NEO Exchange

Exchange FIX 4.2 Order Entry Specification

Private & Confidential

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1 Referenced Documents

1.1 Referenced Documents

Related Documents Title	Version
NEO Exchange - Connectivity Guide	1.05

1.2 Document Version History

Version	Comments / Revision Type	Date
1.00	Initial document publication	Jul 16 '14
1.01	Modification of documentation to align with GTE environment availability: - Removal of Regular Cross type "R" - AvgPx (6) is now a required field - Removal of default fields for PriceImprovementOnly (20007) and ContraParticipantType (20011) - Wholesale change of client to "FIX Client" and server to "FIX Server" • Specific tags and attributes reserved for future use for the NEO-D are marked accordingly	Sept 22 '14
1.02	Specification updates: - S7.6.3 – New Section - Market Command - S7.6.4 – New Section - Market Command ACK Messages - Added clarification on default values for CrossType (6773) • Add Appendix and S10.1 – FIX Tag Data Types & Field Lengths	Nov 4 '14
1.03	Specification updates: - S3.1.1 – Added tag values Mid-Point Peg, addressed typos - S3.1.2.3 – Clarification tag amendments capabilities - S3.7 – Added missing header - S4.4 – Corrected typo in the description - S5.3 – Add'l clarity around slow client disconnect handling - S7.5.1 – Update Bypass flag value to the correct value (6791); Clarification on Self Trade Key (7714) handling; Clarification on FreeFormText (20008) - S7.5.2 – Clarification ExDestination (100) handling for various book types - S7.5.4 – Added Aequitas NEO Exchange MIC Code definition	Mar 13 '15

	- S7.6.3 and S7.6.4 – Added CommandID tag identifier • S10.2 – Added Appendix for FIX Reject Codes & Reasons	
1.04	Specification updates: - S7.5.1 – Added Time in Force value At the Close - S7.5.4 – Added Trading Session ID value for Closing - S7.5.4 – Removed Cross Buy and Sell tags from Execution Report - S3.1.1 –Added MOC and LOC order types - 7.5.3 –Added amending ATC and OPG TIF behavior	Nov 13 '15
1.05	Specification updates for AEF: - S2.1 – Updated Production Hours of Operation - S3.7 – Added description of AEF Controls for DMMs - S7.1 – Updated Varions from FIX Protocol to address AEF Market Command messages - S7.6.3 – Updated Market Command to support AEF - S7.6.4 – Updated Market Command Ack to support AEF • S10.2 – Added additional Reject Codes & Reasons supporting AEF	May 18 '16
1.06	Specification update for NEO Connect: - S7.5.4 – Added Trade Date (75) Specification update for Matching Priority: - S7.5.4 – Added Matching Priority (7732) tag with values: (1) Broker Preferencing and (100) Market Maker Preferential Trading (Note: this value will only be sent to Market Makers)	Feb 24 '17
1.07	Specification update for IIROC changes: - S7.5.1 – Added new value for Account Type (6750): (BU) Bundled - S7.5.1 – Added new value for Cross Type (6773): (D) Derivative - S7.5.1 – Added new value for Buy Account Type (6767): (BU) Bundled - S7.5.1 – Added new value for Sell Account Type (6768): (BU) Bundled - S7.5.3 – Added new value for Account Type (6750): (BU) Bundled - S7.5.4 – Added new value for Account Type (6750): (BU) Bundled - S7.5.4 – Added new value for Cross Type (6773): (D) Derivative - S10.2 – Added new reject code for OPR orders not supported	Jun 14 '17
1.08	Specification update for NEO-D: - S3.1.2.3 – Removed obsolete point	Jun 7 '18

	- S7.5.1 – Updated (ungreyed) several fields (100, 110, 20000, 20001, 20005) related to NEO-D functionality - S7.5.2 - Updated (ungreyed) several fields (100) related to NEO-D functionality - S7.5.3 – Updated (ungreyed) several fields (100, 110, 20001, 20005) related to NEO-D functionality - S7.5.4 - Updated (ungreyed) several fields (100, 110, 20001, 20005, 20009) related to NEO-D functionality - S7.6.3 – Removed reference for AEF functionality - S7.6.4 - Removed reference for AEF functionality - S8 – Added new segment for foreign other listed securities - S10.1 - Updated (ungreyed), added new rejects codes related to NEO-D functionality and remove reject for AEF functionality	
1.09	Specification update: - S10.1 - Minor clean up of reject code table	Apr 1 '20
1.10	Specification update for IIROC changes: - S7.5.1 – Added new fields (1724, 2883, 8025, 8026, 8027, 8028, 20201 to 20212) and added new value (MC) for existing fields (6750, 6767, 6768) - S7.5.3 – Added new fields (1724, 2883, 8025, 8026, 8027, 8028) and added new value (MC) for existing fields (6750) - S7.5.4 - Added new fields (1724, 2883, 8025, 8026, 8027, 8028) and added new value (MC) for existing fields (6750, 6767, 6768) - S9.1 – Added new fields (1724, 2883, 8025, 8026, 8027, 8028, 20201 to 20212)	Oct 5 '20
1.11	Specification update for NEO-D changes: - S3.1.1 – Added for new order type for MPI orders; updated Reserved order type to include MPI value, updated relevant FIX tags option for Imbalance Only (greyed out functionality) - S7.5.1, S7.5.3, S7.5.4 – Added new value 'x' for ExecInst (18) for MPI orders - S9.2 – Updated list of reject codes for MPI orders	Aug 4 '21

1.3 Terms & Definitions

Term	Definition
DR	Disaster Recovery Site
PDC	Primary Data Centre
SDC	Secondary Data Centre
NEO	NEO Exchange
NEO-L	Trading Book
NEO-N	Trading Book
NEO-D	Trading Book

2 Overview

2.1 Production Hours of Operation

The FIX order entry servers will operate from *06:00:00* to *19:00:00* (ET) each trading day and are subject to change via Trading Notice to Members.

