tag 2670] removed from 35=8 message (out of scope)<br>FairValue [Tag 406] added to 35=D message<br>Amended OrdType [Tag 40] and FairValue [Tag 406] in 35=s message<br><br>New value M: Matched Principal for Rule80 [Tag 40]<br>Review Req type of OrderAttributeType [Tag 2594], OrderAttributeValue [Tag 2595], PartyID [Tag 448], PartyRole [Tag 452], PartyRoleQualifier [Tag 2376], FairValue [Tag 406]<br><br>FairValue [Tag 406] and OrdType [Tag 40] amended on Cross Entry 35=s message, Trade Capture Report 35=AE message and Trade Capture Report Acknowledgment 35=AR message<br><br>The following error codes have been modified for Pre Trade Validation functionality enhancement:<br>3107, 3108, 3127, 3128, 3137 error codes added<br><br>Text [Tag 58] added to 35=F Order Cancellation Request message<br>Amend field length of Text [Tag 58], ClOrdID [Tag 11], FirmTradeID [Tag 1041]<br>Update Drop Copy for FIX protocol table (Section 2.3). Trade status added to ExecID [Tag 17] and SecondaryExecID [Tag 527] |
| 4.2   | 18 August 2017   | Corrected [Tag 41] OrigClOrdID length: 1 to 24<br>Rename of:<br>- [Tag 1194] OptionStyle to ExerciseStyle<br>- CancellationAndAmendments [Tag 847] replaced with [Tag 487]  |
| 4.3   | 31 August 2017   | Sec 5.12 New Order Cross, updated text since functionality is utilized for Oslo.  |

|     |                   |  |
|-----|-------------------|--|
| 4.4 | 29 September 2017 | Sec 6<br>Description for tag 448 changed.  |
| 4.5 | 02 October 2017   | Rename Exchange For Physical to Basis Trade/Exchange for Security/Exchange of Future for Swap  |
| 5.0 | 12 February 2018  | SOLA 12: messages impacted <ul style="list-style-type: none"> <li>- New tag for the following messages: AE, D, s,8</li> <li>- New Error Codes</li> </ul> |

Please note that only the latest issue of this document will be available from the Oslo Børs website.

# CONTENT

|  |           |
|--|-----------|
| IMPORTANT NOTE.....  | 2         |
| DISCLAIMER .....   | 2         |
| CHANGE LOG .....   | 3         |
| CONTENT.....   | 5         |
| <b>1 INTRODUCTION.....</b>   | <b>7</b>  |
| 1.1 PURPOSE .....  | 7         |
| 1.2 READERSHIP .....   | 7         |
| 1.3 DOCUMENT SERIES.....   | 7         |
| <b>2 OVERVIEW .....</b>  | <b>8</b>  |
| 2.1 TERMS AND ACRONYMS.....  | 8         |
| 2.2 REQUIRED FIELDS .....  | 8         |
| 2.3 DROP COPY FOR FIX PROTOCOL .....                                   | 8         |
| <b>3 MESSAGE HEADER AND TRAILER.....</b>                               | <b>11</b> |
| 3.1 STANDARD MESSAGE HEADER .....                                      | 11        |
| 3.2 STANDARD MESSAGE TRAILER.....                                      | 11        |
| <b>4 ADMINISTRATIVE MESSAGES .....</b>                                 | <b>11</b> |
| 4.1 A: LOGON .....   | 11        |
| 4.2 O: HEARTBEAT .....   | 12        |
| 4.3 1: TEST REQUEST .....  | 12        |
| 4.4 2: RESEND REQUEST .....  | 12        |
| 4.5 3: FIX PROTOCOL ERROR / REJECT .....                               | 12        |
| 4.6 4: SEQUENCE RESET.....   | 13        |
| 4.7 5: LOGOUT.....   | 13        |
| <b>5 APPLICATION MESSAGES.....</b>                                     | <b>14</b> |
| 5.1 AE: TRADE CAPTURE REPORT .....                                     | 14        |
| 5.2 AF: ORDER MASS STATUS REQUEST .....                                | 16        |
| 5.3 AR: TRADE CAPTURE REPORT ACKNOWLEDGMENT .....                      | 16        |
| 5.4 D: NEW ORDER - SINGLE .....  | 19        |
| 5.5 G: ORDER CANCEL/REPLACE REQUEST (ORDER MODIFICATION REQUEST) ..... | 20        |
| 5.6 F: ORDER CANCEL REQUEST .....                                      | 21        |
| 5.7 R: QUOTE REQUEST .....   | 22        |
| 5.8 B: QUOTE ACKNOWLEDGEMENT .....                                     | 23        |
| 5.9 C: SECURITY DEFINITION REQUEST .....                               | 23        |
| 5.10 D: SECURITY DEFINITION .....                                      | 24        |
| 5.11 J: BUSINESS REJECT.....   | 26        |
| 5.12 S: NEW ORDER CROSS.....   | 26        |
| 5.13 8: EXECUTION REPORT .....   | 28        |
| 5.14 9: ORDER CANCEL REJECT .....                                      | 34        |
| <b>6 FIELD DEFINITIONS .....</b>                                       | <b>35</b> |
| <b>7 ERROR CODES .....</b>   | <b>49</b> |
| <b>8 MESSAGE FLOW .....</b>  | <b>53</b> |
| 8.1 CONNECTION MANAGEMENT.....   | 53        |
| 8.2 ORDER PROCESSING.....  | 55        |
| 8.3 TIME VALIDITY .....  | 61        |
| 8.4 TRADING CONTROLS .....   | 64        |

8.5 MODIFICATION PROCESSING ..... 66  
8.6 QUOTE PROCESSING ..... 69  
8.7 UNSOLICITED SERVICES ..... 70  
8.8 STRATEGY MESSAGES ..... 72  
8.9 CROSS/COMMITTED FUNCTIONALITY..... 73  
8.10 QUERIES ..... 75  
APPENDIX 1 - REFERENCES ..... 76

# 1 INTRODUCTION

Oslo Børs uses SOLA for trading in standardized derivatives. SOLA is recognized as one of the world's leading trading systems for both options and futures. SOLA is developed by The Montreal Exchange, and has been used for derivatives trading at Oslo Børs since December 2009.

## 1.1 PURPOSE

This document provides a description of the FIX 4.2 protocol used in the Oslo Børs derivatives market.

## 1.2 READERSHIP

This document describes the messages and formats for the FIX 4.2 protocol.

Messages are highlighted in **bold text**. Fields within messages are indicated by use of [Tag\_name Tag\_id]. References to other documents in the series are indicated by use of *underlined italic* letters.

## 1.3 DOCUMENT SERIES

This document is a part of a series of documents providing a holistic view of full trading and information services available from Oslo Børs post the upgrade to the SOLA 12 platform.

The current series of documents are outlined below:

### **Trading**

OSLSOLA 201 FIX Business Design Guide

OSLSOLA 202 FIX Specification Guide

OSLSOLA 203 SAIL Business Design Guide

OSLSOLA 204 SAIL Specification Guide

### **Market Data**

OSLSOLA 301 HSVF Specification Guide

The latest version of this documentation series can be found on:

[https://www.oslobors.no/ob\\_eng/Oslo-Boers/Trading/Trading-systems/SOLA](https://www.oslobors.no/ob_eng/Oslo-Boers/Trading/Trading-systems/SOLA)

## 2 OVERVIEW

### 2.1 TERMS AND ACRONYMS

The following legend defines some of the terms that are used in this document.

| Term     | Definition   |
|----------|--|
| BST      | British Summer Time                                |
| BPS      | Best Price Setter                                  |
| CB       | Circuit Breaker                                    |
| CET      | Central European Time                              |
| CEST     | Central European Summer Time                       |
| EDT      | Eastern Daylight Time                              |
| EDST     | Eastern Daylight Savings Time                      |
| EOD      | End Of Day   |
| GMT      | Greenwich Mean Time                                |
| Incoming | Message from Participant to Exchange               |
| Msg      | Message  |
| Outgoing | Message from Exchange to Participant               |
| Req      | Required field                                     |
| SAIL     | SOLA Access Information Language (native protocol) |
| SEP      | Self Execution Prevention                          |

### 2.2 REQUIRED FIELDS

Each message within the protocol is comprised of fields which are either:

Y = Required

N = Not mandatory

C = Conditional (fields which are required based on the presence, or value of other fields).

### 2.3 DROP COPY FOR FIX PROTOCOL

This feature allows a Drop Copy user to receive a copy of all order acknowledgements and trade notifications that belong to a specific member. All messages are sent using the FIX protocol (incoming Business messages sent by Drop Copy user are rejected).

The messages Execution Report [MsgType 35 = 8] included in the Drop Copy connection contain all fields specified in the Message's layout (section 5.13), other than where specified in the comments.

Reconciliation between FIX Front End and FIX Drop Copy Protocols can be performed using TAGs [ExecID 17], [ExecRefID 19], [SecondaryExecID 527], [OrderID 37] and [SecondaryOrderID 198].

It is as well possible to carry out reconciliation with SAIL Protocol by comparing the composite values of the SAIL fields with the values in the corresponding FIX TAGs as per the table below:



| Action  | [ExecID 17]   | [ExecRefID 19]*                                  | [SecondaryExecID 527]**  | [OrderID 37]   | [SecondaryOrderID 198]*                                      |
|---|---|--|--|--|--|
| Standard Orders:<br>• entry<br>• modification<br>• cancellation | Message Type (KE/KM/KZ/NZ) + Order ID + Instrument ID + Group ID + Verb + Trade Status                      |  |  |  |  |
| Stop Orders:<br>• entry<br>• modification<br>• cancellation     | Message Type (KE/KM/KZ/NZ) + Order ID + Instrument ID + Group ID + Verb + Special Price Term + Trade Status | N/A  | N/A  | Order Type (O/X) + Order ID + Instrument ID + Group ID   | N/A  |
| Order Update (SEP)  | Message Type (NU) + Order ID + Instrument ID + Group ID + Quantity + Verb                                   |  |  |  |  |
| Trades inserted by the Exchange                                 | Message Type (NT/NL) + Trade Number + Instrument ID + Group ID + Verb + Trade Status                        | N/A  | Message Type (NT) + Strategy Trade Number + Strategy Instrument ID + Strategy Group ID + Verb + Trade Status | Order Type (O) + Trade Number + Instrument ID + Group ID<br><br>Note: Reference ID will be blank |  |
| Standard Trade executed   | Message Type (NT) + Trade Number + Instrument ID + Group ID + Verb + Trade Status                           | N/A  | N/A  | Order Type (O/X/Q) + Reference ID + Instrument ID + Group ID                                     | N/A  |
| Standard Trade executed   | Message Type (NT) + Trade Number + Instrument ID + Group ID + Verb + Trade Status                           | N/A  | N/A  | Order Type (O/X/Q) + Reference ID + Instrument ID + Group ID                                     | N/A  |
| Standard Trade cancelled  | Message Type (NX) + Trade Number + Instrument ID + Group ID + Verb + Trade Status                           | Message Type (NT) + Trade Number + Instrument ID |  | Note: Format for this field is as TAG 198. Reference ID provided in this TAG relates to the      | Order Type (O/X/Q) + Reference ID + Instrument ID + Group ID |

|                            |   |   |   |   |   |
|----------------------------|---|---|---|---|---|
|                            |   | + Group ID +<br>Verb<br>+ Trade<br>Status   |   | latest Order<br>ID (in case<br>the order was<br>modified)<br>while in SAIL<br>message<br>always<br>relates of to<br>the Order ID<br>at the time of<br>the trade   |   |
| Implied Trade<br>executed  | Message Type (NL) +<br>Trade Number +<br>Instrument ID +<br>Group ID + Verb                   | N/A   |   | Strategy<br>Order Type<br>(O/X)+<br>Strategy<br>Reference ID<br>+ Strategy<br>Instrument ID<br>+ Strategy<br>Group ID   | N/A   |
| Implied Trade<br>cancelled | Message Type (NY) +<br>Trade Number +<br>Instrument ID +<br>Group ID + Verb<br>+ Trade Status | Message<br>Type (NL) +<br>Trade<br>Number +<br>Instrument ID<br>+ Group ID +<br>Verb<br>+ Trade<br>Status | Message<br>Type (NT) +<br>Strategy<br>Trade<br>Number +<br>Strategy<br>Instrument ID<br>+ Strategy<br>Group ID +<br>Verb<br>+ Trade<br>Status | Note: Format<br>for this field<br>is as TAG 198.<br>Strategy<br>Reference ID<br>provided in<br>this TAG<br>relates to the<br>latest Order<br>ID (in case<br>the order was<br>modified)<br>while in SAIL<br>message<br>always<br>relates to the<br>Order ID at<br>the time of<br>the trade | Strategy<br>Order Type<br>(O/X)+<br>Strategy<br>Reference ID<br>+ Strategy<br>Instrument ID<br>+ Strategy<br>Group ID |

\* Only present in case of trade cancellation [ExecTransType 20] = 1: Cancel

\*\* Used to refer to the Strategy ExecID. Send only when [MultipleReportingType 442 = 2].

## 3 MESSAGE HEADER AND TRAILER

For additional descriptive or definitive information on Tag Numbers and Field Names, refer to Field Definitions.

### 3.1 STANDARD MESSAGE HEADER

| Tag | Field Name      | Req | Comments   |
|-----|-----------------|-----|--|
| 8   | BeginString     | Y   | FIX.4.2<br>Must be first field in message.   |
| 9   | BodyLength      | Y   | Must be second field in message.   |
| 35  | MsgType         | Y   | Must be third field in message.  |
| 49  | SenderCompID    | Y   | Assigned value used to identify the sender in a FIX session  |
| 56  | TargetCompID    | Y   | Assigned value used to identify the receiver in a FIX session.   |
| 34  | MsgSeqNum       | Y   | Message sequence number.   |
| 52  | SendingTime     | Y   | Time of message transmission.  |
| 43  | PossDupFlag     | C   | Always required for retransmitted messages, whether prompted by the sending system or as the result of a resend request. |
| 122 | OrigSendingTime | C   | Required for message resends. If data is not available, set to same value as SendingTime.                                |
| 97  | PossResend      | C   | Required when message may be duplicate of another message sent under a different sequence number.                        |

### 3.2 STANDARD MESSAGE TRAILER

| Tag | Field Name  | Req | Comments  |
|-----|-------------|-----|---|
| 57  | TargetSubID | C   | Assigned value used to identify specific trader intended to receive message.<br>Present in Application messages coming from the Exchange. |
| 10  | Checksum    | Y   | Always unencrypted and last field in message.   |

## 4 ADMINISTRATIVE MESSAGES

For additional descriptive or definitive information on Tag Numbers and Field Names, refer to Field Definitions.

### 4.1 A: LOGON

| Tag | Field Name      | Req | Comments          |
|-----|-----------------|-----|-------------------|
|     | Standard Header | Y   | [MsgType 35=A]    |
| 98  | EncryptMethod   | Y   | Must be set to 0. |

|     |                  |   |   |
|-----|------------------|---|---|
| 108 | HeartBtInt       | Y | 0 (zero) means that no HeartBeat message will be sent.<br>The value provided must not be less than 30 (unless using 0). |
| 141 | ResetSeqNumFlag  | N | Indicates both sides of a FIX session should reset sequence numbers.  |
| 383 | MaxMessageSize   | N | Can be used to specify the maximum number of bytes supported for messages received.                                     |
|     | Standard Trailer | Y |   |

## 4.2 0: HEARTBEAT

| Tag | Field Name       | Req | Comments   |
|-----|------------------|-----|--|
|     | Standard Header  | Y   | [MsgType 35=0]   |
| 112 | TestReqID        | C   | Required when the Heartbeat is the result of a Test Request message. Used only in Heartbeat message from server to client. |
|     | Standard Trailer | Y   |  |

## 4.3 1: TEST REQUEST

| Tag | Field Name       | Req | Comments  |
|-----|------------------|-----|---|
|     | Standard Header  | Y   | [MsgType 35=1]  |
| 112 | TestReqID        | Y   | Identifier included in Test Request message to be returned in resulting Heartbeat |
|     | Standard Trailer | Y   |   |

## 4.4 2: RESEND REQUEST

| Tag | Field Name       | Req | Comments   |
|-----|------------------|-----|--|
|     | Standard Header  | Y   | [MsgType 35=2]   |
| 7   | BeginSeqNo       | Y   | Message sequence number of first message in range to be resent |
| 16  | EndSeqNo         | Y   | Message sequence number of last message in range to be resent. |
|     | Standard Trailer | Y   |  |

## 4.5 3: FIX PROTOCOL ERROR / REJECT

| Tag | Field Name          | Req | Comments  |
|-----|---------------------|-----|---|
|     | Standard Header     | Y   | [MsgType 35=3]  |
| 45  | RefSeqNum           | N   | MsgSeqNum of rejected message.                              |
| 371 | RefTagID            | N   | The Tag number of the FIX field being referenced.           |
| 372 | RefMsgType          | N   | The MsgType of the FIX message being referenced.            |
| 373 | SessionRejectReason | N   | Code to identify reason for a session-level Reject message. |

|    |                  |   |  |
|----|------------------|---|--|
| 58 | Text             | N | Where possible, message to explain reason for rejection. |
|    | Standard Trailer | Y |  |

#### 4.6 4: SEQUENCE RESET

| Tag | Field Name       | Req | Comments  |
|-----|------------------|-----|---|
|     | Standard Header  | Y   | [MsgType 35=4]  |
| 123 | GapFillFlag      | N   | Indicates that the Sequence Reset message is replacing administrative or application messages which will not be resent. |
| 36  | NewSeqNo         | Y   | Cannot be lower than the last [MsgSeqNum 34].   |
|     | Standard Trailer | Y   |   |

#### 4.7 5: LOGOUT

| Tag | Field Name       | Req | Comments                 |
|-----|------------------|-----|--------------------------|
|     | Standard Header  | Y   | [MsgType 35=5]           |
| 58  | Text             | N   | Free format text string. |
|     | Standard Trailer | Y   |                          |

## 5 APPLICATION MESSAGES

### 5.1 AE: TRADE CAPTURE REPORT

This message is used for pre-arranged trade(s) with multiple counterparties. This message has been taken from FIX 5.0 and adapted to SOLA platform.

|            | Tag   | Field Name           | Req | Comments   |
|------------|-------|----------------------|-----|--|
|            |       | Standard Header      | Y   | [MsgType 35=AE]  |
|            | 60    | TransactTime         | N   | Time at which this order request was initiated/released by the trader or trading system  |
|            | 150   | ExecType             | C   | Only for messages coming from Exchange<br><br>Proposal Status:<br>0: New (Waiting for approval)<br>4: Cancelled (Refused)<br>F: Trade (Approved)   |
|            | 555   | NoLegs               | Y   | Number of legs<br>Up to 4 for messages coming from Participant   |
|            | 571   | TradeReportID        | C   | Proposal ID<br><br>Only for messages coming from Exchange  |
|            | 1041  | FirmTradeID          | C   | The ID assigned to a trade by the Firm to track a trade within the Firm system.  |
|            | 1117  | RootPartyID          | C   | Required when ProposalType 16453 = T: Inter Dealer Broker Order  |
|            | 16453 | ProposalType         | Y   | B: Bundle Order<br>T: Inter Dealer Broker Order  |
|            | 40    | OrdType              | Y   | OrderType possible values:<br>C: Committed<br>P: Basis Trade/Exchange for Security/Exchange of Future for Swap   |
| N<br>Times | 600   | LegSymbol            | Y   | Mandatory as the first Tag present for the Leg.<br>Indicates the instrument root Symbol  |
|            | 609   | LegSecurityType      | Y   | Indicates if Option (OPT) or a Future (FUT)  |
|            | 610   | LegMaturityMonthYear | C   | Required for Options (LegSecurityType 609=OPT) and Futures(LegSecurityType 609=FUT)  |
|            | 613   | LegOptAttribute      | C   | Corporate Action Marker  |
|            | 612   | LegStrikePrice       | C   | Required for Options (LegSecurityType 609=OPT)   |
|            | 624   | Leg Side             | Y   | 1: Buy<br>2: Sell  |
|            | 687   | LegQty               | Y   | Order quantity   |
|            | 16454 | LegMaturityDay       | C   | Required for Options (LegSecurityType 609=OPT) and Futures(LegSecurityType 609=FUT)<br><br>Can be used in conjunction with MaturityMonth-Year <200> to specify a particular maturity date. |
|            | 1358  | LegPutOrCall         | C   | Required for Options (LegSecurityType 609=OPT)   |

| Tag   | Field Name          | Req | Comments   |
|---|---------------------|-----|--|
| 1194  | OptionStyle         | C   | Required for Options (LegSecurityType 609=OPT)<br>0: European<br>1: American   |
| 566   | LegPrice            | Y   | Order Price  |
| 37  | Order ID            | C   | Present in messages coming from the Exchange   |
| 1462  | TargetPartyID       | Y   | Executing Firm ID  |
| 577   | ClearingInstruction | C   | Clearing instruction. Free text field (up to 12 chars).<br>Required for messages coming from Participant when<br>Proposal Type 16453 = B: Bundle |
| 581   | CaptRptAccountType  | C   | Type of account<br>Required for messages coming from Participant when<br>Proposal Type 16453 = B: Bundle   |
| 77  | OpenClose           | C   | Open/Close<br><br>Required for messages coming from Participant when<br>Proposal Type 16453 = B: Bundle  |
| 8001  | AccountProfile      | C   | Type of trader.<br>H: Hedger<br>S: Speculator<br><br>Required for messages coming from Participant when<br>Proposal Type 16453 = B: Bundle       |
| 9433  | TextExecutionReport | C   | Owner Data for messages coming from Participant when<br>16453 = B<br>Indicates the Refusal Reason when ExecType 150 = 4:<br>Cancelled            |
| 852   | PublishTrdIndicator | Y   | Transparency for the Flexible trade.<br>Y: Published<br>N: Unpublished   |
| 39  | OrdStatus           | C   | 0: New (Waiting for approval)<br>2: Fill (In Order Book)<br><br>Only for messages coming from Exchange   |
| 11  | ClientOrderID       | C   | Must be unique for messages coming from Participant<br>Not to be specified when ProposalType 16453 = T: Inter<br>Dealer Broker Order.            |
| 2593  | NoOrderAttribute    | Y   | Number of Order Attributes. It always must be a value<br>between 0 and 2.  |
| 2 Times the next 2 tag (One for Liquidity Provision, one for Algo Flag) |                     |     |  |
| 2594  | OrderAttributeType  | C   | Must contain one of the following values:<br>2: Liquidity Provision<br>4: Algo Flag  |
| 2595  | OrderAttributeValue | C   | It's always required in case OrderAttributeType [Tag<br>2594] is specified. It must contain one of the following<br>values:<br>Y: Yes<br>N:No    |

| Tag  | Field Name            | Req | Comments   |
|--|-----------------------|-----|--|
| 453  | NoPartyID             | Y   | Must be a value between 1 and 3  |
| The next 3 tag are present as many times as it is specified in Tag 453 NoPartyID |                       |     |  |
| 448  | PartyID               | C   | Refer to field Definition Tag 448 PartyID  |
| 452  | PartyRole             | C   | Role of the PartyID [Tag 448]. Must contain one of the following values:<br>3: Client ID<br>122: Investor ID<br>12: Executing Trader |
| 2376   | PartyRoleQualifier    | O   | Refer to field Definition Tag 2376 PartyRoleQualifier  |
| 1724   | OrderOrigination      | O   | DEA Flag indicator. It must contain one of the following values:<br>5: Yes<br>0: No  |
| 406  | FairValue             | C   | Text for Physical Leg. It must be filled in case Tag 40 OrdType is P: Basis Trade/Exchange for Security/Exchange of Future for Swap  |
| 1390   | TradePublishIndicator | O   | Deferral Preference indication. Refer to field description "TradePublishIndicator":<br>- 0: No Preference<br>- 2: Deferred           |
|  | Standard Trailer      | Y   |  |

## 5.2 AF: ORDER MASS STATUS REQUEST

Execution Report [MsgType 35=8] with [ExecTransType 20=3] (Status) are returned for each active order belonging to the participant.

If no active order belongs to the participant, no response is returned.

| Tag | Field Name        | Req | Comments  |
|-----|-------------------|-----|---|
|     | Standard Header   | Y   | [MsgType 35=AF]   |
| 584 | MassStatusReqID   | N   | Value assigned by issuer of Mass Status Request to uniquely identify the request. |
| 585 | MassStatusReqType | N   | = 7 (Status for all orders for the participant)                                   |
|     | Standard Trailer  | Y   |   |

## 5.3 AR: TRADE CAPTURE REPORT ACKNOWLEDGMENT

This message is used for accepting or refusing pre-arranged trade(s) with multiple counterparties. This message has been taken from FIX 5.0 and adapted to SOLA platform.

| Tag   | Field Name      | Req | Comments  |
|-------|-----------------|-----|---|
|       | Standard Header | Y   | [MsgType 35=AR]   |
| 60    | TransactTime    | N   | Time at which this order request was initiated/released by the trader or trading system |
| 16453 | ProposalType    | Y   | B: Bundle Order<br>T: Inter Dealer Broker Order   |



|            | Tag       | Field Name           | Req  | Comments  |
|------------|-----------|----------------------|--|---|
|            | 571       | TradeReportID        | Y  | Proposal ID   |
|            | 856       | TradeReportType      | Y  | 2: Accept<br>3: Decline   |
|            | 1041      | FirmTradeID          | Y  | The ID assigned to a trade by the Firm to track a trade within the Firm system.   |
|            | 40        | OrdType              | Y  | OrderType possible values:<br>C: Committed<br>P: Basis Trade/Exchange for Security/Exchange of Future for Swap  |
|            | 555       | NoLegs               | C  | Number of legs<br>Required only for TradeReportType 856 = 2: Accept   |
| N<br>Times | 600       | LegSymbol            | Y  | Mandatory as the first Tag present for the Leg.<br>Indicates the instrument root Symbol   |
|            | 609       | LegSecurityType      | Y  | Indicates if Option (OPT) or a Future (FUT)   |
|            | 610       | LegMaturityMonthYear | Y  | Required for Options (LegSecurityType 609=OPT) and Futures(LegSecurityType 609=FUT)   |
|            | 612       | LegStrikePrice       | C  | Required for Options (LegSecurityType 609=OPT)  |
|            | 613       | LegOptAttribute      | C  | Corporate Action Marker   |
|            | 624       | LegSide              | Y  | 1: Buy<br>2: Sell   |
|            | 687       | LegQty               | Y  | Order quantity  |
|            | 16454     | LegMaturityDay       | C  | Required for Options (LegSecurityType 609=OPT) and Futures(LegSecurityType 609=FUT)<br><br>Can be used in conjunction with LegMaturityMonth-Year <610> to specify a particular maturity date. |
|            | 1358      | LegPutOrCall         | C  | Required for Options (LegSecurityType 609=OPT)  |
|            | 1194      | OptionStyle          | C  | Required for Options (LegSecurityType 609=OPT)<br>0: European<br>1: American  |
|            | 566       | LegPrice             | C  | Order Price<br>Required for messages coming from Participant when TradeReportType 856 = 2: Accept   |
|            | 37        | Order ID             | Y  | Required for all messages coming from Participant   |
|            | 1462      | TargetPartyID        | C  | Executing Firm ID. Required for messages coming from Participant when [TradeReportType 856 = 2: Accept].  |
|            | 577       | ClearingInstruction  | C  | Clearing instruction. Free text field (up to 12 chars).<br>Required for messages coming from Participant when TradeReportType 856 = 2: Accept   |
|            | 581       | CaptRptAccountType   | C  | Type of account<br>Required for messages coming from Participant when TradeReportType 856 = 2: Accept   |
| 77         | OpenClose | C                    | Open/Close<br><br>Required for messages coming from Participant when TradeReportType 856 = 2: Accept |   |
|            | 8001      | AccountProfile       | C  | Type of trader.   |

| Tag  | Field Name          | Req | Comments   |
|--|---------------------|-----|--|
|  |                     |     | H: Hedger<br>S: Speculator<br><br>Required for messages coming from Participant when TradeReportType 856 = 2: Accept                           |
| 9433   | TextExecutionReport | C   | Indicates the Refusal Reason when TradeReportType 856 = 3: Decline   |
| 852  | PublishTrdIndicator | N   | Transparency for the Flexible trade when TradeReportType 856 = 2: Accept<br><br>Y: Published<br>N: Unpublished                                 |
| 11   | ClOrderID           | C   | Must be unique for messages coming from Participant.<br><br>Required for messages coming from Participant when TradeReportType 856 = 2: Accept |
| 2593   | NoOrderAttribute    | Y   | Number of Order Attributes. It always must be set to 2.  |
| 2 Times the next 2 tag (One for Liquidity Provision, one for Algo Flag )                   |                     |     |  |
| 2594   | OrderAttributeType  | C   | Must contain one of the following values:<br>2: Liquidity Provision<br>4: Algo Flag  |
| 2595   | OrderAttributeValue | C   | It's always required in case OrderAttributeType [Tag 2594] is specified. It must contain one of the following values:<br>Y: Yes<br>N:No        |
| 453  | NoPartyID           | Y   | Must be set to 3   |
| 3 Times the next 3 tag (One for Client ID, one for Investor ID, one for Executing Trader ) |                     |     |  |
| 448  | PartyID             | C   | Refer to field Definition Tag 448 PartyID  |
| 452  | PartyRole           | C   | Role of the PartyID [Tag 448]. Must contain one of the following values:<br>3: Client ID<br>122: Investor ID<br>12: Executing Trader           |
| 2376   | PartyRoleQualifier  | O   | Refer to field Definition Tag 2376 PartyRoleQualifier  |
| 1724   | OrderOrigination    | O   | DEA Flag indicator. It must contain one of the following values:<br>5: Yes<br>0: No  |
| 406  | FairValue           | C   | Text for Physical Leg. It must be filled in case Tag 40 OrdType is P: Basis Trade/Exchange for Security/Exchange of Future for Swap            |
|  | Standard Trailer    | Y   |  |

## 5.4 D: NEW ORDER - SINGLE

| Tag  | Field Name        | Req | Comments  |
|------|-------------------|-----|---|
|      | Standard Header   | Y   | [MsgType 35=D]  |
| 11   | ClOrdID           | Y   | Unique identifier of the order as assigned by institution.  |
| 1    | Account           | N   | Account mnemonic as agreed between broker and institution.  |
| 167  | SecurityType      | Y   | Indicates if Option (OPT), a Future (FUT), or Strategy (STR).   |
| 55   | Symbol            | Y   | Mandatory   |
| 201  | PutOrCall         | C   | Mandatory for SecurityType 167=OPT: Option.   |
| 202  | StrikePrice       | C   | Mandatory for SecurityType 167=OPT: Option.   |
| 200  | MaturityMonthYear | C   | Mandatory for Option and Future.  |
| 205  | MaturityDay       | C   | Can be used in conjunction with MaturityMonthYear <200> to specify a particular maturity date. Mandatory when TAG [PutOrCall 201] = 2: Over or TAG [PutOrCall 201] = 3: Under.                          |
| 206  | OptAttribute      | C   | Indicates a corporate action  |
| 54   | Side              | Y   | Verb of order. Valid values:<br>1: Buy 2: Sell  |
| 60   | TransactTime      | N   | Time at which this order request was initiated/released by the trader or trading system.  |
| 38   | OrderQty          | Y   | Number of shares ordered.   |
| 40   | OrdType           | Y   | Please refer to Field Definitions   |
| 44   | Price             | C   | Required when [OrdType 40 = 2: Limit, 4: Stop Limit or C: Committed].   |
| 59   | TimeInForce       | N   | Absence of this field indicates Day order.  |
| 432  | ExpireDate        | C   | Conditionally required if [TimeInForce 59=6] (GTD)  |
| 58   | Text              | N   | Free format text string.  |
| 77   | OpenClose         | Y   | Please refer to Filed Definitions   |
| 47   | Rule80A           | Y   | Identify the type of account.   |
| 99   | StopPx            | C   | For Stop orders. Required when: <ul style="list-style-type: none"> <li>• Stop Order [OrdType = 4]</li> <li>• Stop Market Order [OrdType = 3]</li> <li>• Stop U.S. Market Order [OrdType = W]</li> </ul> |
| 110  | MinQty            | N   | Minimum quantity of an order to be executed.  |
| 210  | MaxShow           | N   | Maximum number of shares within an order to be shown to other customers   |
| 8001 | AccountProfile    | N   | Indicate the type of trader   |
| 337  | Contra Trader     | C   | Required if OrdType is C (Committed)<br>This tag is the opposite firm when entering a committed order   |

|  |                       |   |   |
|--|-----------------------|---|---|
| 5255   | StopPxCondition       | C | Required if Tag 99 (StopPx) is filled.<br>This tag specifies the type of stop orders  |
| 2593   | NoOrderAttribute      | Y | Number of Order Attributes. It always must be set to 2.   |
| The next 2 tag are present as many times as it is specified in NoOrderAttribute [Tag 2593] |                       |   |   |
| 2594   | OrderAttributeType    | C | Must contain one of the following values:<br>2: Liquidity Provision<br>4: Algo Flag   |
| 2595   | OrderAttributeValue   | Y | It's always required in case OrderAttributeType [Tag 2594] is specified. It must contain one of the following values:<br>Y: Yes<br>N:No |
| 453  | NoPartyID             | Y | Must be set to 3  |
| The next 3 tag are present as many times as it is specified in Tag 453 NoPartyID           |                       |   |   |
| 448  | PartyID               | C | Refer to field Definition Tag 448 PartyID   |
| 452  | PartyRole             | C | Role of the PartyID [Tag 448]. Must contain one of the following values:<br>3: Client ID<br>122: Investor ID<br>12: Executing Trader    |
| 2376   | PartyRoleQualifier    | O | Refer to field Definition Tag 2376 PartyRoleQualifier   |
| 1724   | OrderOrigination      | O | DEA Flag indicator. It must contain one of the following values:<br>5: Yes<br>0: No   |
| 406  | FairValue             | C | Text for Physical Leg   |
| 1390   | TradePublishIndicator | O | Deferral Preference indication. Refer to field description "TradePublishIndicator":<br>- 0: No Preference<br>- 2: Deferred              |
|  | Standard Trailer      | Y |   |

## 5.5 G: ORDER CANCEL/REPLACE REQUEST (ORDER MODIFICATION REQUEST)

All fields can be modified except; [OrigClOrdID 41], [Symbol 55], [SecurityType 167], [PutOrCall 201], [StrikePrice 202], [MaturityMonthYear 200], [MaturityDay 205], [OptAttribute 206], and [Side 54].