2.2 Support

For any questions or general enquiries regarding this document, please contact NEO Exchange Operations.

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3 Service Description

3.1 Order Handling

3.1.1 Order Types

Members may submit the order types outlined below via the New Order message.

Order Type	Description	Relevant FIX Tags
Market	An order that will execute at the best available price points until it is filled. Any remainder will be converted to a limit order at the last sale price.	OrderType (40) = 1
Limit	An order that will execute at or better than the specified price. The remainder, if any, is added to the order book or expired in terms of its TimeInForce (59).	OrderType (40) = 2 Price (44)
Stop	A market stop loss order that remains inactive until the market reaches a specified trigger price.	OrderType (40) = 3 StopPx (99) StopDepth (1090) (Optional)
Stop Limit	A limit stop loss order that remains inactive until the market reaches a specified trigger price.	OrderType (40) = 4 StopPx (99) Price (44) StopDepth (1090) (Optional)
Mid Point Pegged	An order that automatically follows the market mid-point. Mid Point Pegged orders can be submitted with an optional price cap.	ExecInst (18) = M OrderType (40) = P Price (44) (*Optional)*
Minimum Price Improvement	An order that automatically adjusted to be pegged one tick increment more aggressive than the protected NBBO, or half a tick increment if the NBBO spread is one tick.	ExecInst (18) = x OrderType (40) = P Price (44) (*Optional)*

National Best Pegged	An order that automatically follows the national best bid/offer price by a user specified tick deviation. National best Pegged orders can be submitted with an optional price cap. Peg difference is only allowed for Hidden Pegged Orders.	ExecInst = R OrderType (40) = P PegDifference (211) *(Optional)* PegOffsetType (836) Price (44) (*Optional)*
Resting Only Orders	A transparent order with a persistent time-in-force which cannot execute upon order entry. For Resting Only Reprice orders, '6' is not a necessary condition. In NEO-N, the default order handling if not explicitly set on an order is Resting Only Cancel.	ExecInst (18) = 6 or ExecInst (18) = 100 VisibilityType (20000) = 1
Derived Orders	An order that allows participants to anchor an order in one order book and post the same interest onto other order books.	DeriveInto (20002) ExDestination (100) VisibilityType (20000)
OPR Cancel/Re price Orders	Ability to specify if the order should be cancelled or re-priced upon trade through. Additionally used to specify the order behaviour when locking or crossing the NBBO.	HandlInst (21) = 5 or HandlInst (21) = 6
Cross Orders	An order that supports a Member's obligation to submit trade prints or crosses to a centralized exchange.	Side (54) = 8 or Side (54) = 9 ExDestination (100) = C
Imbalance Only	Orders used to execute against Opening and Closing Auction imbalances.	ExecInst (18) = i TIF (59) = 2 or 7

Iceberg	An order that contains a disclosed quantity which will be the maximum quantity displayed in the order book. Once the displayed quantity is reduced to zero, it will be replenished by the lower of the disclosed quantity and the remainder. If required, the replenished disclosed quantity can be randomized.	MaxFloor (111) OrderQty (38) DisplayRange (8020)
Reserve	An order that contains no displayed quantity and is not displayed in the order book.	ExecInst (18) = R, M, or x VisibilityType (20000) = 2
Minimum Acceptable Quantity (MAQ)	An order that contains a minimum quantity which must be satisfied by contra order(s) before it can be traded.	MinQty (110) MAQMatchType (20001)
Anonymous	An order for which the submitting member is not published in the market data feed. A value 001 will be published.	Anonymous (6761) = Y
Special Settlement Term (SST) Orders	An order that includes specific settlement instructions to be applied when the order trades.	SettlmntTyp (63) FutSettDate (64) (Optional)
Day	An order that will expire at the end of the day.	TimeInForce (59) = 0
Immediate or Cancel (IOC)	An order that will be executed on receipt in full or in part and the remainder, if any, immediately cancelled.	TimeInForce (59) = 3
Fill or Kill (FOK)	An order that will be fully executed in its entirety on receipt or immediately cancelled.	TimeInForce (59) = 4
Market on Open (MOO)	A market order that may only participate in the opening auction.	OrderType (40) = 1 TimeInForce (59) = 2

Limit on Open (LOO)	A limit order that may only participate in the opening auction.	OrderType (40) = 2 TimeInForce (59) = 2 Price (44)
Market on Close (MOC)	A market order that may only participate in the closing auction.	OrderType (40) = 1 TimeInForce (59) = 7
Limit on Close (LOC)	A limit order that may only participate in the closing auction.	OrderType (40) = 2 TimeInForce (59) = 7 Price (44)
Good Till Time (GTT)	An order that will expire at a specified time during the current day.	TimeInForce (59) = 6 ExpireTime (126)
Good Till Date (GTD)	An order that will expire at the end of a specified day.	TimeInForce (59) = 6 ExpireDate (432)
Good Till Cancelled (GTC)	An order that will remain in the system across days. The order will remain in the system for *<90>* calendar days as specified in the system.	TimeInForce (59) = 1
Regular Hours Only (RHO)	An order that will expire at the end of the regular trading session.	TimeInForce (59) = R

3.1.2 Order Management[1]

3.1.2.1 Cancellation

The remainder of a live order may be cancelled via the Order Cancel Request message. The FIX server will respond with an Execution Report or Order Cancel Reject to confirm or reject the cancellation request, respectively.