| Tag | Field Name      | Req | Comments   |
|-----|-----------------|-----|--|
|     | Standard Header | Y   | [MsgType 35=G]   |
| 37  | OrderID         | N   | Unique identifier of most recent order as assigned by the Exchange.  |
| 1   | Account         | N   | Account mnemonic as agreed between broker and institution.   |
| 41  | OrigClOrdID     | Y   | [ClOrdID 11] of the previous order (NOT the initial order of the day) when cancelling or replacing an order. |

|      |                   |   |   |
|------|-------------------|---|---|
| 11   | ClOrdID           | Y | Unique identifier of replacement order as assigned by institution. Note that this identifier will be used in [ClOrdID 11] field of the Cancel Reject message if the replacement request is rejected.    |
| 167  | SecurityType      | Y | Indicates if Option (OPT), a Future (FUT), or Strategy (STR).   |
| 55   | Symbol            | Y | Must match original order. Mandatory  |
| 201  | PutOrCall         | C | Must match original order. Mandatory for Option.  |
| 202  | StrikePrice       | C | Must match original order. Mandatory for Option.  |
| 200  | MaturityMonthYear | C | Must match original order.<br>Mandatory for [SecurityType 167 = OPT: Option] and [SecurityType 167 = FUT: Future].  |
| 205  | MaturityDay       | C | Used in conjunction with MaturityMonthYear <200> to specify a particular maturity date.   |
| 206  | OptAttribute      | C | Must match original order   |
| 54   | Side              | Y | Must match original verb of order. Valid values:<br>1: Buy<br>2: Sell   |
| 60   | TransactTime      | N | Time this order request was initiated/released by the trader or trading system.   |
| 38   | OrderQty          | Y | Represent the remaining active quantity.  |
| 40   | OrdType           | Y | Please refer to Field definitions   |
| 44   | Price             | C | Required when [OrderType 40=2 or 4].  |
| 59   | TimeInForce       | N | Absence of this field indicates Day order.  |
| 99   | StopPx            | C | For Stop orders. Required when: <ul style="list-style-type: none"> <li>• Stop Order [OrdType = 4]</li> <li>• Stop Market Order [OrdType = 3]</li> <li>• Stop U.S. Market Order [OrdType = W]</li> </ul> |
| 432  | ExpireDate        | C | Conditionally required if [TimeInForce 59=6] (GTD).   |
| 58   | Text              | N | Free format text string.  |
| 77   | OpenClose         | Y | Please refer to Field Definitions   |
| 47   | Rule80A           | Y | Identifies the type of account.   |
| 210  | MaxShow           | N | Maximum number of shares within an order to be shown to other customers   |
| 8001 | AccountProfile    | N | Indicate the type of trader   |
| 337  | Contra Trader     | C | Required if [OrdType 40 = C] (Committed)<br>This tag is the opposite firm when entering a committed order   |
| 5255 | StopPxCondition   | C | Required if Tag 99 (StopPx) is filled.<br>This tag specifies the type of stop orders  |
| 406  | FairValue         | C | Text for Physical Leg   |
|      | Standard Trailer  | Y |   |

## 5.6 F: ORDER CANCEL REQUEST

| Tag | Field Name | Req | Comments |
|-----|------------|-----|----------|
|-----|------------|-----|----------|

|     |                   |   |  |
|-----|-------------------|---|--|
|     | Standard Header   | Y | [MsgType 35=F]   |
| 41  | OrigClOrdID       | Y | [ClOrdID 11] of the previous order (NOT the initial order of the day) when cancelling or replacing an order. |
| 37  | OrderID           | N | Unique identifier of most recent order as assigned by the Exchange.  |
| 11  | ClOrdID           | Y | Unique ID of cancel request as assigned by the institution.  |
| 38  | OrderQty          | N | Number of shares ordered.  |
| 167 | SecurityType      | Y | Indicates if Option (OPT), a Future (FUT), or Strategy (STR).  |
| 55  | Symbol            | Y | Must match original order.   |
| 201 | PutOrCall         | C | Must match original order. Mandatory for Option.   |
| 202 | StrikePrice       | C | Must match original order. Mandatory for Option.   |
| 200 | MaturityMonthYear | C | Must match original order. Mandatory for Option and future.  |
| 205 | MaturityDay       | C | Used in conjunction with MaturityMonthYear <200> to specify a particular maturity date.                      |
| 206 | OptAttribute      | C | Indicates a corporate action   |
| 54  | Side              | Y | Verb of order. Valid values:<br>1: Buy 2: Sell   |
| 60  | TransactTime      | N | Time this order request was initiated/released by the trader or trading system.                              |
| 58  | Text              | N | Free format text string  |
|     | Standard Trailer  | Y |  |

## 5.7 R: QUOTE REQUEST

This message is used to broadcast a request for a quote on a particular instrument. The request is broadcasted on the HSVF Market Data feed.

| Tag | Field Name        | Req | Comments   |
|-----|-------------------|-----|--|
|     | Standard Header   | Y   | [MsgType 35=R]   |
| 131 | QuoteReqID        | N   | Unique identifier for quote request.   |
| 146 | NoRelatedSym      | N   | If provided, must be set to 1.   |
| 167 | SecurityType      | Y   | Indicates if Option (OPT), a Future (FUT), or Strategy (STR).  |
| 55  | Symbol            | Y   | Class root symbol for options or strategy symbol.  |
| 201 | PutOrCall         | C   | Mandatory for Option.  |
| 202 | StrikePrice       | C   | Mandatory for Option.  |
| 200 | MaturityMonthYear | C   | Mandatory for [SecurityType 167 = OPT: Option] and [SecurityType 167 = FUT: Future].   |
| 205 | MaturityDay       | C   | Used in conjunction with MaturityMonthYear <200> to specify a particular maturity date.<br>Mandatory when TAG [PutOrCall 201] = 2: Over or TAG [PutOrCall 201] = 3: Under. |

|     |                  |   |                              |
|-----|------------------|---|------------------------------|
| 206 | OptAttribute     | C | Indicates a corporate action |
| 38  | OrderQty         | N | Number of shares ordered.    |
|     | Standard Trailer | Y |                              |

## 5.8 B: QUOTE ACKNOWLEDGEMENT

| Tag | Field Name        | Comments   |
|-----|-------------------|--|
|     | Standard Header   | [MsgType 35=b]   |
| 131 | QuoteReqID        | Unique identifier for quote request.                                     |
| 297 | QuoteAckStatus    | Status of the quote acknowledgement.<br><br>0 = Accepted<br>5 = Rejected |
| 300 | QuoteRejectReason | Reason Quote was rejected.   |
|     | Standard Trailer  |  |

## 5.9 C: SECURITY DEFINITION REQUEST

This transaction can be used to:

- Request the creation of a New Instrument Series: either a Strategy or a Flexible Series (Option/Future).
- Query a list of all securities in the Exchange

|  | Tag | Field Name          | Req | Comments   |
|--|-----|---------------------|-----|--|
|  |     | Standard Header     | Y   | [MsgType 35=c]   |
|  | 320 | SecurityReqID       | N   | Id for the security definition request   |
|  | 321 | SecurityRequestType | Y   | 1: Request New Instrument Series<br>2: Request List Security Types   |
|  | 167 | SecurityType        | C   | Only provided when [SecurityRequestType 321=1].<br><br>STR : Strategy<br>OPT: Option<br>FUT: Future  |
|  | 146 | NoRelatedSym        | C   | Only provided when [SecurityRequestType 321=1].<br><br>From 2 to 4 when SecurityType 167=STR: Strategy (Number of legs that make up the instrument)<br>1 when SecurityType 167=OPT: Option or SecurityType 167=FUT: Future |
|  | 54  | Side                | C   | Defined as follows:<br>1 : Buy<br>2 : Sell   |

|                      |      |                             |   |  |
|----------------------|------|-----------------------------|---|--|
| N Times <sup>1</sup> | 311  | UnderlyingSymbol            | C | Underlying Symbol  |
|                      | 310  | UnderlyingSecurityType      | C | Security Type (required when SecurityType 167=STR: Strategy)<br>OPT: Option<br>FUT: Future |
|                      | 313  | UnderlyingMaturityMonthYear | C | Strategy Leg Maturity Date   |
|                      | 314  | UnderlyingMaturityDay       | C | Strategy Leg Maturity Day  |
|                      | 315  | UnderlyingPutOrCall         | C | Strategy Leg Put or Call   |
|                      | 316  | Underlying Strike Price     | C | Strategy Leg Strike Price mandatory for options  |
|                      | 317  | UnderlyingOptAttribute      | C | Required if there is a corporate action on that leg  |
|                      | 319  | RatioQty                    | C | Ratio of the Strategy Leg (when [SecurityType 167 = STR] only)                             |
|                      | 1194 | OptionStyle                 | N | Default value is derived from Underlying<br>0: European<br>1: American.                    |
|                      |      | Standard Trailer            | Y |  |

## 5.10 D: SECURITY DEFINITION

The Security Definition message is the acknowledgement of a Security Definition Request message.

| Tag | Field Name          | Req | Comments   |
|-----|---------------------|-----|--|
|     | Standard Header     | Y   | [MsgType 35=d]   |
| 320 | SecurityReqID       | Y   | Unique ID of a Security Definition Request.  |
| 322 | SecurityResponseID  | C   | Unique ID of a Security Definition Message. Only present if [SecurityRequestType 321=2] in the Security Definition Request.  |
| 323 | SecurityRequestType | C   | Only present if [SecurityRequestType 321=1] in the Security Definition Request.<br>1: Accept security proposal as is<br>2: Accept security proposal with revisions as indicated in the message<br>3: Standard Already exists<br>4: Already exists<br>5: Reject security proposal |
| 48  | SecurityID          | C   | Security identifier value for [SecurityType 167 = STR]   |

<sup>1</sup> N Times (NoRelatedSym). The following fields are only provided when [SecurityRequestType 321=1].



| Tag                  | Field Name        |                             | Req | Comments   |
|----------------------|-------------------|-----------------------------|-----|--|
| 55                   | Symbol            |                             | Y   | Class root symbol for options or strategy symbol dependent on value of SecurityType.<br><br>For Options/Futures: A Class Root Symbol (1-6 characters)<br><br>For Strategies: External Symbol (30 character string) |
| 167                  | SecurityType      |                             | Y   | Indicates if Option (OPT), a Future (FUT), or Strategy (STR).  |
| 200                  | MaturityMonthYear |                             | C   | Provided for Options and Futures only, when SecurityType 167 = OPT: Option or FUT: Future  |
| 205                  | MaturityDay       |                             | C   | Provided for Options and Futures only, when SecurityType 167 = OPT: Option or FUT: Future  |
| 206                  | OptAttribute      |                             | C   | Indicates a corporate action   |
| 201                  | PutOrCall         |                             | C   | Provided for Options only, when SecurityType 167=OPT: Option   |
| 202                  | StrikePrice       |                             | C   | Provided for Options only, when SecurityType 167=OPT: Option   |
| 1194                 | OptionStyle       |                             | N   | For Options only. Default value is derived from Underlying<br>0: European<br>1: American.  |
| 146                  | NoRelatedSym      |                             | Y   | From 2 to 40.<br>Number of legs that make up the instrument. Provided only when SecurityType 167=STR: Strategy   |
| N Times <sup>2</sup> | 54                | Side                        | Y   | 1: Buy<br>2: Sell  |
|                      | 311               | UnderlyingSymbol            | Y   | Strategy Leg Symbol.<br>See [Symbol 55] field for description.   |
|                      | 310               | UnderlyingSecurityType      | Y   | Strategy Leg SecurityType. See [SecurityType 167] field for description.   |
|                      | 313               | UnderlyingMaturityMonthYear | Y   | Strategy Leg Maturity month and year. See [MaturityMonthYear 200] field for description.   |
|                      | 314               | UnderlyingMaturityDay       | Y   | Strategy Maturity day<br>See [MaturityDay205] field for description.   |
|                      | 315               | UnderlyingPutOrCall         | C   | Strategy Leg PutOrCall.<br>See [PutOrCall 201] field for description   |

<sup>2</sup> The following fields are only provided only when [SecurityType 167=STR].

| Tag | Field Name       | Req                    | Comments |  |
|-----|------------------|------------------------|----------|--|
|     | 316              | UnrlyingStrikePrice    | C        | Strategy Leg strike price.<br>See [StrikePrice 202] field for description.               |
|     | 317              | UnderlyingOptAttribute | C        | Strategy Leg corporate action indicator<br>See [OptAttribute 206] field for description. |
|     | 319              | RatioQty               | Y        | Strategy Leg Ratio to determine valid quantity. Should not contain decimals.             |
|     | Standard Trailer |                        | Y        |  |

## 5.11 J:BUSINESS REJECT

Business reject [MsgType 35=j] is returned following a rejected Security Definition request [MsgType 35=c].

| Tag  | Field Name           | Req | Comments  |
|------|----------------------|-----|---|
|      | Standard Header      | Y   | [MsgType 35=j]  |
| 1041 | FirmTradeID          | C   | The ID assigned to a trade by the Firm to track a trade within the Firm system. Required in messages coming from Participant.   |
| 58   | Text                 | Y   | Free-form text to explain the reason for rejection.   |
| 372  | RefMsgType           | Y   | The MsgType of the FIX message being referenced – This should be 'c' when strategy instrument cannot be created.  |
| 379  | BusinessRejectRefID  | C   | [SecurityReqID 320] from the submitted Security Definition request.   |
| 380  | BusinessRejectReason | Y   | Code to identify reason for reject:<br><br>0: Other<br>1: Unknown ID<br>2: Unknown Security (default value)<br>3: Unsupported Message Type<br>4: Application not available<br>5: Conditionally Required Field Missing |
|      | Standard Trailer     | Y   |   |

## 5.12 S: NEW ORDER CROSS

This message is used to enter a cross order.

| Tag | Field Name        | Req | Comments                        |
|-----|-------------------|-----|---------------------------------|
|     | Standard Header   | Y   | [MsgType 35=s]                  |
| 167 | SecurityType      | Y   | STR = Strategy                  |
| 55  | Symbol            | Y   | Mandatory                       |
| 201 | PutOrCall         | C   | Mandatory for Option            |
| 202 | StrikePrice       | C   | Mandatory for Option            |
| 200 | MaturityMonthYear | C   | Mandatory for Option and Future |

|  |      |                     |   |   |
|--|------|---------------------|---|---|
|  | 205  | MaturityDay         | C | Mandatory for Equity Options  |
|  | 206  | CorporateAction     | C | Required if there is a corporate action   |
|  | 38   | OrderQty            | Y | Mandatory   |
|  | 44   | Price               | Y | Mandatory   |
|  | 40   | OrdType             | Y | OrderType possible values:<br>C: Committed<br>P: Basis Trade/Exchange for Security/Exchange of Future for Swap                          |
|  | 552  | NoSides             | N | 2 : Two Sided   |
| 2 Times  | 54   | Side                | Y | Must be the first tag after NoSides [Tag 552]<br>Verb of order. Valid values:<br>1: Buy<br>2 : Sell                                     |
|  | 11   | ClOrdID             | Y | Unique identifier of the side (specified in Tag 54 above) as assigned by the institution  |
|  | 1    | Account             | Y | Account mnemonic as agreed between broker and institution.  |
|  | 8001 | AccountProfile      | N | H: Hedger<br>S: Speculator  |
|  | 77   | OpenClose           | Y | O : Open<br>C : Closed  |
|  | 58   | Text                | N |   |
|  | 47   | Rule80A             | Y |   |
|  | 2593 | NoOrderAttribute    | Y | Number of Order Attributes. It always must be set to 2.   |
| The next 2 tag are present as many times as it is specified in NoOrderAttribute [Tag 2593] |      |                     |   |   |
|  | 2594 | OrderAttributeType  | Y | Must contain one of the following values:<br>2: Liquidity Provision<br>4: Algo Flag   |
|  | 2595 | OrderAttributeValue | Y | It's always required in case OrderAttributeType [Tag 2594] is specified. It must contain one of the following values:<br>Y: Yes<br>N:No |
|  | 453  | NoPartyID           | Y | Must be set to 3  |
| The next 3 tag are present as many times as it is specified in Tag 453 NoPartyID           |      |                     |   |   |
|  | 448  | PartyID             | C | Refer to field Definition Tag 448 PartyID   |
|  | 452  | PartyRole           | C | Role of the PartyID [Tag 448]. Must contain one of the following values:<br>3: Client ID<br>122: Investor ID<br>12: Executing Trader    |
|  | 2376 | PartyRoleQualifier  | O | Refer to field Definition Tag 2376 PartyRoleQualifier   |
|  | 1724 | OrderOrigination    | O | DEA Flag indicator. It must contain one of the following values:<br>5: Yes<br>0: No   |
|  | 406  | FairValue           | Y | Text for Physical Leg   |

|  |      |                       |   |  |
|--|------|-----------------------|---|--|
|  | 1390 | TradePublishIndicator | O | Deferral Preference indication. Refer to field description "TradePublishIndicator":<br>- 0: No Preference<br>- 2: Deferred |
|  |      | Standard Trailer      | Y |  |

## 5.13 8: EXECUTION REPORT

Execution Report can be generated for the following:

- An order gets traded
- A trade is cancelled by the Exchange on behalf of a participant
- An order gets eliminated
- An order gets expired
- A 'New Order - Single' confirmation
- An 'Order Cancel/Replace Request' confirmation or Updated Order Notification due to SEP
- An 'Order Cancel Request' confirmation
- In response to an 'Order Mass Status Request'
- An order gets Eliminated by Self Execution Prevention (SEP)
- An order/quote obtains the Best Price Setter (BPS) status (unsolicited notification)

| Tag | Field Name      | Req | Comments   |
|-----|-----------------|-----|--|
|     | Standard Header | Y   | [MsgType 35=8]   |
| 37  | OrderID         | N   | Required to be unique for each chain of orders. Is set to "NONE" if in response to a New Order Single being rejected.  |
| 11  | ClOrdID         | Y   | If provided in the original New Order, Cancel Request, or Order Cancel/Replace.  |
| 41  | OrigClOrdID     | C   | Conditionally required for response to a Cancel or Cancel/Replace request [ExecType 150=Replaced or Cancelled]. [ClOrdID 11] of the previous order (NOT the initial order of the day) when cancelling or replacing an order. Not provided when [ExecTransType 20=1]. |
| 1   | Account         | N   | Used for firm identification.<br>If provided in the original order.  |
| 17  | ExecID          | Y   | Unique for each Execution Report message. It will be 0 (zero) for [ExecTransType 20 = 3: Status]   |
| 20  | ExecTransType   | Y   | See table below for possible values.   |

|     |                       |   |   |
|-----|-----------------------|---|---|
| 19  | ExecRefID             | C | Reference identifier used with Cancel transaction types.<br>Provided when [ExecTransType 20=1]  |
| 150 | ExecType              | Y | Describes the type of execution report.<br>See table below for possible values.<br>0: New<br>1: Partial fill<br>2: Fill<br>4: Cancelled<br>5: Replaced<br>8: Rejected       |
| 103 | OrdRejReason          | C | May be provided only when [ExecType 150=8] (rejected).  |
| 39  | OrdStatus             | Y | Describes the current state of a CHAIN of orders, same scope as OrderQty, [CumQty 14], [LeavesQty 151], and [AvgPx 6].<br>See table below for possible values.              |
| 38  | OrderQty              | C | Quantity of the order (as opposed to [LastShares 32] which refer to the fill).  |
| 44  | Price                 | C | Price of the order (as opposed to [LastPx 31] which refer to the fill). If provided in the original order.  |
| 167 | SecurityType          | Y | Indicates if Option (OPT), a Future (FUT), or Strategy (STR).   |
| 55  | Symbol                | Y | Class root symbol for options or strategy symbol.   |
| 201 | PutOrCall             | C | For Options only.   |
| 202 | StrikePrice           | C | For Options only.   |
| 200 | MaturityMonthYear     | C | For Options and futures only.   |
| 205 | MaturityDay           | C | Used in conjunction with MaturityMonthYear <200> to specify a particular maturity date.<br>Always present when subscribing <b>FIX Drop Copy</b> .                           |
| 206 | OptAttribute          | C | Indicates a corporate action  |
| 210 | MaxShow               | N | Maximum number of shares within an order to be shown to other customers   |
| 54  | Side                  | Y | Buy or Sell<br>1: Buy<br>2: Sell  |
| 40  | OrdType               | C | Please refer to Field Definitions.  |
| 59  | TimInForce            | N | Absence of this field indicates Day order   |
| 432 | ExpireDate            | C | Provided when [TimInForce 59=6] (GTD)   |
| 32  | LastShares            | N | Quantity of shares bought/sold on this (last) fill.   |
| 31  | LastPx                | N | Price of this (last) fill.  |
| 151 | LeavesQty             | N | Amount of shares open for further execution. If the [OrdStatus 39=4] (Cancelled), then [LeavesQty 151] could be 0, otherwise [LeavesQty 151] = [OrderQty 38] - [CumQty 14]. |
| 14  | CumQty                | N | Currently executed shares for chain of orders.  |
| 6   | AvgPx                 | N | Calculated average price of all fills on this order.  |
| 60  | TransactTime          | N | Time of execution/order creation, expressed in UTC.   |
| 77  | OpenClose             | N | Please refer to Field Definitions.  |
| 442 | MultipleReportingType | N | Indicates the type of instrument the Execution Report   |

|  |                              |   |  |
|--|------------------------------|---|--|
|  |                              |   | refers to. Used with multi-leg securities such as, Options Strategies, Spreads, etc.   |
| 10455  | SecurityAltID                | N | Indicates the Strategy Instrument in Execution Report Message sent for the Strategy.<br>Send only when MultipleReportingType 442 = 2<br>Example: If 35 = 8 and 442 = 2, then 10455 = Symbol of the Strategy. |
| 527  | SecondaryExecID              | C | Use to refer to the Strategy Exec ID.<br>Send only when MultipleReportingType 442 = 2<br>Example: If 35 = 8 and 442 = 2, then 527 = ExecID of the Strategy.  |
| 198  | SecondaryOrderID             | C | Used to provide the OrderID (37) used by an exchange or executing system. Provided only when [ExecTransType 20 = 1].   |
| 58   | Text                         | N | If provided in the original order.<br>When [ExecType 150=8] (rejected), contains the text associated with the reason of the rejection.   |
| 47   | Rule80A                      | N | Identifies the type of account.  |
| 8001   | AccountProfile               | N | Indicate the type of trader  |
| 382  | NoContraBrokers              | N | Number of ContraBrokers repeating group instances. Always appear before tag [ContraBroker 375].  |
| 375  | ContraBroker                 | N | Exchange number of the firm on the opposite side of the trade. Value will be equal to the receiver's Exchange number when reporting cross/committed trades and self executions.                              |
| 584  | MassStatusReqID <sup>3</sup> | C | Required if responding to a Order Mass Status Request. Echo back the value provided by the requester.  |
| 337  | Contra Trader                | N | Returned when tag is sent for a Committed Order  |
| 5255   | StopPxCondition              | N | Returned when tag is sent for a Stop Order   |
| 99   | StopPx                       | C | For Stop orders. Required when: <ul style="list-style-type: none"> <li>• Stop Order [OrdType = 4]</li> <li>• Stop Market Order [OrdType = 3]</li> <li>• Stop U.S. Market Order [OrdType = W]</li> </ul>      |
| 9459   | SpecialTradeInd              | N | Returned for a trade message   |
| 84   | CxlQty                       | N | Quantity removed by Self Execution Prevention (SEP)  |
| 16455  | BestPriceSetter              | N | Returned when tag is sent for a BPS notification   |
| 110  | MinQty                       | N | Minimum quantity of an order to be executed.   |
| 583  | ClOrdLinkID                  | C | Present in FIX Drop Copy protocol only to indicate the SenderCompID of the originating participant connection  |
| 2593   | NoOrderAttribute             | Y | Number of Order Attributes. It always must be set to 2.  |
| The next 2 tag are present as many times as it is specified in NoOrderAttribute [Tag 2593] |                              |   |  |
| 2594   | OrderAttributeType           | C | Must contain one of the following values:<br>2: Liquidity Provision<br>4: Algo Flag  |

<sup>3</sup> Taken from FIX 4.4

|   |                           |   |   |
|---|---------------------------|---|---|
| 2595  | OrderAttributeValue       | C | It's always required in case OrderAttributeType [Tag 2594] is specified. It must contain one of the following values:<br>Y: Yes<br>N:No                           |
| 453   | NoPartyID                 | Y | Must be set to 3  |
| The next 3 tag are present as many times as it is specified in Tag 453 NoPartyID              |                           |   |   |
| 448   | PartyID                   | C | Refer to field Definition Tag 448 PartyID   |
| 452   | PartyRole                 | C | Role of the PartyID [Tag 448]. Must contain one of the following values:<br>3: Client ID<br>122: Investor ID<br>12: Executing Trader                              |
| 2376  | PartyRoleQualifier        | O | Refer to field Definition Tag 2376 PartyRoleQualifier   |
| 1724  | OrderOrigination          | O | DEA Flag indicator. It must contain one of the following values:<br>5: Yes<br>0: No   |
| 487   | CancellationAndAmendments | Y | Must contain one of the following values:<br>1: Cancel<br>2: Amend  |
| 2668  | NoTrdRegPublications      | C | Number of RegPublication.   |
| The next 2 tags are present as many times as it is specified in Tag 2668 NoTrdRegPublications |                           |   |   |
| 2669  | TrdRegPublicationType     | C | It must be set to 0   |
| 2670  | TrdRegPublicationReason   | C | Must contain one of the following values:<br>4: Illiquid (ILQD)<br>5: Above size (SIZE)<br>6: Large in scale (LRGS)<br>7: Illiquid (ILQD)<br>8: Above size (SIZE) |
| 406   | FairValue                 | C | Text for Physical Leg   |
| 381   | GrossTrdAmt               | Y | Only present when in <b>FIX Drop Copy</b><br>Total amount traded expressed in units of currency.<br>(i.e. quantity * price * contract size)                       |
| 1057  | AgressorIndicator         | Y | Only present when in <b>FIX Drop Copy</b>   |
| 57  | TargetSubID               | Y | Assigned value used to identify specific trader intended to receive message.  |
| 1390  | TradePublishIndicator     | C | Deferral Preference indication. Refer to field description "TradePublishIndicator":<br>- 1: Immediate<br>- 2: Deferred  |

|     |                            |   |  |
|-----|----------------------------|---|--|
| 914 | TradeAdditionalTradeReason | C | <p>It must contain one of the following values:</p> <ul style="list-style-type: none"> <li>- 01: Trade details will be published immediately - Trade details do not permit deferred publication</li> <li>- 02: Trade details will be published immediately - All counterparties stated no preference</li> </ul> <p>03: Trade details will be published at the end of the day - At least one counterparty required deferred publication</p> |
|     | Standard Trailer           |   |  |

The following table defines the use of fields, [ExecType 150], [OrdStatus 39], [ExecTransType 20] according to the action performed on an Order or a Trade (Fill).

| Action  | [ExecType 150]             | [OrdStatus 39]                 | [ExecTransType20] |
|---|----------------------------|--------------------------------|-------------------|
| New Order accepted and put on book  | 0 = New                    | 0 = New                        | 0 = New           |
| <p>Stop Order is inserted with TAG [OrdType 40]:</p> <ul style="list-style-type: none"> <li>• 3: Stop Market</li> <li>• 4: Stop Limit</li> <li>• W: Stop U.S. Market</li> </ul> <p>When the Stop is triggered and transformed into a regular order, the [OrdType 40] is changed to:</p> <ul style="list-style-type: none"> <li>• 1: Market Order</li> <li>• 2: Limit</li> <li>• V: U.S. Market Order</li> </ul> | 0: New                     | 0: New                         | 0: New            |
| Order Traded  | 1: Partial fill<br>2: Fill | 1: Partial filled<br>2: Filled | 0: New            |



|   |                            |   |                     |
|---|----------------------------|---|---------------------|
| Order Eliminated for one of the following reasons:<br><ul style="list-style-type: none"> <li>because of an update on the instrument</li> <li>an Immediate or Cancel order is not filled or partially filled</li> <li>a MinQty order that cannot be filled immediately for the minimum specified quantity when it is received by the Exchange</li> </ul> | 4: Cancelled               | 4: Cancelled  | 0: New              |
| Order Eliminated by Market Control:<br><ul style="list-style-type: none"> <li>by the Exchange</li> <li>by the Risk Manager</li> <li>by the General Clearing Member (GCM)</li> </ul>   | 4: Cancelled               | M: Eliminated by Market Control   | 0: New              |
| Order Eliminated by Self Execution Prevention and [Leaves Quantity 151] = 0   | 4: Cancelled               | Z: Eliminated by SEP  | 0: New<br>3: Status |
| While Connected orders cancelled on disconnection   | 4: Cancelled               | I: Eliminated on Disconnect   | 0: New<br>3: Status |
| Order price is outside the instrument series' thresholds  | 4: Cancelled               | F: Eliminated out of Limits<br>G: Eliminated by Circuit Breaker               | 0: New              |
| A Trade Report has been placed in a Strategy, which legs are unpriced (no trade nor book is present)  | 4: Cancelled               | U: Eliminated due to Unpriced Leg   | 0: New              |
| Order Eliminated due to Pre-Trade Validations   | 4: Cancelled               | T: Eliminated Due To Risk Limit Exceeded                                      | 0: New              |
| Order Rejected due to Pre-Trade Validations at Entry  | 8: Rejected                | 8: Rejected   | 0: New              |
| Order Cancelled/Replaced and put in the book  | 5: Replaced                | 5: Replaced   | 0: New              |
| Order Cancelled/Replaced and put in the book on a partially filled order  | 5: Replaced                | 1: Partial filled   | 0: New              |
| Order Expired   | C: Expired                 | C: Expired  | 0: New              |
| Trade Killed (Busted)   | 1: Partial fill<br>2: Fill | The current status of the order.<br>0: New<br>1: Partial fill<br>4: Cancelled | 1: Cancel           |

|  |   |   |           |
|--|---|---|-----------|
| Notification of order's Best Price Setter status<br>(Not available in FIX Drop Copy)                   | The current status of the order.<br>0: New<br>1: Partial fill<br>5: Replaced            | The current status of the order.<br>0: New<br>1: Partial fill<br>5: Replaced            | 3: Status |
| Response to an Order Mass Status Request message [MsgType 35 = AF]<br>(Not available in FIX Drop Copy) | The current status of the order.<br>0: New<br>1: Partial fill<br>2: Fill<br>5: Replaced | The current status of the order.<br>0: New<br>1: Partial fill<br>2: Fill<br>5: Replaced | 3: Status |
| New Order already received with [PossResend 97 = Y]<br>(Not available in FIX Drop Copy)                | According to the status of the order at that time                                       | According to the status of the order at that time                                       | 3: Status |

#### 5.14 9: ORDER CANCEL REJECT

| Tag | Field Name       | Comments  |
|-----|------------------|---|
|     | Standard Header  | [MsgType 35=9]  |
| 37  | OrderID          | If the order is unknown the OrderID (37) will equal 'NONE', otherwise the OrderID (37) will be populated with the OrderID (37) of the order referenced in the Cancel or Cancel Replace message. |
| 11  | ClOrdID          | Unique order ID assigned by institution to the cancel request or to the replacement order.  |
| 41  | OrigClOrdID      | [ClOrdID 11] which could not be cancelled/replaced. [ClOrdID 11] of the previous order (NOT the initial order of the day) when cancelling or replacing an order.                                |
| 39  | OrdStatus        | Value after this cancel reject is applied.  |
| 434 | CxlRejResponseTo | Identifies the type of request that a Cancel Reject is in response to.  |
| 58  | Text             | Contains the reason why the Cancel/Replace message has been rejected.   |
|     | Standard Trailer |   |