The FIX client should identify the order being cancelled by either its OrigClOrdID (41) or OrderID (37). If an Order Cancel Request contains values for both OrigClOrdID (41) and

[1] A privileged FIX Client can manage orders on behalf of another user. If they are in two different Members, only the managing user will receive Execution Reports (8) generated due to order management actions performed by that FIX Client, on behalf of the actual Trader ID.

OrderID (37), the FIX server will only process the OrderID (37). If an order submitted under a different SenderCompID (49) is being cancelled, the Order Cancel Request should include its OrderID (37).

If the cancellation is successful, the Execution Report will be sent to the SenderCompID (49) that sent the Order Cancel Request.

3.1.2.2 Cancellation by Market Operations

An unsolicited Execution Report will be sent to the FIX client if an order is cancelled by market operations. The ExecRestatemenetReason (378) of such a message will be Market (Exchange) option (8). It will include OrigClOrdID (41) which will be set to the tag 11 (ClOrdID) value the client sent on their New Order request.

3.1.2.3 Amending an Order

The amendable attributes via the Order Cancel/Replace Request message are explicitly mentioned as part of the Order Cancel/Replace Request message field descriptions.

It is not possible to amend an order in such a way that it results in the removal of an attribute. Specifically, the absence of an tag on an order amendment will result in no change to that attribute.

The FIX server will respond with an Execution Report or Order Cancel Reject to confirm or reject the amendment request respectively.

The FIX client should identify the order being amended by either its OrigClOrdID (41) or OrderID (37). If an Order Cancel/Replace Request contains values for both OrigClOrdID (41) and OrderID (37), the FIX server will only process the OrderID (37).

If an order submitted under a different SenderCompID (49) is being amended, the Order Cancel/Replace Request should include its OrderID (37). If the amendment is successful, the order will be treated as one submitted under the SenderCompID (49) that sent the Order Cancel/Replace Request.

An order will lose time priority if:

(i) The order or disclosed quantity is increased
(ii) If the price is amended
(iii) If the peg offset is amended
(iv) Amendment to stop order price
(v) Amendment to anonymous (from attributed) or to attributed (from anonymous)

Other amendments will not cause loss in time priority. FIX clients may not amend orders that are fully filled.

3.1.3 Order Status

As specified in the FIX protocol, the OrdStatus (39) field of an Execution Report is used to convey the current state of an order. If an order simultaneously exists in more than one order state, the value with highest precedence is reported as the OrdStatus (39). The relevant order statuses are given below from the highest to lowest precedence.

Value	Meaning
2	Filled
4	Cancelled
1	Partially Filled
5	Replaced
0	New
8	Rejected

3.1.4 Execution Reports

The Execution Report message is used to communicate many different events to FIX clients. The events are differentiated by the values in the fields ExecTransType (20), ExecType (150) and OrdStatus (39).

Exec Type	Ord Status	ExecTrans Type	Usage
0	0	0	**Order Accepted** Indicates that a new order has been accepted. This message will also be sent unsolicited if an order was submitted by the service desk on behalf of the FIX client.
8	8	0	**Order Rejected** Indicates that an order has been rejected. The reason for the rejection is specified.
1, 2	1, 2	0	**Order Executed** Indicates that an order has been partially or fully filled. The execution details (e.g. price and quantity) are specified.

4	4	0	**Order Cancelled** Indicates that an order cancel request has been accepted and successfully processed or an order has expired in terms of its time qualifier or an order has been cancelled by the system due to the handling instructions of the order type. In a scenario where the order is cancelled by the service desk, the Execution Report will include the ExecRestatementReason (378) "Market Option" (8).
5	1, 5	0	**Order Cancel/Replaced** Indicates that an order cancel/replace request has been accepted and successfully processed.
D	0,1, 5	0	**Order Restatement** Indicates that an order has received an unsolicited cancel/replacement. It will not include an OrigClOrdID (41).
0,1	0, 1	1	**Trade Bust** Indicates that an execution has been busted by the service desk. The Execution Report will include an ExecRefID (19) to indicate the execution being cancelled.
1, 2	1, 2	2	**Trade Correct** Indicates that an execution has been corrected by the service desk. The Execution Report will include an ExecRefID (19) to indicate the execution being corrected and the updated execution details (e.g. price and quantity).

3.1.5 Order and Execution Identifiers

3.1.5.1 Client Order IDs

The FIX server does not validate each ClOrdID (11) for uniqueness. FIX clients should comply with the FIX protocol and ensure unique ClOrdIDs across all messages (e.g. New Order – Single, Order Cancel Request, etc.) sent under a particular SenderCompID (49) for a given trading day. As the FIX server supports GTD and GTC orders, FIX clients should ensure that their ClOrdIDs are unique across trading days (e.g. embed the date within the ClOrdID).

3.1.5.2 Order IDs

The FIX server uses the OrderID (37) field of the Execution Report to affix the order identification numbers of the trading engine. Order IDs are unique across trading days.

In terms of the FIX protocol, unlike ClOrdID (11) which requires a chaining through cancel/replace requests and cancel requests, the OrderID (37) of an order will remain constant throughout its life.

FIX clients have the option of specifying the OrderID (37) when submitting an Order Cancel Request or Order Cancel/Replace Request.

3.1.5.3 Public Order IDs

The FIX server uses the SecondaryOrderID (198) field of Execution Report to affix the Public Order ID of an order, which is an order identification number that will be stamped for each order that has an OrderID (37). The SecondaryOrderID (198) will be the same as the OrderID (37) for all orders that are not iceberg orders. For iceberg orders, the SecondaryOrderID (198) will renew with each replenishment to the disclosed quantity. Members should identify their orders on the market data feeds using SecondaryOrderID (198) as that is the identification number that will be disseminated for order book updates on market data feeds.

3.1.5.4 Execution IDs

The FIX server uses the ExecID (17) field to affix a unique identifier for each Execution Report. ExecIDs are unique across trading days.

3.1.5.5 Trade IDs

An Execution Report published to notify a FIX client of a trade will affix the unique identifier of a trade to the ExecID (17) field. As the identifier of a trade is identical for each side of the trade, the ExecID (17) field will include the suffix 'B' (buy) or 'S' (sell) dependent on the side of published Execution Report. A FIX client should exclude this suffix when identifying the unique identifier for each trade referenced in trade messages on market data feeds.

An Execution Report published to notify a FIX client of a trade cancellation or correction includes the TradeID of the trade with the corresponding suffix appended in the ExecRefID (19) field.

3.2 Indication of Interest (Reserved for Future Use)

The FIX server publishes Indication of Interest messages as part of a size up auction call. A New Order sent by FIX clients in response to an IOI message should reference the relevant IOIID (23). The FIX server will validate the accuracy of the IOIID (23) specified. A New Order sent as a response to an IOI will only be accepted within a *<1>* second validity period from the time the size up auction call begins.

3.3 Party Identification

ID	Description	Relevant FIX Tags
CompID	Identifier of the FIX client connecting to the FIX server. The FIX server maintains FIX sessions and sequences numbers per SenderCompID (49).	SenderCompID (49)
Trading Mnemonic	Identifier of the trading mnemonic the message is submitted under. The system will validate to ensure that the UserID specified is a valid, privileged trader. Trading privileges are assigned at the level of trading mnemonics.	UserID (6751)
BrokerNumber	Identifier of a member firm.	BrokerNumber (6774) ContraBroker (375)

3.4 Corporate Actions

When a carried forward order is adjusted, cancelled or expired as a result of a corporate action, the Execution Report transmitted at the start of the market will include an ExecType(150) of Restated(D) and ExecRestatementReason (378) of GT Corporate Action(0) to indicate the order adjustment or expiration.

3.5 Market Operations

3.5.1 Interest Submission and Management

NEO Exchange Operations are able to submit an order, order cancel request on behalf of a FIX client.

The FIX client will be notified of the order or cancel request submitted on its behalf if and when it is accepted. The FIX client will not be notified if the action is rejected or queued.

This feature is intended to help a FIX client manage an emergency situation and should not be relied upon as a normal business practice.

3.5.2 Trade Cancellations and Corrections

NEO may cancel or correct any trade. The FIX server will transmit Execution Reports to the relevant FIX clients to notify them of a trade cancellation or correction. The trade being cancelled or corrected will be identified via the ExecRefID (19) field. This field will contain the ExecID (17) of the Execution Report that was originally transmitted to notify the FIX client of the trade.

If an execution received by an order is cancelled or corrected to reduce the executed quantity, the cancelled/reduced quantity will be cancelled. The order will be restated to reduce its order quantity by the cancelled/reduced quantity. The FIX client will receive two notifications in such a scenario: one for the trade cancel/correction and another for the restatement. The LeavesQty (151) and CumQty (14) of a live order will always add up to its OrderQty (38).

Exchange Operations may also correct the price of an execution.

3.6 Market Maker Intervention

The Opening and Reopening Auction can be delayed at the discretion of the Designated Market Maker if more time is required to establish a stabilized opening price.

The market maker may delay an auction or update the previous closing price of an instrument via the Market Command message. The server will respond with a Market Command ACK message, acknowledging either the acceptance or rejection of the request.

3.7 Timestamps and Dates

The timestamps SendingTime (52), OrigSendingTime (122) and TransactTime (60) should be in UTC and in the YYYYMMDD-HH:MM:SS.sss format. ExpireTime (126), ValidUntilTime (62).

All dates (i.e. ExpireDate (432), FutSettDate (64)) should be in the YYYYMMDD format and specified in the local date for the FIX server (i.e. not in UTC)).

4 Connectivity

4.1 CompIDs

The CompID of each FIX client must be registered with NEO before FIX communications can begin. A single FIX client may have multiple connections to the FIX server (i.e. multiple FIX sessions, each with its own CompID).

The CompID of the FIX server will be provided with the FIX Session Bundle information by NEO Exchange Operations. The messages sent to the FIX server should contain the CompID assigned to the FIX client in the field SenderCompID (49) and the CompID of the market in the field TargetCompID (56). The messages sent from the FIX server to the FIX client will contain the CompID of the market in the field SenderCompID (49) and the CompID assigned to the FIX client in the field TargetCompID (56).

4.1.1 Passwords

Each new CompID will be assigned a password on registration. FIX clients should specify the assigned password using the field Password (554) in the Logon message. The acceptance of a login request indicates that the password has been accepted. The password will, if accepted, be effective for subsequent logins. A CompID will be locked following *<3>* unsuccessful login attempts.

4.2 Production & GTE IP Addresses and Ports

The IP address of each FIX client must be registered with NEO before FIX communications can begin. The IP addresses and ports of the Production and GTE FIX servers are contained in the NEO Exchange Connectivity Guide.

NEO will assign each FIX Session to one primary IP address and port and one secondary IP address and port.

4.3 Failover and Recovery

The system has been designed with fault tolerance and disaster recovery technology that ensures that trading should continue in the unlikely event of a process or site outage.