## 6 FIELD DEFINITIONS

| Field # | Field Name    | Description   | Field Length |
|---------|---------------|---|--------------|
| 1       | Account       | Account mnemonic as agreed between broker and institution.<br>Valued with "NoAccNum" when subscribing Drop Copy protocol in case the field was not provided by the Participant.   | 1 to 12      |
| 6       | AvgPx         | Calculated average price of all fills on this order.  | 1 to 9       |
| 7       | BeginSeqNo    | Message sequence number of first message in range to be resent  | 1 to 9       |
| 8       | BeginString   | Identifies beginning of new message and protocol version.<br>ALWAYS FIRST FIELD IN MESSAGE. Valid values: FIX.4.2   | 7            |
| 9       | BodyLength    | Message length, in bytes, forward to the [Checksum 10] field. ALWAYS SECOND FIELD IN MESSAGE.   | 2 to 4       |
| 10      | Checksum      | Three bytes, simple checksum (see FIX v4.2 document for description). ALWAYS LAST FIELD IN MESSAGE; i.e. serves, with the trailing <SOH>, as the end-of-message delimiter. Always defined as three characters.                                    | 3            |
| 11      | ClOrdID       | Unique identifier for Order as assigned by institution.<br>Uniqueness must be guaranteed within a single trading day.<br>Firms which submit multi-day orders should consider embedding a date within this field to assure uniqueness across days. | 1 to 24      |
| 14      | CumQty        | Total number of shares filled.  | 1 to 9       |
| 16      | EndSeqNo      | Message sequence number of last message in range to be resent. If request is for a single message [BeginSeqNo 7 = EndSeqNo 16]. If request is for all messages subsequent to a particular message, [EndSeqNo 16=0].                               | 1 to 9       |
| 17      | ExecID        | Unique identifier of execution message as assigned by broker (will be 0 (zero) for [ExecTransType 20=3] (Status)).  | 10 to 20     |
| 19      | ExecRefID     | Reference identifier used with Cancel transaction types.  | 10 to 20     |
| 20      | ExecTransType | Identifies transaction type. Valid values:<br>0 = New<br>1 = Cancel<br>3 = Status   | 1            |
| 31      | LastPx        | Price of this (last) fill.  | 1 to 9       |
| 32      | LastShares    | Quantity of shares bought/sold on this (last) fill  | 1 to 9       |
| 34      | MsgSeqNum     | Message sequence number.  | 1 to 9       |

| Field # | Field Name | Description   | Field Length |
|---------|------------|---|--------------|
| 35      | MsgType    | <p>Defines message type.<br/>ALWAYS THIRD FIELD IN MESSAGE<br/>Valid values:</p> <p>0: Heartbeat<br/>1: Test Request<br/>2: Resend Request<br/>3: Reject<br/>4: Sequence Reset<br/>5: Logout<br/>8: Execution Report<br/>9: Order Cancel Reject<br/>A: Logon<br/>AE: Trade Capture Report<br/>AF: Order Mass Status Request<br/>AR: Trade Capture Report Acknowledgment<br/>D: New Order - Single<br/>F: Order Cancel Request<br/>G: Order Cancel/Replace Request<br/>R: Quote Request<br/>b: Quote Acknowledgement<br/>c: Security Definition Request<br/>d: Security Definition<br/>j: Business Reject<br/>s: New Order Cross</p> | 2            |
| 36      | NewSeqNo   | New sequence number   | 1 to 9       |
| 37      | OrderID    | Unique identifier for Order as assigned by the Exchange   | 10 to 20     |
| 38      | OrderQty   | Number of shares ordered.   | 1 to 9       |
| 39      | OrdStatus  | <p>Identifies current status of order.<br/>Valid values:</p> <p>0 = New<br/>1 = Partially filled<br/>2 = Filled<br/>4 = Cancelled<br/>5 = Replaced<br/>8 = Rejected<br/>C = Expired<br/>F = EliminatedOutOfLimits<br/>G = EliminatedByCircuitBreaker<br/>M = EliminatedByMarketControl<br/>I = EliminatedOnDisconnect<br/>R: Eliminated due to Risk Master Switch<br/>T: Eliminated due to Risk Limit Exceeded<br/>U = EliminatedDueToUnpricedLeg<br/>Z = Eliminated by Self Execution Prevention (SEP)</p>   | 1            |

| Field # | Field Name   | Description   | Field Length       |
|---------|--------------|---|--------------------|
| 40      | OrdType      | Indicates the Price Type of the order.<br>Must contain one of the following values for regular orders:<br><br>1: Market Order: Top of book order (only executes against best opposite side offer)<br>2: Limit<br>3: Stop Market (top of book)<br>4: Stop Limit<br>C: Committed<br>V: U.S. Market Order (executes against different levels of the book)<br>W = Stop U.S. Market<br>P: Basis Trade/Exchange for Security/Exchange of Future for Swapl | 1                  |
| 41      | OrigCLOrdID  | [CLOrdID 11] of the previous order (NOT the initial order of the day) as assigned by the institution, used to identify the previous order in cancel and cancel/replace requests   | 1 to 20            |
| 43      | PossDupFlag  | Indicates possible retransmission of message with this sequence number<br><br>Valid values:<br><br>Y = Possible duplicate<br>N = Original transmission  | 1                  |
| 44      | Price        | Price per contract.   | 1 to 9             |
| 45      | RefSeqNum    | Reference message sequence number   | 1 to 9             |
| 47      | Rule80A      | Identify the type of account.<br><br>Valid values:<br><br>N = Non-Segregated Client<br>P = Market Maker<br>F = House<br>C = Client<br>M: Matched Principal  | 1                  |
| 48      | SecurityID   | Security identifier value   | 12                 |
| 49      | SenderCompID | Assigned value used to identify the sender in a FIX session   | 4 to 8             |
| 50      | SenderSubID  | Assigned value used to identify specific message originator (desk, trader, etc.).<br>Participant can have this tag configured on the Exchange Participant database to enable them to use a single FIX session to send orders for different Traders/Users.   | Up to 8 characters |
| 52      | SendingTime  | Time of message transmission (always expressed in UTC)<br>YYYYMMDD-HH:MM:SS.mmmsss  | 17 to 24           |
| 54      | Side         | Side of order<br><br>Valid values:  | 1                  |

| Field # | Field Name   | Description   | Field Length  |
|---------|--------------|---|---|
|         |              | 1 = Buy<br>2 = Sell   |   |
| 55      | Symbol       | Class root symbol for options or strategy symbol  | 1 to 30   |
| 56      | TargetCompID | Assigned value used to identify the receiver in a FIX session.  | 4 to 8  |
| 57      | TargetSubID  | Assigned value used to identify specific trader intended to receive message. Identifies the Trader ID in SAIL:<br>4 first characters : Firm Identifier<br>4 Last characters: Trader Identifier  | Up to 8 characters  |
| 58      | Text         | Free format text string.<br>If provided in the original order.<br>When [ExecType 150=8] (rejected), contains the text associated with the reason of the rejection.  | 1 to 26<br>1 to 80<br>when<br>[ExecType<br>150=8]<br>(rejected) |
| 59      | TimelnForce  | Specifies how long the order remains in effect.<br>Absence of this field is interpreted a DAY.<br>Valid values:<br>0 = Day<br>1 = Good Till Cancel (GTC)<br>3 = Immediate or Cancel (IOC)<br>6 = Good Till Date<br>W = WhileConnected | 1   |
| 60      | TransactTime | Time of execution/order creation, expressed in UTC<br>YYYYMMDD-HH:MM:SS.mmmsss  | 17 to 24  |

| Field # | Field Name    | Description  | Field Length |
|---------|---------------|--|--------------|
| 77      | OpenClose     | <p>This data field indicates how the participant's position will be handled by the clearing system. Must contain one of the following values:</p> <p>Any number of Legs or Single Security:<br/> O: All Legs are open or single security<br/> C: All Legs are closed or single security</p> <p>2 Legged Strategy:<br/> 1: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Close<br/> 2: 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Open</p> <p>3 Legged Strategy:<br/> 3: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Close<br/> 4: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Open<br/> 5: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Close<br/> 6: 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Open<br/> 7: 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Close<br/> 8: 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Open</p> <p>4 Legged Strategy:<br/> A: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Open, 4<sup>th</sup> Leg Close<br/> B: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Close, 4<sup>th</sup> Leg Open<br/> D: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Close, 4<sup>th</sup> Leg Close<br/> E: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Open, 4<sup>th</sup> Leg Open<br/> F: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Open, 4<sup>th</sup> Leg Close<br/> G: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Close, 4<sup>th</sup> Leg Open<br/> H: 1<sup>st</sup> Leg Open, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Close, 4<sup>th</sup> Leg Close<br/> I: 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Open, 4<sup>th</sup> Leg Open<br/> J: 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Open, 4<sup>th</sup> Leg Close<br/> K: 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Close, 4<sup>th</sup> Leg Open<br/> L: 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Open, 3<sup>rd</sup> Leg Close, 4<sup>th</sup> Leg Close<br/> M: 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Open, 4<sup>th</sup> Leg Open<br/> N = 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Open, 4<sup>th</sup> Leg Close<br/> P = 1<sup>st</sup> Leg Close, 2<sup>nd</sup> Leg Close, 3<sup>rd</sup> Leg Close, 4<sup>th</sup> Leg Open</p> | 1            |
| 84      | CxlQty        | Indicates the quantity removed by Self Execution Prevention (SEP)  | 1 to 9       |
| 97      | PossResend    | <p>Indicates that message may contain information that has been sent under another sequence number.</p> <p>Valid Values:</p> <p>Y = Possible resend<br/> N = Original transmission</p>   | 1            |
| 98      | EncryptMethod | <p>Method of encryption.</p> <p>Valid values:</p>  | 1            |

| Field # | Field Name      | Description  | Field Length |
|---------|-----------------|--|--------------|
|         |                 | 0 = None   |              |
| 99      | StopPx          | For Stop orders. Required when: <ul style="list-style-type: none"> <li>• Stop Order [OrdType = 4]</li> <li>• Stop Market Order [OrdType = 3]</li> <li>• Stop U.S. Market Order [OrdType = W]</li> </ul>  | 1 to 9       |
| 103     | OrdRejReason    | Code to identify reason for order rejection. <p>0: Broker option<br/> 1: Unknown symbol<br/> 2: Exchange closed<br/> 3: Order exceeds limit<br/> 4: Too late to enter<br/> 5: Unknown Order<br/> 6: Duplicate Order (e.g. dupe ClOrdID)<br/> 7: Duplicate of a verbally communicated order<br/> 8: Stale Order<br/> 9: Group state doesn't allow this function</p> | 1 to 6       |
| 108     | HeartBtInt      | Heartbeat interval (seconds). Must be equal or greater than 30 or equal to 0 (no heartbeat)  | 1 to 5       |
| 110     | MinQty          | Minimum quantity of an order to be executed.   | 1 to 9       |
| 112     | TestReqID       | Identifier included in Test Request message to be returned in resulting Heartbeat  | 1 to 20      |
| 122     | OrigSendingTime | Original time of message transmission (always expressed in UTC) when transmitting orders as the result of a resend request.<br>YYYYMMDD-HH:MM:SS.mmmsss  | 17 to 24     |
| 123     | GapFillFlag     | Indicates that the Sequence Reset message is replacing administrative or application messages which will not be resent. <p>Valid values:</p> <p>Y = Gap Fill message, MsgSeqNum field valid<br/> N = Sequence Reset, ignore MsgSeqNum</p>  | 1            |
| 131     | QuoteReqID      | Unique identifier for quote request  | 1 to 50      |
| 141     | ResetSeqNumFlag | Indicates that the both sides of the FIX session should reset sequence numbers <p>Valid values:</p> <p>Y = Yes, reset sequence numbers<br/> N = No</p>   | 1            |
| 146     | NoRelatedSym    | Specifies the number of repeating symbols specified.   | 1            |



| Field # | Field Name        | Description  | Field Length |
|---------|-------------------|--|--------------|
| 150     | ExecType          | Describes the specific Execution Report.<br><br>Valid values:<br><br>0 = New<br>1 = Partial fill<br>2 = Fill<br>4 = Cancelled<br>5 = Replace<br>8 = Rejected<br>C = Expired<br>F = Trade (partial fill of fill)  | 1            |
| 151     | LeavesQty         | Amount of shares open for further execution.   | 1 to 9       |
| 167     | SecurityType      | Indicates the type of security.<br><br>Valid values:<br><br>OPT = Option<br>FUT = Future<br>STR = Strategy<br><br>For Options: [Symbol 55], [PutOrCall 201],<br>[MaturityMonthYear200] and [StrikePrice 202] are required.<br><br>For Futures: [Symbol 55], and [MaturityMonthYear200] are<br>required.<br><br>For Strategy: only [Symbol 55] is required. | 3            |
| 198     | SecondaryOrderID  | Used to provide the OrderID (37) used by an exchange or<br>executing system. Provided only when [ExecTransType 20 =<br>1].   | 10 to 20     |
| 200     | MaturityMonthYear | Month and Year of the maturity for [SecurityType 167 =<br>OPT].  | 6            |
| 201     | PutOrCall         | Indicates whether an Option is for a put or call.<br><br>Valid values:<br><br>0 = Put<br>1 = Call  | 1            |
| 202     | StrikePrice       | Strike Price for an Option. A maximum of 4 decimals are<br>accepted.   | 1 to 9       |
| 205     | MaturityDay       | Used in conjunction with MaturityMonthYear to specify a<br>particular maturity date (expiration date).   | 1 to 2       |
| 206     | OptAttribute      | Indicates a corporate action (Possible values : "X", "Y", "Z",<br>"Q", "R", "S", "G", "U", "V")  | 1            |
| 210     | MaxShow           | Maximum number of shares within an order to be shown to<br>other customers   | 1 to 9       |

| Field # | Field Name                  | Description  | Field Length |
|---------|-----------------------------|--|--------------|
| 297     | QuoteAckStatus              | Identifies the status of the quote acknowledgement.<br><br>Valid values:<br>0 = Accepted<br>5 = Rejected   | 1            |
| 300     | QuoteRejectReason           | Reason Quote was rejected<br>See Section 6 for the list of error codes   | 4 to 6       |
| 310     | UnderlyingSecurityType      | Strategy leg SecurityType.<br>See [SecurityType 167] field for description   | 3            |
| 311     | UnderlyingSymbol            | Strategy leg Symbol.<br>See [Symbol 55] field for description  | 1 to 30      |
| 313     | UnderlyingMaturityMonthYear | Strategy leg maturity date.<br>See [MaturityMonthYear 200] field for description.  | 6            |
| 314     | UnderlyingMaturityDay       | Strategy Leg maturity day.<br>See [MaturityDay 205] field for description.   | 1 or 2       |
| 315     | UnderlyingPutOrCall         | Strategy leg PutOrCall. See [PutOrCall 201] field for description  | 1            |
| 316     | UnderlyingStrikePrice       | Strategy leg strike price. See [StrikePrice 202] field for description.  | 1 to 9       |
| 317     | UnderlyingOptAttribute      | Strategy Leg corporate action indicator. See [OptAttribute 206] field for description.   | 1            |
| 319     | RatioQty                    | Strategy leg ratio to determine a valid quantity. Should not contain decimals  | 1 to 9       |
| 320     | SecurityReqID               | Unique ID of a Security Definition Request.  | 1 to 50      |
| 321     | SecurityRequestType         | Type of Security Definition Request.   | 1            |
| 322     | SecurityResponseID          | Unique ID of a Security Definition message.  | 1 to 15      |
| 323     | SecurityResponseType        | Only present if [SecurityRequestType 321 = 1] in the Security Definition Request.<br>1: Accept security proposal as is<br>2: Accept security proposal with revisions as indicated in the message<br>4: Already exists<br>5: Reject security proposal | 1            |
| 371     | RefTagID                    | The tag number of the FIX field being referenced.  | 1 to 5       |
| 372     | RefMsgType                  | The message type of the FIX message being referenced.  | 1 to 2       |

| Field # | Field Name           | Description   | Field Length |
|---------|----------------------|---|--------------|
| 373     | SessionRejectReason  | Code to identify reason for a session-level Reject message:<br>0: Invalid Tag Number<br>1: Required Tag Missing<br>2: Tag Not Defined For This Message Type<br>3: Undefined Tag<br>4: Tag Specified Without A Value<br>5: Value Is Incorrect/ Out Of Range For This Tag<br>6: Incorrect Data Format For Value<br>7: Decryption Problem<br>8: Signature Problem<br>9: Compld Problem<br>11: Invalid Msg Type<br>12: Session Not Established<br>13: Invalid Tag Sequence<br>14: Incompatible With Order Type<br>15: Security Definition Request Not Allowed<br>16: Security Definition Request Maximum Request Reach<br>17: Order Mass Status Request Maximum Request Reach<br>18: Insufficient Qty Available<br>19: Unknown<br>20: Invalid Leg Instrument<br>25: Tag Not Defined For This SecurityRequestType<br>26: Duplicate Login<br>27: Incorrect SenderCompld | 1 to 2       |
| 375     | ContraBroker         | Exchange number of the firm on the opposite side of the trade. Value will be equal to the receiver's Exchange number when reporting cross trades. For all other messages, tag [ContraBroker 375] will not be supplied.  | 3            |
| 379     | BusinessRejectRefID  | [SecurityReqID 320] from the submitted Security Definition request.   | 1 to 50      |
| 380     | BusinessRejectReason | Code to identify reason for reject:<br>0: Other<br>1: Unknown ID<br>2: Unknown Security (default value)<br>3: Unsupported Message Type<br>4: Application not available<br>5: Conditionally Required Field Missing   | 1            |
| 381     | GrossTrdAmt          | Only present when in FIX Drop Copy<br>Total amount traded expressed in units of currency.<br>(i.e. quantity * price * contract size).   | Up to 16     |
| 382     | NoContraBrokers      | Number of ContraBrokers repeating group instances.<br>Always appear before tag [ContraBroker 375].  | 1            |
| 383     | MaxMessageSize       | Maximum number of bytes supported for a single message.   | 2 to 4       |
| 406     | FairValue            | Free Text used for PhysicalLeg.   | Up to 20     |
| 432     | ExpireDate           | Date of order expiration (last day the order can trade),<br>always expressed in terms of the local market date  | 8            |
| 434     | CxlRejResponseTo     | Identifies the type of request that a Cancel Reject is in response to.  | 1            |

| Field # | Field Name             | Description   | Field Length |
|---------|------------------------|---|--------------|
|         |                        | Valid values:<br><br>1 = Order Cancel Request<br>2 = Order Cancel/Replace Request   |              |
| 442     | MultipleReporting Type | Indicates the type of instrument the Execution Report refers to. Used with multi-leg securities such as, Options Strategies, Spreads, etc.<br><br>Valid Values are:<br><br>1 = Single security or outright contract(default)<br>2 = Individual leg of a multi-leg or Strategy Instrument<br>3 = Multi-leg or Strategy Instrument  | 1            |
| 448     | PartyID                | In case PartyRole [Tag 452] is 3 (Client ID), PartyID [Tag448] must contain one of the following value:<br>0: None<br>1: Pending Allocation (PNAL)<br>2: Aggregation of multiple Client Order (AGGR)<br>From 4 to 4294967295: Short Code<br><br>In case PartyRole [Tag 452] is 122 (Investor ID), PartyID [Tag448] must contain one of the following value:<br>From 4 to 4294967295: Short Code<br><br>In case PartyRole [Tag 452] is 12 (Executing Trader), PartyID [Tag448] must contain one of the following value:<br>3: Client<br>From 4 to 4294967295: Short Code | Up to 10     |
| 527     | Secondary ExecID       | Used to refer to the Strategy Exec ID.<br>Send only when MultipleReportingType 442 = 2<br>Example:<br>If 35 = 8 and 442 = 2, then 527 = ExecID of the Strategy  | 10 to 20     |
| 452     | PartyRole              | Role of the PartyID [Tag 448]. Must contain one of the following values:<br>3: Client ID<br>122: Investor ID<br>12: Executing Trader  | Up to 3      |
| 453     | NoPartyID              | Number of Party ID [Tag448] identifiers. It always must be set to 3.  | 1            |
| 555     | NoLegs                 | Number of legs  | 1            |
| 566     | LegPrice               | Order price   | 1 to 9       |