If the FIX client is unexpectedly disconnected from the FIX server, it should attempt to re-connect to the primary site within a few seconds. The FIX client should only attempt to connect to the secondary IP address and port if so requested by NEO.

4.4 Mass Cancellation On Disconnect

At the request of the participant, a given FIX session can be configured to automatically cancel all live orders submitted under a CompID whenever it disconnects and/or logs out from the FIX server.

This feature does not guarantee that all outstanding orders will be successfully cancelled as executions that occur very near the time of disconnect may not be reported to the FIX client. During such a situation, the FIX client should contact market operations to verify that all orders have been cancelled and all Execution Reports have been received.

The configuration of the mass cancellation on disconnect feature may be updated during a FIX session.

5 FIX Connections and Sessions

5.1 Establishing a FIX Connection

FIX connections and sessions between the FIX client and FIX server are maintained as specified in the FIX protocol.

Each FIX client will use the assigned IP address and port to establish a TCP/IP session with the FIX server. The FIX client will initiate a FIX session at the start of each trading day by sending the Logon message. The FIX client will identify itself using the SenderCompID (49) field.

The FIX server will validate the CompID, password and IP address of the FIX client. Once the FIX client is authenticated, the FIX server will respond with a Logon message.

The FIX server will break the TCP/IP connection if messages are received before the exchange of Logons.

If a logon attempt fails authentication, the FIX server will break the TCP/IP connection with the FIX client without sending a Logout or Reject. As the logon attempt failed, the FIX server will not increment the next inbound message sequence number expected from the FIX client.

5.2 Maintaining a FIX Session

5.2.1 Message Sequence Numbers

As outlined in the FIX protocol, the FIX client and FIX server will each maintain a separate and independent set of incoming and outgoing message sequence numbers. Sequence numbers should be initialized to 1 (one) at the start of the FIX session and be incremented throughout the session.

Monitoring sequence numbers will enable parties to identify and react to missed messages and to gracefully synchronize applications when reconnecting during a FIX session.

If any message sent by the FIX client contains a sequence number that is less than what is expected and the PossDupFlag (43) is not set to “Y”, the FIX server will send a Logout message and terminate the FIX connection. The Logout will contain the next expected sequence number in the Text (58) field.

A FIX session will not continue to the next trading day. The FIX server will initialize its sequence numbers at the start of each day. The FIX client is expected to employ the same logic.

5.2.2 Heartbeats

The FIX client and FIX server will use the Heartbeat message to exercise the communication line during periods of inactivity and to verify that the interfaces at each end are available. The heartbeat interval will be the HeartBtInt (108) specified in the FIX client's Logon message.

The FIX server will send a Heartbeat anytime it has not transmitted a message for the heartbeat interval. The FIX client is expected to employ the same logic.

If the FIX server detects inactivity for a period longer than the heartbeat interval plus a reasonable transmission time, it will send a Test Request message to force a Heartbeat from the FIX client. If a response to the Test Request is not received by a reasonable transmission time, the FIX server will send a Logout and break the TCP/IP connection. The FIX client is expected to employ similar logic if inactivity is detected on the part of the FIX server.

5.2.3 Increasing Expected Sequence Number

The FIX client or FIX server may use the Sequence Reset message in Gap Fill mode if it wishes to increase the expected incoming sequence number of the other party.

The FIX client or FIX server may also use the Sequence Reset message in Sequence Reset mode if it wishes to increase the expected incoming sequence number of the other party. The MsgSeqNum (34) in the header of such a message will be ignored. The Sequence Reset mode should only be used to recover from an emergency situation. It should not be relied upon as a regular practice.

5.3 Terminating a FIX Connection

The FIX client is expected to terminate each FIX connection at the end of each trading day before the FIX server shuts down. The FIX client will terminate a connection by sending the Logout message. The FIX server will respond with a Logout to confirm the termination.

All open TCP/IP connections will be terminated by the FIX server when it shuts down (a Logout will not be sent). Under exceptional circumstances the FIX server may initiate the termination of a connection during the trading day by sending the Logout message. The FIX server will terminate the TCP/IP connection (a Logout will not be sent) if the number of messages that are buffered for a given FIX client exceeds *<2,000>*. This can happen in the case where a client is slow reading messages from the FIX Server.

If, during the exchange of Logout messages, the FIX client or sever detects a sequence gap, it should send a Resend Request.

5.4 Re-Establishing a FIX Session

If a FIX connection is terminated during the trading day it may be re-established via an exchange of Logon messages. Once the FIX session is re-established, the message sequence numbers will continue from the last message successfully transmitted prior to the termination.

When the FIX client sends a logon and if the FIX gateway receives a higher sequence number than expected, the FIX gateway should send a Resend Request. The FIX client should respond to the Resend Request to make sure both the FIX client and FIX server are in sync.

5.4.1 Resetting Sequence Numbers: Starting a New FIX Session

5.4.1.1 Reset Initiated by the FIX client

If the FIX client requires both parties to initialize (i.e. reset to 1) sequence numbers, it may use the ResetSeqNumFlag (141) field of the Logon message. The FIX server will respond with a Logon with the ResetSeqNumFlag (141) field set to “Y” to confirm the initialization of sequence numbers. In such cases, if the MsgSeqNo (34) of the Logon message is not reset to 1, the FIX server will break the TCP/IP connection after sending a Logout. It will include an indication of the rejection in the Text (58) field.

A FIX client may also manually inform market operations that it would like the FIX server to initialize its sequence numbers prior to the FIX client’s next login attempt.

These features are intended to help a FIX client manage an emergency situation. Initializing sequence numbers on a re-login should not be relied upon as a regular practice.

5.4.1.2 Reset Initiated by the FIX server

The system has been designed with fault tolerance and disaster recovery technology that should ensure that the FIX server retains its incoming and outgoing message sequence numbers for each FIX client in the unlikely event of an outage.

However, FIX clients are required to support a manual request by NEO to initialize sequence numbers prior to the next login attempt.

6 Recovery

6.1 Resend Requests

The FIX client may use the [Resend Request] message to recover lost messages. As outlined in the FIX protocol, this message may be used in one of three modes:

(i) To request a single message. The BeginSeqNo (7) and EndSeqNo (16) should be the same.

(ii) To request a specific range of messages. The BeginSeqNo (7) should be the first message of the range and the EndSeqNo (16) should be the last of the range.

(iii) To request all messages after a particular message. The BeginSeqNo (7) should be the sequence number immediately after that of the last processed message and the EndSeqNo (16) should be zero (0).

The FIX server caches the last *<2,000>* messages transmitted to each CompID. FIX clients are unable to use a [Resend Request] to recover messages not in the FIX server's cache. If the FIX client requests a range of messages that have sequence numbers falling outside the cache size, a [Sequence Reset] message in Gap Fill mode will be sent for the missing messages and will send the available messages as per the request after that.

6.2 Possible Duplicates

The FIX server handles possible duplicates according to the FIX protocol. The FIX client and FIX server will use the PossDupFlag (43) field to indicate that a message may have been previously transmitted with the same MsgSeqNum (34).

6.3 Possible Resends

6.3.1 FIX client-Initiated Messages

The FIX server does not handle possible resends for FIX client-initiated messages (e.g. New Order – Single, etc.) and ignores the value in the PossResend (97) field of such messages.

6.3.2 FIX server-Initiated Messages

The FIX server may, in the circumstances outlined in Section 6.4, use the PossResend (97) field to indicate that an application message may have already been sent under a different MsgSeqNum (34). The FIX client should validate the contents (e.g. ExecID) of such a message against those of messages already received during the current trading day to determine whether the new message should be ignored or processed.

6.4 Transmission of Missed Messages

The Execution Report, Order Cancel Reject, Indication of Interest and Business Message Reject messages generated during a period when a FIX client is disconnected from the FIX server will be sent to the FIX client when it next reconnects. In the unlikely event the disconnection was due to an outage of the FIX server, all such messages will include a PossResend (97) of "Y".

7 Message Formats

This section provides details on the header and trailer, the seven administrative messages and eleven application messages utilized by the FIX server. FIX client-initiated messages not included in this section are rejected by the FIX server via a Reject or Business Message Reject.

7.1 Variations from the FIX Protocol

(i) The Logon message includes the field Password (554) introduced in FIX 4.3.

(ii) The ExecRestatementReason (378) field of the Execution Report message includes the values "Market Option" (8) which was introduced in version 4.3 of the protocol. It also includes custom value "Triggered" (18) (reserved for future use).

(iii) The OrdRejReason (103) field of the Execution Report message includes the value "Other" (99) which was introduced in version 4.4 of the protocol.

(iv) The CxlRejReason (102) field of the Order Cancel Reject message includes the value "Other" (99) which was introduced in version 4.4 of the protocol.

(v) The TIF (59) field of the New Order – Single message includes the value "RHO" (R).

(vi) The OrderStatus (39) field in the Execution Report has the value "5" (replaced) which was introduced in FIX 4.2 of the protocol.

(vii) The ExecInst (18) field in the Execution Report and New Order – Single message includes the custom value "i" (Imbalance Only) introduced in version 4.4 of the protocol and a custom value of 100 which represents Re-Price (Resting only orders).

(viii) The HandlInst (21) field in the Execution Report and New Order – Single has the custom values "5" (Protect and Cancel) and "6" (Protect and Cancel).

(ix) The FutSettDate (64) field in the Execution Report and New Order – Single message has the custom value "11" (Non-Net).

(x) The Execution Report and New Order – Single message have the custom fields PegOffsetType (836) (reserved for future use) and StopDepth (1090) (reserved for future use) added in FIX 4.4.

(xi) The Execution Report, Order Cancel/Replace Request, Order Cancel Request, New Order – Single, Market Command, and Market Command ACK message has custom fields between tag ranges of 6750 – 20015.

(xii) Tags BidPx (132) and OfferPx (133) have been added to the Execution Report.

(xiii) The Execution Report has the custom field AggressorIndicator (1057) which was introduced in version 4.4 of the protocol.

7.2 Supported Message Types

7.2.1 Administrative Messages

All administrative messages may be initiated by either the FIX client or the FIX server.

Message	MsgType	Usage
Logon	A	Allows the FIX client and FIX server to establish a FIX session.
Logout	5	Allows the FIX client and FIX server to terminate a FIX session.
Heartbeat	0	Allows the FIX client and FIX server to exercise the communication line during periods of inactivity and verify that the interfaces at each end are available.
Test Request	1	Allows the FIX client or FIX server to request a response from the other party if inactivity is detected.
Resend Request	2	Allows for the recovery of messages lost during a malfunction of the communications layers.
Reject	3	Used to reject a message that does not comply with the session level of the FIX protocol.
Sequence Reset	4	Allows the FIX client or FIX server to increase the expected incoming sequence number of the other party.

7.2.2 Application Messages: Order Handling

7.2.2.1 FIX client-Initiated

Message	MsgType	Usage
New Order – Single	D	Allows the FIX client to submit a new order.
Order Cancel Request	F	Allows the FIX client to cancel a live order.
Order Cancel/Replace Request	G	Allows the FIX client to cancel/replace a live order.