| Field # | Field Name                | Description   | Field Length |
|---------|---------------------------|---|--------------|
| 571     | TradeReportID             | Proposal ID<br>Only for messages coming from Exchange   | 8            |
| 577     | ClearingInstruction       | Clearing instruction  | 12           |
| 581     | CaptRptAccountType        | Identify the Account Type.<br><br>Valid values:<br>1: Client<br>2: House<br>4: Market Maker<br>5: Non-Segregated Client                                   | 1            |
| 583     | ClOrdLinkID               | Present in FIX Drop Copy protocol only to indicate the SenderCompID of the originator FIX connection  | 1 to 8       |
| 584     | MassStatusReqID           | This field is taken from FIX v4.3<br>Value assigned by issuer of Mass Status Request to uniquely identify the request.                                    | 1 to 50      |
| 585     | MassStatusReqType         | This field is taken from FIX v4.3.<br>Mass Status Request Type<br>Valid values: 7 = Status for all orders   | 1            |
| 600     | LegSymbol                 | See [Symbol 55] field for description.  | 1 to 30      |
| 609     | LegSecurityType           | See [SecurityType 167] field for description.   | 3            |
| 610     | LegMaturityMonthYear      | See [MaturityMonthYear 200] field for description.  | 6            |
| 612     | LegStrikePrice            | See [StrikePrice 202] field for description.  | 1 to 9       |
| 613     | LegOptAttribute           | See [OptAttribute 206] field for description.   | 1            |
| 624     | LegSide                   | Side of the order.<br>1: Buy<br>2: Sell   | 1            |
| 687     | LegQty                    | Order quantity  | 1 to 9       |
| 828     | TradeTypeFlag             | Must contain one of the following values:<br><br>2: Basis Trade/Exchange for Security/Exchange of Future for Swap<br>65: Trade Type Pack Trans<br>0: None | Up to 2      |
| 847     | CancellationAndAmendments | Must contain one of the following values:<br><br>1: Cancel<br>2: Amend  | 1            |
| 852     | PublishTrdIndicator       | Transparency for the Flexible trade.<br>Y: Published<br>N: Unpublished  | 1            |
| 856     | TradeReportType           | 2: Accept<br>3: Decline   | 1            |
| 1041    | FirmTradeID               | The ID assigned to a trade by the Firm to track a trade within the Firm system.   | 1 to 24      |

| Field # | Field Name            | Description  | Field Length |
|---------|-----------------------|--|--------------|
| 1057    | AggressorIndicator    | Only present when in FIX Drop Copy<br><br>Used to identify whether the order initiator is an aggressor or not in the trade<br>Y: Order initiator is aggressor<br>N: Order initiator is passive   | 1            |
| 1117    | RootPartyID           | Root Party ID  | 4            |
| 1194    | OptionStyle           | Valid for options only.<br>0: European<br>1: American.   | 1            |
| 1358    | LegPutOrCall          | See [PutOrCall 201] field for description.   | 1            |
| 1390    | TradePublishIndicator | Deferral Preference indication. Refer to field description "TradePublishIndicator":<br><br>- 0: No preference<br>- 1: Immediate<br>- 2: Deferred   |              |
| 1462    | TargetPartyID         | Executing Firm ID (Ex Tag 448 PartyID)   | 4            |
| 1724    | OrderOrigination      | DEA Flag. It must contain one of the following values:<br>5: Yes<br>0: No  | 1            |
| 2376    | PartyRoleQualifier    | Provides a further qualification for the value specified in the PartyRole [Tag 452].<br>In case PartyRole [Tag 452] is set to 3 and PartyID [Tag 448] is a short code (values 4,5,6,... 4294967295), PartyRoleQualifier [Tag 2376] must contain one of the following values:<br>23: Firm or Legal Entity<br>24: Natural Person<br><br>In case PartyRole [Tag 452] is set to 12 or 122 and PartyID [Tag 448] is a short code (values 4,5,6,... 4294967295), PartyRoleQualifier [Tag 2376] must contain one of the following values:<br>22: Algorithm<br>24: Natural Person<br><br>In any other case it has to be set to 0: None | Up to 2      |
| 2593    | NoOrderAttribute      | Number of Order Attributes. It always must be set to 2.  | 1            |
| 2594    | OrderAttributeType    | Must contain one of the following values:<br>2: Liquidity Provision<br>4: Algo Flag  | 1            |
| 2595    | OrderAttributeValue   | It's always required in case OrderAttributeType [Tag 2594] is specified. It must contain one of the following values:<br>Y: Yes<br>N: No   | 1            |
| 2668    | NoTrdRegPublication   | Number of TrdRegPublication. Possible values are numbers form 0 to 3.  | 1            |

| Field # | Field Name              | Description  | Field Length |
|---------|-------------------------|--|--------------|
| 2669    | TrdRegPublicationType   | It must be set to 0: Pre-trade transparency waiver   | 1            |
| 2670    | TrdRegPublicationReason | Must contain one of the following values:<br>4: Illiquid (ILQD)<br>5: Above size (SIZE)<br>6: Large in scale (LRGS)  | 1            |
| 5255    | StopPxCondition         | Required if Tag 99 (StopPx) is filled.<br>Indicates the type of stop orders.<br>S: Regular Stop (optional: default value used if none provided)<br>T: If Touched<br>E: Stop On Bid<br>F: If Bid Touched<br>I: Stop On Ask<br>H: If Ask Touched<br><br>For clients using an older FIX version, this tag will not be sent.   | 1            |
| 8001    | AccountProfile          | Indicate the type of trader.<br><br>Valid Values:<br><br>H= Hedger<br>S= Speculator (default value if not provided in the order)   | 1            |
| 9433    | TextExecutionReport     | Free text  | 50           |
| 9459    | SpecialTradeInd         | Indicates the type of trade.<br><br>(blank): Normal Trade<br>1: Exchange Granted 1 (EG1)<br>2: Exchange Granted 2 (EG2)<br>3: Unpublished Crossed Block<br>4: Unpublished Committed Block<br>B: Block<br>D: Crossed<br>K: Committed Block<br>T: Committed<br>A: As of Trade<br>E: Basis Trade/Exchange for Security/Exchange of Future for Swap<br>L: Late Trade | 1            |
| 10455   | SecurityAltID           | Indicates the Strategy Instrument in Execution Report Message sent for the Strategy.<br>Send only when MultipleReportingType 442 = 2<br>Example: If 35 = 8 and 442 = 2, then 10455 = Symbol of the Strategy.   | 1 to 15      |
| 16453   | ProposalType            | B: Bundle Order<br>T: Inter Dealer Broker Order  | 1            |

| Field # | Field Name      | Description   | Field Length |
|---------|-----------------|---|--------------|
| 16454   | LegMaturityDay  | Leg Maturity Day.<br>See [MaturityDay 205] field for description.   | 1 or 2       |
| 16455   | BestPriceSetter | Indicates the status of the Best Price Setter<br>0: Order does not have the Best Price Setter status<br>1: Order has the Best Price Setter status | 1            |



## 7 ERROR CODES

The following table displays the error codes and text that will appear in error responses.

| Error Code | Error Description  |
|------------|--|
| 1          | User Identification is not correct                                   |
| 2          | Protocol Version is not supported                                    |
| 3          | Message Type is not supported  |
| 4          | Session ID is not active   |
| 6          | Message Type requested is not supported                              |
| 8          | Message is too short   |
| 9          | Message is too long  |
| 10         | Message contains Binary Data   |
| 11         | No Heartbeat Activity: Disconnection                                 |
| 12         | Message Type is Out Of Context                                       |
| 13         | User ID has been deactivated: Disconnection                          |
| 14         | Syntax Error + <detailed text>                                       |
| 15         | Field value is too small   |
| 16         | Field value is too big   |
| 100        | Firm is forbidden to trade on this Group.                            |
| 101        | Duration type is forbidden for current Group state.                  |
| 102        | Verb field (Side) cannot be modified.                                |
| 103        | Order is not active.   |
| 104        | Price type is forbidden for this instrument.                         |
| 105        | Price Term is forbidden for current Instrument state.                |
| 108        | Duration type is forbidden for current Instrument state.             |
| 109        | Order cannot be processed: No opposite limit.                        |
| 110        | Price does not represent a valid tick increment for this Instrument. |
| 111        | Duration type is invalid for this Price type.                        |
| 112        | Cross Order Price must be inside the Instrument trading limits.      |
| 113        | Cross Order Price outside bid/ask price spread.                      |
| 114        | Opposite firm must be filled for committed order                     |
| 116        | Cross order is not allowed   |
| 117        | Cross order quantity is outside limits                               |
| 118        | Duration Type Is Invalid For This Price Term                         |
| 119        | Cross order notional value is outside limits                         |
| 120        | Disclosed Notional value is below the instrument threshold           |
| 121        | Order Notional value is outside the instrument thresholds            |
| 122        | Physical Leg must be filled for this type of order                   |
| 123        | Trade has already been approved                                      |
| 124        | Order from Account type House cannot have Client Id Code             |
| 125        | Investment decision code is missing                                  |
| 126        | Client Identification is missing                                     |
| 132        | Deferral is not allowed for the specified Price Type                 |
| 133        | Inconsistent Deferral Publication                                    |
| 201        | GTD date must be equal to or greater than current day.               |
| 202        | GTD date must be equal to or less than Instrument expiration date.   |

| Error Code | Error Description  |
|------------|--|
| 203        | GTD date must be filled only if Duration type is equal to GTD.       |
| 300        | Quantity Term is forbidden for current Instrument state.             |
| 302        | Quantity must be less than or equal to Maximum Improvement Quantity. |
| 303        | Quantity Term is not authorized for this Order type.                 |
| 304        | Additional Quantity must be less than Order Quantity.                |
| 305        | Additional Quantity is too small.                                    |
| 306        | Minimum Quantity cannot be modified.                                 |
| 307        | Quantity Term is forbidden for Duration Type.                        |
| 308        | Order Quantity is outside the instrument quantity threshold.         |
| 309        | Quantities must be multiples of lot size.                            |
| 402        | Trader ID field cannot be modified.                                  |
| 403        | Market Maker not authorized for this Group.                          |
| 500        | Order Price is outside the instrument price threshold.               |
| 501        | Price field is mandatory for Limit Orders.                           |
| 502        | Price field must not be filled for this Price Type.                  |
| 503        | Order cannot be modified or cancelled.                               |
| 504        | Additional Price is forbidden for Price Term.                        |
| 505        | Order Price must be greater than Additional Price.                   |
| 506        | Order Price must be lower than Additional Price.                     |
| 507        | Additional Price must be lower than last price or last sale price.   |
| 508        | Additional Price must be greater than last price or last sale price. |
| 509        | Order rejected. Cannot trade outside instrument price thresholds.    |
| 510        | Order cannot be modified   |
| 511        | Order price is outside circuit breaker limits                        |
| 512        | Price Term Invalid For Price Type                                    |
| 666        | Message is rejected due to throttling                                |
| 700        | Only one quote per instrument and per Side is accepted.              |
| 701        | Quote is not present in the Instrument Book.                         |
| 702        | Market Maker Protection in progress, Quote not processed.            |
| 703        | Advanced Market Maker Protection not enabled for this Group.         |
| 704        | Buy and Sell must not cross for the same instrument.                 |
| 705        | Number of quotes is not in sync with the message length.             |
| 707        | Market Maker Protection state must be re-activated.                  |
| 708        | Trader ID has no quote for this Group.                               |
| 709        | All Instruments must belong to the same Group.                       |
| 710        | Clearing Data has not been initialized.                              |
| 1000       | Cross orders forbidden in Pre-opening phase.                         |
| 1001       | Instrument does not exist.   |
| 1002       | Group ID does not exist  |
| 1003       | Trader ID is invalid.  |
| 1004       | Message Type is forbidden for current Instrument state.              |
| 1007       | Participant must use A4 protocol version                             |
| 1008       | RFQ currently underway for this instrument                           |
| 1009       | Action not allowed under current configuration                       |
| 1010       | Number of entries is invalid   |

| Error Code | Error Description   |
|------------|---|
| 1107       | Firm or trader had been disabled  |
| 1108       | Instrument mandatory when using MM Monitoring mode forced                 |
| 1109       | Market maker has no obligation for this group                             |
| 1110       | Participant not authorized for this Group (for message 35=8)              |
| 1111       | Participant not authorized for this Account Type (for message 35=8)       |
| 2000       | Technical error; function not performed. Contact the Technical Help Desk. |
| 2001       | Gateway State forbids this command. Contact the Technical Help Desk.      |
| 2002       | Function only partially performed. Contact the Technical Help Desk.       |
| 3017       | Open Close Missing Invalid  |
| 3041       | Unknown Clearing Operation Mode   |
| 3042       | Invalid Price Type  |
| 3100       | Order Quantity Limit exceeded at the trader/instrument level              |
| 3101       | TradedLong limit exceeded at the trader/instrument level                  |
| 3102       | TradedShort limit exceeded at the trader/instrument level                 |
| 3103       | ExposedLong limit exceeded at the trader/instrument level                 |
| 3104       | ExposedShort limit exceeded at the trader/instrument level                |
| 3107       | Order Value limit exceeded at trader/instrument level                     |
| 3108       | Order Price outside High/Low limits at trader/instrument level            |
| 3110       | Order Quantity Limit exceeded at the trader/group level                   |
| 3111       | TradedLong limit exceeded at the trader/group level                       |
| 3112       | TradedShort limit exceeded at the trader/group level                      |
| 3113       | ExposedLong limit exceeded at the trader/group level                      |
| 3114       | ExposedShort limit exceeded at the trader/group level                     |
| 3115       | TradedSpreads limit exceeded at the trader/group level                    |
| 3116       | ExposedSpreads limit exceeded at the trader/group level                   |
| 3117       | Order Value limit exceeded at the trader/group level                      |
| 3120       | Order Quantity Limit exceeded at the Firm/instrument level                |
| 3121       | TradedLong limit exceeded at the firm/instrument level                    |
| 3122       | TradedShort limit exceeded at the firm/instrument level                   |
| 3123       | ExposedLong limit exceeded at the firm/instrument level                   |
| 3124       | ExposedShort limit exceeded at the firm/instrument level                  |
| 3127       | Order value limit exceeded at the firm/instrument level                   |
| 3128       | Order Price outside High/Low limits at the firm/instrument level          |
| 3130       | Order Quantity Limit exceeded at the firm/group level                     |
| 3131       | TradedLong limit exceeded at the firm/group level                         |
| 3132       | TradedShort limit exceeded at the firm/group level                        |
| 3133       | ExposedLong limit exceeded at the firm/group level                        |
| 3134       | ExposedShort limit exceeded at the firm/group level                       |
| 3135       | TradedSpreads limit exceeded at the firm/group level                      |
| 3136       | ExposedSpreads limit exceeded at the trader/group level                   |
| 3137       | Order Value limit exceeded at the firm/group level                        |
| 9017       | Invalid number of legs  |
| 9018       | Invalid leg information   |
| 9019       | Unknown strategy type   |
| 9020       | Firm creation quota has been reached                                      |

| Error Code | Error Description                                       |
|------------|---|
| 9021       | Leg instrument is not active                            |
| 9022       | Strategy has unpriced legs                              |
| 9023       | Group state does not allow this function                |
| 9024       | Legs have different Multi-group Strategy Key            |
| 9025       | Legs have different Multi-group Strategy Group          |
| 9026       | Order rejected. Cannot assign a valid price to all legs |
| 9027       | Maximum pending flexible creation reached               |
| 9028       | Duration type is invalid for this Message Type          |
| 9029       | Legs must be on the same CPU                            |
| 9030       | Strike price is not multiple of tick size               |
| 9031       | Symbol Date is not a valid trading day                  |
| 9032       | Symbol Date is out of limits                            |
| 9033       | Invalid Proposal ID or Confirmation Order ID            |
| 9034       | Invalid order type on Flexible Instrument               |
| 9035       | Trading not allowed on Flexible Instrument              |
| 9036       | Bundle creation quotas has been reached for the Firm    |
| 9037       | Proposal creation quotas has been reached for the Firm  |
| 9040       | Proposal is no longer active                            |

## 8 MESSAGE FLOW

### 8.1 CONNECTION MANAGEMENT

#### Establishing a FIX Session

In order to establish a FIX session, clients need to pay special attention to the following items:

- Clients are allowed to establish FIX sessions on each trading day
- The Exchange CompID is 'LSE1'
- No encryption technique is supported
- For a Resend Request, the Exchange will always request all messages subsequent to the last received ([BeginSeqNo 7=first message of range], [EndSeqNo 16=0]). Any new messages received before the reception of the last requested message will be discarded
- The Exchange does not support 24-hour connectivity and a new session must be re-established each morning
- The Exchange allows only one participant per FIX session (or per CompID). ISVs offering a service bureau are required to have a separate CompID, and therefore a separate FIX session, for each of their clients

For message traffic efficiency, the Exchange does not allow clients to send a Heartbeat message at intervals of less than 30 seconds. Consequently, Logon messages with a value of less than 30 seconds, and not equal to 0 (meaning no Heartbeat will be sent) in the [HeartBtInt 108] field are rejected. If a participant does not send a message within 2 Heartbeat periods, the Exchange will send a Test Request message and wait for a response from the participant. If the participant does not respond to the Test Request within the Heartbeat period, the session will be disconnected. To summarize, if a participant does not send any messages within 3 Heartbeat periods, the connection is dropped and the participant will need to reconnect.