7.2.2.2 FIX server-Initiated

Message	MsgType	Usage

Execution Report	8	Indicates one of the following: (i) Order accepted. (ii) Order rejected. (iii) Order executed. (iv) Order cancelled. (v) Order Restatement (vi) Order cancelled/replaced. (vii) Trade cancelled. (viii) Trade corrected.
Order Cancel Reject	9	Indicates that an order cancel request or order cancel/replace request has been rejected.

7.2.3 Application Messages: Other

7.2.3.1 FIX server-Initiated

Message	MsgType	Usage
Indication of Interest	6	Indications of interest messages relevant to a size up auction call. (Reserved for Future Use)
Business Message Reject	j	Indicates that an application message could not be processed.
Market Command ACK	CA	Acknowledges either acceptance or rejection of the Market Command (MC).

7.2.3.2 Client-Initiated

Message	MsgType	Usage
Market Command	MC	Allows the client to instruct the system to delay/execute auctions and update the previous closing price.

7.3 Message Header and Trailer

7.3.1 Message Header

Tag	Field Name	Req	Description
8	BeginString	Y	Should contain the string FIX.4.2.

9	BodyLength	Y	Number of characters after this field up to and including the delimiter immediately preceding the CheckSum.
35	MsgType	Y	Message type.
49	SenderCompID	Y	CompID of the party sending the message.
56	TargetCompID	Y	CompID of the party the message is sent to.
34	MsgSeqNum	Y	Sequence number of the message.
43	PossDupFlag	N	Whether the message was previously transmitted under the same MsgSeqNum (34). Absence of this field is interpreted as Original Transmission (N). **Value** / **Meaning** Y — Possible Duplicate N — Original Transmission
97	PossResend	N	Whether the message was previously transmitted under a different MsgSeqNum (34). Absence of this field is interpreted as Original Transmission (N). **Value** / **Meaning** Y — Possible Resend N — Original Transmission
52	SendingTime	Y	Time the message was transmitted.
122	OrigSendingTime	N	Time the message was originally transmitted. If the original time is not available, this should be the same value as SendingTime (52). Required if PossDupFlag (43) is Possible Duplicate (Y).

7.3.2 Message Trailer

Tag	Field Name	Req	Description
10	CheckSum	Y	

7.4 Administrative Messages

7.4.1 Logon

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req</th><th>Description</th></tr>
<tr><td colspan="4">Standard Header</td></tr>
<tr><td>35</td><td>MsgType</td><td>Y</td><td>A = Logon</td></tr>
<tr><td colspan="4">Message Body</td></tr>
<tr><td>98</td><td>EncryptMethod</td><td>Y</td><td>Method of encryption.
Value Meaning
0 None</td></tr>
<tr><td>108</td><td>HeartBtInt</td><td>Y</td><td>Indicates the heartbeat interval in seconds.</td></tr>
<tr><td>141</td><td>ResetSeqNum Flag</td><td>N</td><td>Indicates whether the FIX client and FIX server should reset sequence numbers. Absence of this field is interpreted as Do Not Reset Sequence Numbers (N).
Value Meaning
Y Reset Sequence Numbers
N Do Not Reset Sequence Numbers</td></tr>
<tr><td>554</td><td>Password</td><td>N</td><td>Password assigned to the CompID. Required if the message is generated by the FIX client.</td></tr>
<tr><td colspan="4">Standard Trailer</td></tr>
</table>

7.4.2 Logout

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req</th><th>Description</th></tr>
<tr><td colspan="4">Standard Header</td></tr>
<tr><td>35</td><td>MsgType</td><td>Y</td><td>5 = Logout</td></tr>
<tr><td colspan="4">Message Body</td></tr>
<tr><td>58</td><td>Text</td><td>N</td><td>The reason for the logout.</td></tr>
<tr><td colspan="4">Standard Trailer</td></tr>
</table>

7.4.3 Heartbeat

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	0 = Heartbeat
Message Body			
112	TestReqID	N	Required if the heartbeat is a response to a Test Request. The value in this field should echo the TestReqID (112) received in the Test Request.
Standard Trailer			

7.4.4 Test Request

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	1 = Test Request
Message Body			
112	TestReqID	Y	Identifier for the request.
Standard Trailer			

7.4.5 Resend Request

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	2 = Resend Request
Message Body			
7	BeginSeqNo	Y	Sequence number of first message in range.
16	EndSeqNo	Y	Sequence number of last message in range.
Standard Trailer			

7.4.6 Reject

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	3 = Reject
Message Body			

45	RefSeqNum	Y	MsgSeqNum (34) of the rejected message.
372	RefMsgType	N	MsgType (35) of the rejected message.
371	RefTagID	N	If a message is rejected due to an issue with a particular field its tag number will be indicated.
373	SessionReject Reason	N	Code specifying the reason for the reject. Please refer to Section 8.2.1 for a list of reject codes.
58	Text	N	Where possible, message to explain reason for rejection.
Standard Trailer			

7.4.7 Sequence Reset

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	4 = Sequence Reset
Message Body			
36	NewSeqNo	Y	Sequence number of the next message to be transmitted.
123	GapFillFlag	N	Mode in which the message is being used. Absence of this field is interpreted as Sequence Reset (N). **Value** **Meaning** Y Gap Fill N Sequence Reset
Standard Trailer			

7.5 Application Messages: Order Handling

7.5.1 New Order – Single

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	D = New Order - Single
Message Body			

1	Account	N	Trading account specified by the trader.
11	ClOrdID	Y	Unique FIX client specified identifier of the order.
18	ExecInst	N	Space separated field indicating specific instructions to be carried out on the order due to various events. **Value** **Meaning** R National Best (Reserved for future use) 6 Resting Only M Mid-point i Imbalance Only 100 Re-Price (Resting only orders) x Minimum Price Improvement
21	HandlInst	Y	Handling instructions for the order. **Value** **Meaning** 1 Directed Action Order (DAO) 5 Protect and Cancel 6 Protect and Re-price
23	IOIID	N	(Reserved for future use) Field indicates the order is in response to an Indication of Interest message sent by NEO for participation in a Size Up Auction. This value must equal the IOIID sent by NEO in the Indication of Interest Message.
38	OrderQty	Y	Total order quantity.