#### Initializing a FIX Connection

| PARTICIPANT               |   | EXCHANGE                  |
|---------------------------|---|---------------------------|
| Logon<br>[MsgType 35 = A] | → |                           |
|                           | ← | Logon<br>[MsgType 35 = A] |

#### Terminating a FIX Connection

| PARTICIPANT                |   | EXCHANGE                   |
|----------------------------|---|----------------------------|
| Logout<br>[MsgType 35 = 5] | → |                            |
|                            | ← | Logout<br>[MsgType 35 = 5] |

#### Sending a Heartbeat

| PARTICIPANT                   |   | EXCHANGE |
|-------------------------------|---|----------|
| Heartbeat<br>[MsgType 35 = 0] | → |          |

|  |   |                               |
|--|---|-------------------------------|
|  | ← | Heartbeat<br>[MsgType 35 = 0] |
|--|---|-------------------------------|

### Heartbeat Management

| PARTICIPANT   |   | EXCHANGE   |
|---|---|--|
| Test Request<br>[MsgType 35 = 1]<br>[TestReqID 112 = value] | → |  |
|   | ← | Heartbeat<br>[MsgType 35=0]<br>[TestReqID 112 = value] |

### Sending a Resend Request

| PARTICIPANT  |   | EXCHANGE   |
|--|---|--|
| Resend Request<br>[MsgType 35 = 2]<br>[BeginSeqNo 7 = seqno]<br>[EndSeqNo 16 = seqno or 0] | → |  |
|  | ← | Resend Original Messages<br>[PossDupFlag 43 = Y]<br>and/or<br>[MsgType 35 = 4] [GapFillFlag 123 = Y] |

### Sending a Sequence Reset

| PARTICIPANT  |   | EXCHANGE  |
|--|---|---|
| Sequence Reset<br>[MsgType 35 = 4] [GapFillFlag 123 = Y] | → |   |
|  | ← | Resend Original Messages<br>[PossDupFlag 43 = Y]<br>or<br>Sequence Reset<br>MsgType 35 = 2] [EndSeqNo 16 = 0] |

### Receiving a Session Level Reject

| PARTICIPANT   |   | EXCHANGE   |
|---|---|--|
| New Order<br>[MsgType 35 = D]<br>required field missing | → |  |
|   | ← | Reject<br>[MsgType 35 = 3]<br><br>[RefSeqNum 45 = offending msg#]<br>[Text 58 = description] |

## 8.2 ORDER PROCESSING

To enter an order, a participant sends a NEW ORDER SINGLE message.

The Exchange carries out validation on the parameters of the message received. If one of these parameters is invalid, the Exchange sends back an EXECUTION REPORT – REJECT rejecting the message received and specifying the first error detected.

If validation is successful, the Exchange accepts the message received and attributes an [OrderId 37] to the order entered.

An EXECUTION REPORT message received immediately after an order entry can indicate that it has been:

- Entered on the order book (a part of the order having possibly been executed)
- Eliminated
- Executed partially or in full
- Rejected

If an order is either partially or fully executed, the client receives, immediately after the EXECUTION REPORT ([OrdStatus 39=0]) message, one or more EXECUTION REPORT ([OrdStatus 39=1 or 2]) messages providing more information about the trade that took place.

If the order was on a strategy instrument, the client receives an EXECUTION REPORT for the strategy instrument ([OrderStatus 39=1 or 2, MultiLegReportingType = 3]) and additional EXECUTION REPORT messages for each leg ([OrderStatus 39=1 or 2, MultiLegReportingType = 2]) providing additional information related to the price and quantity at which each of the individual legs of the strategy instrument traded.

If the order has been booked (an EXECUTION REPORT message is sent with [OrdStatus 39=0]) the participant will automatically receive at a later time one of the following messages:

- One or more EXECUTION REPORT ([OrdStatus 39=1 or 2]) messages
- In the case of a Strategy Order, several EXECUTION REPORT messages ([OrdStatus 39=1 or 2, MultiLegReportingType 442=2]) in addition to the EXECUTION REPORT on the strategy instrument ([OrdStatus 39=1 or 2, MultiLegReportingType 442=3]) are sent. Each of the leg EXECUTION REPORT can be linked to its parent strategy trade (EXECUTION REPORT on the strategy instrument) message by the Strategy Instrument Id ([SecurityAltId 10455]) and Strategy Execution Id ([SecondaryExecId 527]).
- An EXECUTION REPORT ([OrdStatus 39=4]) message if the order is eliminated

### Order is rejected

| PARTICIPANT                   |   | EXCHANGE |
|-------------------------------|---|----------|
| New Order<br>[MsgType 35 = D] | → |          |

|  |   |   |
|--|---|---|
|  | ← | <b>Execution Report</b><br>[MsgType 35 = 8]<br>[ExecType 150 = 8]<br>[OrdStatus 39 = 8]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID] |
|--|---|---|

### Order is accepted and fully executed

| PARTICIPANT                   |   | EXCHANGE   |   | PARTICIPANT (Resting)  |
|-------------------------------|---|--|---|--|
| New Order<br>[MsgType 35 = D] | → |  |   |  |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0] |   |  |
|                               |   |  | → | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 1]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 0] |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 2]<br>[OrdStatus 39 = 2]<br>[ExecTransType 20 = 0] |   |  |

### Order is accepted but not executed with a price that improves the market

| PARTICIPANT                   |   | EXCHANGE  | Notes   |
|-------------------------------|---|---|---|
| New Order<br>[MsgType 35 = D] | → |   |   |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID]                                |   |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is configured and the order price improves the market</i> |



**Order is accepted but not executed with a price that does not improve the market**

| PARTICIPANT                   |   | EXCHANGE   | Notes |
|-------------------------------|---|--|-------|
| New Order<br>[MsgType 35 = D] | → |  |       |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID] |       |

**Order is accepted and partially executed**

| PARTICIPANT                   |   | EXCHANGE  | Notes   |
|-------------------------------|---|---|---|
| New Order<br>[MsgType 35 = D] | → |   |   |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID]                                |   |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is configured and the order price improves the market</i> |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 1]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 0]  |   |

**Minimum Quantity Order is not executed when entered**

| PARTICIPANT  |   | EXCHANGE   |
|--|---|--|
| New Order<br>[MsgType 35 = D]<br>[MinQty 110 = 20] | → |  |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 4]<br>[OrdStatus 39 = 4]<br>[ExecTransType 20 = 0] |

### Minimum quantity with partial execution

| PARTICIPANT                   |   | EXCHANGE  | Notes   |
|-------------------------------|---|---|---|
| New Order<br>[MsgType 35 = D] | → |   |   |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID]                                |   |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is configured and the order price improves the market</i> |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 1]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 0]  |   |

### New Order is sent with Possible Resend

| PARTICIPANT  |   | EXCHANGE   |
|--|---|--|
| New Order<br>[MsgType 35 = D]<br>[PossResend 97 = Y] | → |  |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 4]<br>[OrdStatus 39 = 4]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID] |

### Order is resent with Possible Resend

| PARTICIPANT  |   | EXCHANGE   |
|--|---|--|
| New Order<br>[MsgType 35 = D]<br>[PossResend 97 = Y] | → |  |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[ExecTransType 20 = 3]<br>[OrderID 37 = OrdID] |

### Stop and If Touched Order

If the order entered is a STOP or IF TOUCHED order, the participant will later receive another EXECUTION REPORT message with [OrdStatus 39 = 0] and [OrdType 40 = 2] when the order is triggered and becomes a regular limit order (trigger price reached).

The following table illustrates all possible triggering surfaces:

| PARTICIPANT          |      | EXCHANGE                 |
|----------------------|------|--------------------------|
| Trigger Price ≥ LAST | Buy  | 5255 = T: If Touched     |
|                      | Sell | 5255 = S: Stop           |
| Trigger Price ≤ LAST | Buy  | 5255 = S: Stop           |
|                      | Sell | 5255 = T: If Touched     |
| Trigger Price ≥ BID  | Buy  | 5255 = F: If BID Touched |
|                      | Sell | 5255 = E: Stop on BID    |
| Trigger Price ≤ BID  | Buy  | 5255 = E: Stop on BID    |
|                      | Sell | 5255 = F: If BID Touched |
| Trigger Price ≥ ASK  | Buy  | 5255 = H: If ASK Touched |
|                      | Sell | 5255 = I: Stop on ASK    |
| Trigger Price ≤ ASK  | Buy  | 5255 = I: Stop on ASK    |
|                      | Sell | 5255 = H: If ASK Touched |

#### Stop Order is triggered

| Participant   |   | Exchange  | Notes   |
|---|---|---|---|
| New Order<br>[MsgType 35 = D]<br>[StopPx 99 = 1.00] | → |   |   |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrdType 40 = 4]<br>[OrderID 37 = OrdID]            |   |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrdType 40 = 2]                                    | <i>When the Stop order is triggered and becomes a regular limit order.</i>    |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is configured and the order price improves the market</i> |

#### Market order at any price partially trades

| Participant |  | Exchange | Notes |
|-------------|--|----------|-------|
|-------------|--|----------|-------|

|   |   |   |   |
|---|---|---|---|
| New Order<br>[MsgType 35 = D]<br>[OrdType 40 = V] | → |   |   |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID]                                |   |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is configured and the order price improves the market</i> |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 1]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 0]  |   |

#### Market order at top price partially trades

| Participant                                       |   | Exchange  | Notes   |
|---|---|---|---|
| New Order<br>[MsgType 35 = D]<br>[OrdType 40 = 1] | → |   |   |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID]                                |   |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is configured and the order price improves the market</i> |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 1]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 0]  |   |

#### Order on a Strategy is rejected due to Unpriced legs

| Participant |  | Exchange |
|-------------|--|----------|
|-------------|--|----------|

|                               |   |  |
|-------------------------------|---|--|
| New Order<br>[MsgType 35 = D] | → |  |
|                               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 4]<br>[OrdStatus 39 = U]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID] |

### 8.3 TIME VALIDITY

Order designated as “While Connected” [TimeInForce 59 = W] is automatically cancelled following a participant disconnection.

#### Immediate Order Completely Filled upon entry

Immediate or Cancel order (IOC) is also referred to as a Fill and Kill order. The participant will receive an EXECUTION REPORT ([OrdStatus 39=0]) message indicating that the order has been accepted. Then one or more EXECUTION REPORT ([OrdStatus 39=1 or 2]) messages will be sent. In each of the reports, the [LeavesQty 151] field specifies whether a part of the order remains to be traded. In the last EXECUTION REPORT, the [LeavesQty 151] is set to 0.

In the case of a strategy order fill, several EXECUTION REPORT messages ([OrdStatus 39=1 or 2, MultiLegReportingType 442=2]) in addition to the EXECUTION REPORT on the strategy instrument are sent.

#### Immediate Order partially Executed in Continuous Trading

| PARTICIPANT   |   | EXCHANGE   |
|---|---|--|
| New Order<br>[MsgType 35 = D]<br>[TimeInForce 59 = 3] | → |  |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID] |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 1]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 0]                         |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 4]<br>[OrdStatus 39 = 4]<br>[ExecTransType 20 = 0]                         |

### Immediate is not Executed in Continuous Trading

| PARTICIPANT   |   | EXCHANGE   |
|---|---|--|
| New Order<br>[MsgType 35 = D]<br>[TimeInForce 59 = 3] | → |  |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 4]<br>[OrdStatus 39 = 4]<br>[ExecTransType 20 = 0] |

Fill or Kill functionality can be simulated using a combination of TimeInForce (59 = 3) and MinQty (110 = <total quantity>).

### While Connected orders cancelled on disconnection of a participant

| PARTICIPANT  |   | EXCHANGE  |  |
|--|---|---|--|
| NewOrderSingle<br>[MsgType 35 = D]<br>[TimeInForce 59 = W] | → |   |  |
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 0]<br>[ExecType 150 = 0]<br>[TimeInForce 59 = W]<br>[OrderID 37 = OrdID]                            | <i>While Connected Order<br/>FIX&lt;D&gt; entered with<br/>TimeInForce 59=W</i>  |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is<br/>configured and the order<br/>price improves the<br/>market</i>  |
| Service interruption or MOC disables a participant         |   |   |  |
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = I]<br>[ExecType 150 = 4]  | <i>A FIX&lt;8&gt; is emitted per<br/>While Connected order<br/>entered with OrderStatus<br/>= 'I' (Eliminated On<br/>Disconnect)</i> |

### While Connected orders cancelled on EOD Mini batch

| Participant  |   | Exchange |  |
|--|---|----------|--|
| NewOrderSingle<br>[MsgType 35 = D]<br>[TimeInForce 59 = W] | → |          |  |

|               |   |   |   |
|---------------|---|---|---|
|               | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 0]<br>[ExecType 150 = 0]<br>[TimelnForce 59 = W]<br>[OrderID 37 = OrdID]                            |   |
|               | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is configured and the order price improves the market</i> |
| EOD Minibatch |   |   |   |
|               | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = C]<br>[ExecType 150 = C]  | <i>A FIX&lt;8&gt; is emitted per</i>  |

#### Good Till Date orders cancelled on date reached

| Participant  |   | Exchange  | Notes  |
|--|---|---|--|
| <b>NewOrderSingle</b><br>[MsgType 35 = D]<br>[TimelnForce 59 = 6]<br>[ExpireDate 432 = YYYYMMDD] | → |   |  |
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[ExecTransType 20 = 0]<br>[TimelnForce 59 = 6]<br>[ExpireDate 432 = YYYYMMDD]<br>[OrderID 37 = OrdID] | <i>Good Till Date Order<br/>FIX&lt;D&gt; entered with<br/>TimelnForce 59=6 and<br/>ExpireDate 432 =<br/>YYYYMMDD</i> |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID]                               | <i>If the BPS phase is configured and the order price improves the market</i>  |
| EOD Minibatch  |   |   |  |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 0]<br>[OrderID 37 = OrdID]                               | <i>If the BPS phase is configured and the order holds the BPS status</i>   |
| CurrentDay = GTD   |   |   |  |
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = C]<br>[ExecType 150 = C]  |  |

### Day orders cancelled during the End of Day process

| Participant   |   | Exchange  | Notes   |
|---|---|---|---|
| <b>NewOrderSingle</b><br>[MsgType 35 = D]<br>[TimeInForce 59 = 0] | → |   |   |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[TimeInForce 59 = 0]<br>[OrderID 37 = OrdID]                            | <i>Day Order FIX&lt;D&gt;<br/>entered with TimeInForce<br/>59=0</i>                       |
|   | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is<br/>configured and the order<br/>price improves the<br/>market</i> |
| EOD Minibatch   |   |   |   |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = C]<br>[ExecType 150 = C]  |   |

## 8.4 TRADING CONTROLS

### Order is not accepted since it is outside the instrument series' thresholds (X Validation)

| Participant                          |   | Exchange  | Notes  |
|--------------------------------------|---|---|--|
| <b>New Order</b><br>[MsgType 35 = D] | → |   |  |
|                                      | ← | Execution Report<br>[MsgType 35 = 8]<br>[OrdStatus 39 = F]<br>[ExecType 150 = 4]<br>ExecTransType 20 = 0] | <i>Order eliminated since<br/>price is out of Limits</i> |

### Order eliminated by a CB instrument limit update (X, Y or Z Validation)

| Participant                          |   | Exchange   | Notes |
|--------------------------------------|---|--|-------|
| <b>New Order</b><br>[MsgType 35 = D] | → |  |       |
|                                      | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID] |       |



|  |   |   |  |
|--|---|---|--|
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | <i>If the BPS phase is configured and the order price improves the market</i>  |
| Instrument Limit Update (X, Y or Z Validation) |   |   |  |
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = G]<br>[ExecType 150 = 4]  | <i>A FIX&lt;8&gt; is emitted per Cancelled by Circuit Breaker order entered with [OrdStatus 39 = G: Eliminated by Circuit Breaker]</i> |

**SEP Cancel Resting Order (CRO) Rule (order vs order) with no execution (first book level)**

| Participant1 (Resting) | Exchange  | Participant2 (Incoming)            | Notes  |
|------------------------|---|------------------------------------|--|
|                        |   | ←<br>New Order<br>[MsgType 35 = D] |  |
|                        | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID]                                | →                                  |  |
| ←                      | ExecutionReport<br>[MsgType 35 = 8]<br>[ExecType 150 = 4]<br>[OrdStatus 39 = Z]   |                                    | <i>A FIX&lt;8&gt; is emitted per Cancelled by SEP order entered with [OrdStatus 39 = Z: Eliminated by SEP]</i> |
|                        | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | →                                  | <i>If the BPS phase is configured and the order holds the BPS status</i>                                       |

**SEP Cancel Resting Order (CRO) Rule (order vs order) with partial execution**

| Participant1 (Resting) | Exchange | Participant2 (Incoming)            | Notes |
|------------------------|----------|------------------------------------|-------|
|                        |          | ←<br>New Order<br>[MsgType 35 = D] |       |

|  |   |   |   |  |  |
|--|---|---|---|--|--|
|  |   | <b>Execution Report</b><br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID]                         | → |  |  |
|  |   | <b>Execution Report</b><br>[MsgType 35 = 8]<br>[ExecType 150 = 1]<br>[OrdStatus 39 = 1]<br>[ExecTransType 20 = 0]<br>[OrderID 37 = OrdID]                         | → |  |  |
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[ExecType 150 = 4]<br>[OrdStatus 39 = Z]  |   |  | <i>A FIX&lt;8&gt; is emitted per Cancelled by SEP order entered with [OrdStatus 39 = Z: Eliminated by SEP]</i> |
|  |   | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 0]<br>[OrdStatus 39 = 0]<br>[ExecTransType 20 = 3]<br>[BestPriceSetter 16455 = 1]<br>[OrderID 37 = OrdID] | → |  | <i>If the BPS phase is configured and the order holds the BPS status</i>                                       |

## 8.5 MODIFICATION PROCESSING

### Modification is accepted

A participant may amend any open orders. Orders that have been fully executed, deleted or cancelled cannot be modified.

A participant cannot modify the instrument ID or the side (buy or sell) of the order. If the quantity is reduced or the Clearing Data (Account, Rule80A, Open/Close, AccountProfile, Text) is modified the order retains price/time priority. Any other attributes that are modified will result in the order being eliminated and replaced by a new one.

To modify an order, the participant sends an ORDER CANCEL/REPLACE REQUEST message. In this message, the participant specifies the following elements enabling the Exchange to locate the order:

- The instrument affected by the modification [Symbol 55], [SecurityType 167], [PutOrCall 201], [StrikePrice 202], [MaturityMonthYear 200], [MaturityDay 205] and [OptAttribute 206]
- The [OrigClOrdID 41]
- The side of the order [Side 54]

If the message is valid, the Exchange eliminates the old order from the order book and replaces it with a new one, to which it attributes a new [OrderID 37]. It sends the acknowledgement of the modification in the form of an EXECUTION REPORT message. This message contains the new [OrderID 37] attributed to the modified order by the Exchange and the revised characteristics of the modified order.

The modified order can be:

- Entered in the book (the order has been modified and at least a part of the order has been entered in the Order Book)
- Eliminated (the order has been modified and immediately eliminated)
- Executed partially or in full (the order has been modified and immediately executed in full or partially)

#### Modification of price or quantity increase is accepted

| Participant  |   | Exchange   | Notes  |
|--|---|--|--|
| <b>Order Modification</b><br>[MsgType 35 = G]<br>[OrdQty 38 = Qty]<br>[Price 44 = Prc] | → |  | <i>E.g Price is modified / Quantity is increased</i><br><i>Qty &gt; Original Quantity</i><br><i>or</i><br><i>Prc != Original Price</i> |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 5]<br>[OrdStatus 39 = 5]<br>[ExecTransType 20 = 0]<br>[LeavesQty 151 = Qty]<br>[Price 44 = Prc]                                |  |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 5]<br>[OrdStatus 39 = 5]<br>[ExecTransType 20 = 3]<br><br>[OrdQty 38 = Qty]<br>[Price 44 = Prc]<br>[BestPriceSetter 16455 = 1] | <i>If the BPS phase is configured and the order price improves the market</i>  |

#### Modification of price or quantity increase is accepted for an order that loses its BPS status

| Participant  |   | Exchange  | Notes  |
|--|---|---|--|
| <b>Order Modification</b><br>[MsgType 35 = G]<br>[OrdQty 38 = Qty]<br>[Price 44 = Prc] | → |   | <i>E.g Price is modified / Quantity is increased</i><br><i>Qty &gt; Original Quantity</i><br><i>or</i><br><i>Prc != Original Price</i> |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 5]<br>[OrdStatus 39 = 5]<br>[ExecTransType 20 = 0]<br>[LeavesQty 151 = Qty]<br>[Price 44 = Prc] |  |

|  |   |  |  |  |
|--|---|--|--|--|
|  | ← |  | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 5]<br>[OrdStatus 39 = 5]<br>[ExecTransType 20 = 3]<br><br>[OrdQty 38 = Qty]<br>[Price 44 = Prc]<br>[BestPriceSetter 16455 = 0] | <i>If the BPS phase is configured and the order loses the BPS status</i> |
|--|---|--|--|--|

**Modification is accepted with no price change nor quantity increase for an order that maintains its BPS status**

| Participant  |   | Exchange   | Notes   |
|--|---|--|---|
| <b>Order Modification</b><br>[MsgType 35 = G]<br>[OrdQty 38 = Qty] | → |  | <i>E.g. Quantity is decreased (Qty &lt; Remaining Quantity) / Clearing Data is modified</i> |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 5]<br>[OrdStatus 39 = 5]<br>[ExecTransType 20 = 0]<br>[OrdQty 38 = Qty]  |   |
|  | ← | Execution Report<br>[MsgType 35 = 8]<br>[ExecType 150 = 5]<br>[OrdStatus 39 = 5]<br>[ExecTransType 20 = 3]<br>[OrdQty 38 = Qty]<br>[Price 44 = Prc]<br>[BestPriceSetter 16455 = 1] | <i>If the BPS phase is configured and the order holds the BPS status</i>                    |

**Modification is rejected**

The Exchange performs validation on the message received. When an error is detected in the incoming message, the Exchange sends a CANCEL REJECT message specifying the error code for the first error detected. If no parameters have been modified, the Exchange sends a CANCEL REJECT specifying 'No modification of the order'.

| Participant                              |   | Exchange                                |
|--|---|---|
| Order Cancel/Replace<br>[MsgType 35 = G] | → |   |
|  | ← | Order Cancel Reject<br>[MsgType 35 = 9] |

**Cancellation is accepted**

Clients may cancel all orders entered by themselves. Cancellations will only be valid for orders, or part of an order, which are currently booked.

To cancel an order, the client sends a CANCEL REQUEST message. This message specifies all the parameters allowing the Exchange to locate the order:

- The instrument affected by the modification [Symbol 55], [SecurityType 167], [PutOrCall 201], [StrikePrice 202], [MaturityMonthYear 200], [MaturityDay 205] and [OptAttribute 206]
- The [OrigClOrdID 41]
- The side of the order [Side 54]

| PARTICIPANT                        |   | EXCHANGE   |  |
|------------------------------------|---|--|--|
| Cancel Request<br>[MsgType 35 = F] | → |  |  |
|                                    | ← | Execution Report<br>[MsgType 35 = 8]<br>[OrdStatus 39 = 4] | <i>If the CANCEL REQUEST is valid, the Exchange will send the acknowledgement of the cancellation in the form of an EXECUTION REPORT ([OrdStatus 39=4]) message specifying the outcome reserved for the order.</i> |

#### Cancellation is rejected

| PARTICIPANT                        |   | EXCHANGE                                |   |
|------------------------------------|---|---|---|
| Cancel Request<br>[MsgType 35 = F] | → |   |   |
|                                    | ← | Order Cancel Reject<br>[MsgType 35 = 9] | <i>Exchange performs validation on the message received. If the CANCEL REQUEST is not valid, the Exchange sends a CANCEL REJECT message indicating the error code for the first error detected.</i> |

## 8.6 QUOTE PROCESSING

### Request for Quote

Request for Quote entry allows participants to broadcast a REQUEST FOR QUOTE to other participants.

The client enters a QUOTE REQUEST message with the symbol and an optional quantity. If the message is valid, the participant receives a QUOTE ACKNOWLEDGEMENT message with [QuoteAckStatus 297=0]. If the QUOTE REQUEST message is not valid, the Exchange sends a QUOTE ACKNOWLEDGEMENT message with [QuoteAckStatus 297=5].

| PARTICIPANT   |   | EXCHANGE |
|---------------|---|----------|
| Quote Request | → |          |

|                  |   |   |
|------------------|---|---|
| [MsgType 35 = R] |   |   |
|                  | ← | Quote Acknowledgement<br>[MsgType 35 = b] |

## 8.7 UNSOLICITED SERVICES

Entry or Cancellation of an Order by the Exchange.

The Exchange may enter or cancel orders on behalf of a participant.

The cancellation can be done for orders entered by the Exchange in the participant's account. This action can take place during:

- Order Cancellation
- Trading Session

If the Exchange enters an order on behalf of a participant, the client does not receive any acknowledgements or receive any messages related to this order.

The participant that entered the initial order will receive the EXECUTION REPORT [OrdStatus 39=4 or 5] message for any orders cancelled by the Exchange.

### Elimination of an Order

The table below describes all the scenarios where order elimination may occur **without** the participant sending a cancellation message.

| Reason for Elimination  |  |
|---|--|
| The order price is outside the instrument limit price                             | EXECUTION REPORT [OrdStatus 39=F or G] message sent to the Participant who initially entered the order   |
| During the instrument opening Market Order without opposite order are eliminated. | EXECUTION REPORT [OrdStatus 39=4] message sent to the Participant who initially entered the order  |
| Participant disconnection eliminates While Connected Order.                       | EXECUTION REPORT [OrdStatus 39=I] message sent to the Participant who initially entered the order  |
| Instrument state does not allow order with disclosed quantity.                    | EXECUTION REPORT [OrdStatus 39=4] message sent to the Participant who initially entered the order  |
| Cancellation of an order by the Exchange  | Possible during: Order Cancellation, Trading Session, Exchange Intervention, End of Consultation, and Group Interruption.<br><br>EXECUTION REPORT [OrdStatus 39=4] message sent to the Participant who initially entered the order |

|   |  |
|---|--|
| Instrument has expired, updated or is deleted | Carried out during Mini Batch or Post-session.<br><br>If the TICK INCREMENT for prices is modified, all prices that do not respect the new TICK INCREMENT are purged. The others remain on the order book.   |
| Validity of the order is reached              | Carried out at the end of each trading day just before or during Maintenance.<br><br>Also carried out at the end of the week (last trading day of the weekly session) just before Post-session   |
| Self Execution Prevention is triggered        | EXECUTION REPORT [OrdStatus 39 = Z] message is sent to the Participant whose order has been eliminated due to Self Execution Prevention (SEP).<br><br>Order Updates are notified with TAG 84 (CxlQty) in the EXECUTION REPORT message [OrdStatus 39 = 5] indicating the quantity removed by Self Execution Prevention (SEP). |

#### Global Cancellation of all Orders for a Member Initiated by the Exchange

| PARTICIPANT |   | EXCHANGE   |   |
|-------------|---|--|---|
|             | ← | Execution Report<br>[MsgType 35=8]<br>[OrdStatus 39=4] | <i>Will be sent for every booked order posted by the member</i><br><br><i>No [OrigClOrdID 41] is sent</i> |

#### Cancellation of a Trade by the Exchange

If required, the Exchange can cancel a trade that took place during the day. This cancellation can be initiated in accordance with the Exchange rules.

This can take place during:

- Order Cancellation
- Pre-Opening
- Trading Session
- Suspended
- Exchange Intervention
- End of Consultation
- On an Interrupted group

The Exchange sends the two clients concerned an EXECUTION REPORT ([ExecTransType 20=1]) message. This message specifies all the parameters relating to the cancelled trade.

If the trade involved a strategy instrument, the Exchange will cancel a trade on a leg-by-leg basis. For each leg trade cancellation, the Exchange sends an EXECUTION REPORT ([ExecTransType 20=1, MultiLegReportingType=2]) to each of the two Participants. When all the legs-trades have been cancelled, the Exchange also sends an EXECUTION REPORT ([ExecTransType 20=1, MultiLegReportingType=3]) to the participant(s) who entered the strategy order.

#### Cancellation of a Trade with Impact on the Last Price Made by the Exchange

| PARTICIPANT |   | EXCHANGE   |
|-------------|---|--|
|             | ← | Execution Report<br>[MsgType 35=8]<br>[OrdStatus 39=4]<br>[ExecTransType 20=1] |

## 8.8 STRATEGY MESSAGES

#### User defined Strategy (FLEXCO) Creation Accepted

A trader can request the creation of a user defined strategy (UDS) by submitting a SECURITY DEFINITION REQUEST. The SECURITY DEFINITION REQUEST must include the strategy leg information.

Strategy Creation requests can be accepted ([MsgType 35 = d] [SecurityResponseType 323=1]), accepted but modified ([MsgType 35 = d] [SecurityResponseType 323=2]) or rejected ([MsgType 35 = d] [SecurityResponseType 323=3] or [MsgType 35 = j]).

If the creation is modified the SECURITY DEFINITION message includes the new instrument structure. The leg ordering sequence may differ from the original request but will not be marked as modified if the ratio and the verb for all legs remain the same.

| PARTICIPANT                                     |   | EXCHANGE                                |
|---|---|---|
| Security Definition Request<br>[MsgType 35 = c] | → |   |
|   | ← | Security Definition<br>[MsgType 35 = d] |

#### User defined Strategy (FLEXCO) Creation Error

| PARTICIPANT                                     |   | EXCHANGE                  |
|---|---|---------------------------|
| Security Definition Request<br>[MsgType 35 = c] | → |                           |
|   | ← | Error<br>[MsgType 35 = 3] |



## 8.9 CROSS/COMMITTED FUNCTIONALITY

Cross/Committed Orders do not interact with the instrument order book. A Cross/Committed Order is submitted:

- NEW ORDER CROSS (35=s) whenever the same member is present on both sides of the order.
- NEW ORDER SINGLE (35=D) and OrdType 40 = C, specifying the opposite firm [Contra Trader 337].

### Committed orders traded

| PARTICIPANT   |   | EXCHANGE  |
|---|---|---|
| <b>NewOrderSingle</b><br>[MsgType 35 = D]<br>[OrdType 40 = C] | → |   |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 0]<br>[ExecType 150 = 0]<br>[OrderID 37 = OrdID]  |
| <b>NewOrderSingle</b><br>[MsgType 35 = D]<br>[OrdType 40 = C] | → |   |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 0]<br>[ExecType 150 = 0]<br>[OrderID 37 = OrdID2] |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 2]<br>[ExecType 150 = 2]                          |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 2]<br>[ExecType 150 = 2]                          |

### Committed order cancelled by participant before it trades

| PARTICIPANT   |   | EXCHANGE |
|---|---|----------|
| <b>NewOrderSingle</b><br>[MsgType 35 = D]<br>[OrdType 40 = C] | → |          |

|   |   |  |
|---|---|--|
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 0]<br>[ExecType 150 = 0]<br>[OrderID 37 = OrdID] |
| <b>OrderCancelRequest</b><br>[MsgType 35 = F] | → |  |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 4]<br>[ExecType 150 = 4]                         |

#### Pending Committed order cancelled during EOD

| PARTICIPANT   |   | EXCHANGE   |
|---|---|--|
| <b>NewOrderSingle</b><br>[MsgType 35 = D]<br>[OrdType 40 = C] | → |  |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 0]<br>[ExecType 150 = 0]<br>[OrderID 37 = OrdID] |
| Mini batch, pending one sided orders are flushed              |   |  |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = C]<br>[ExecType 150 = C]                         |

#### Committed order not accepted by the trading engine

| PARTICIPANT   |   | EXCHANGE   |
|---|---|--|
| <b>NewOrderSingle</b><br>[MsgType 35 = D]<br>[OrdType 40 = C] | → |  |
|   | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 8]<br>[ExecType 150 = 8] |

#### Entering an Accepted Cross Order

| PARTICIPANT                              |   | EXCHANGE |
|--|---|----------|
| <b>NewOrderCross</b><br>[MsgType 35 = s] | → |          |

|  |   |  |
|--|---|--|
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 2]<br>[ExecType 150 = 2] |
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 2]<br>[ExecType 150 = 2] |

### Cross Order Rejected

| PARTICIPANT                              |   | EXCHANGE   |   |
|--|---|--|---|
| <b>NewOrderCross</b><br>[MsgType 35 = s] | → |  |   |
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 8]<br>[ExecType 150 = 8] | A NEW ORDER CROSS<br>can be rejected or traded<br>at reception. |
|  | ← | <b>ExecutionReport</b><br>[MsgType 35 = 8]<br>[OrdStatus 39 = 8]<br>[ExecType 150 = 8] |   |

## 8.10 QUERIES

In order to assist clients manage and synchronize their trading database, the Exchange offers two types of queries: Order Mass Status and Security Definition.

### Order Mass Status

This query returns all orders that were entered during the day for the participant. One EXECUTION REPORT [ExecTransType 20=3] is returned for each active order of the Participant. The maximum number of requests is limited to 5 per Participant connection per day.

### Security Definition

This query returns all listed instruments on the Exchange. This request generates one message per instrument. For strategies, SECURITY DEFINITION responses include the definition of each leg.

The maximum number of requests is limited to 3 per participant connection per day and they are only permitted before the Market Opening.

## APPENDIX 1 - REFERENCES

References to external resources are given below.

Technical information for the SOLA Upgrade from LSEDm: <http://www.lseg.com/derivatives/document-library>



# OSLO BØRS

OSLO STOCK EXCHANGE

For requests, please contact:  
Jan Stenmoe, VP IT Systems  
[jans@oslobors.no](mailto:jans@oslobors.no)

[www.oslobors.no](http://www.oslobors.no)