40	OrdType	Y	Type of the order. **Value** **Meaning** 1 Market 2 Limit 3 Stop (Reserved for future use) 4 Stop Limit (Reserved for future use) P Pegged
44	Price	N	Limit price. Required if OrderType (40) is Limit (2) or Stop Limit (4) (Reserved for future use). If applied to a pegged order, indicates the price cap of the order.
54	Side	Y	Side of the order. **Value** **Meaning** 1 Buy 2 Sell 5 Sell Short 8 Cross 9 Cross Short
55	Symbol	Y	Identifier of the instrument.

59	TimeInForce	N	Time qualifier of the order. Absence of this field is interpreted as Day (0). **Value** **Meaning** 0 Day 1 Good Till Cancel (GTC) 2 At the Open (OPG) 3 Immediate or Cancel (IOC) 4 Fill or Kill (FOK) 6 Good Till Date (GTD) 7 At the Close (ATC) R Regular Hours Only (RHO)
60	TransactTime	Y	Time the order was created.
63	SettlmntTyp	N	Indicates settlement period. Conditionally required if ExDestination is set to a value of 'S' (SST). **Value** **Meaning** 1 Cash 2 Next Day 6 Future 11 Non-Net
64	FutSettDate	N	Specific date of trade settlement in YYYYMMDD format. Required if SettlmntTyp (63) is set to a value 6.
99	StopPx	N	(Reserved for future use) Stop price. Required if OrderType (40) is Stop (3) or Stop Limit (4).

100	ExDestination	N	Indicates which NEO trading book the order should be directed to and indicates the NEO trading book in which the order will be anchored for Derived orders. Absence of this field is interpreted as L (NEO-L) if a value is not specified in the SettlmntTyp (63) field and if the Side field is not equal to 8 (Cross) or 9 (Cross Short). If a value is specified in the SettlmntTyp (63) field, ExDestination must be set as S (SST). If the side is specified as 8 (Cross) or 9 (Cross Short), the absence of this field will be interpreted as C (Cross). **Value** **Meaning** L NEO-L N NEO-N D NEO-D C Cross S SST
110	MinQty	N	User defined minimum match volume restriction which must be satisfied by contra order(s) before it can be traded.
111	MaxFloor	N	User defined disclosed quantity. If supplied, value specified should be greater than 0. Required to specify iceberg orders.
126	ExpireTime	N	Used to indicate GTT (Good till Time) orders.Time the order expires which must be a time during the current trading day. Required if TimeInForce (59) is GTD (6) and ExpireDate (432) is not specified.
211	PegDifference	N	(Reserved for future use) Defines trailing offset added to trailing stop/stop limit orders or tick increment offset for a pegged order. Only positive values will be accepted.

432	ExpireDate	N	Date the order expires. Required if TimeInForce (59) is GTD (6) and ExpireTime (126) is not specified. The date should be provided in YYYYMMDD format.
836	PegOffsetType	N	(Reserved for future use) Identifies the Peg Offset type. Absence of this field is interpreted as Ticks (2). **Value** **Meaning** 2 Ticks
1090	StopDepth	N	(Reserved for future use) Identifies the user defined tick increment at which the triggered Stop order will stop executing.
1724	OrderOrigination	N	Type of client entity sending an order to the Broker Dealer. **Value** **Meaning** 5 Order received from a direct access client (DEA) 6 Order received from a foreign dealer equivalent (FDE) 7 Order received from an order execution only service (OEO)
2883	RoutingArrangementIndicator	N	**Value** **Meaning** 0 No routing arrangement in place 1 Routing arrangement in place

6750	AccountType	N	Type of trading account. If not explicitly specified and if Side (54) = 1 (Buy), 2 (Sell) or 5 (Sell Short), this field will be defaulted to NC (Non Client). **Value** **Meaning** NC Non Client (Default) CL Client ST Equities Specialist IN Inventory OF Options firm account OT Options market maker BU Bundled MC Multiple Clients
6751	UserID	Y	Owner of the order. The system will validate to ensure that the UserID specified is a valid privileged trader.
6754	BasketTrade	N	Identifies an order as part of a basket trade. Absence of this field is interpreted as N (No). **Value** **Meaning** Y Yes N No (Default)
6755	ProgramTrade	N	A marker to indicate that the order is part of a specialized basket trade comprised of Index securities to offset an options or futures position. Absence of this field is interpreted as N (No). **Value** **Meaning** Y Yes N No (Default)
6757	Jitney	N	Marker identifying the order as being executed on behalf of another member. This is a three digit numeric member firm number.

<table>
<tr><td>6761</td><td>Anonymous</td><td>N</td><td>Marker identifying the order as anonymous or attributed. Absence of this field is interpreted as N (No).
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>Y</td><td>Yes</td></tr>
<tr><td>N</td><td>No (Default)</td></tr>
</table></td></tr>
<tr><td>6763</td><td>RegulationID</td><td>N</td><td>Identification marker for UMIR-specific designation to orders and trades.
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>IA</td><td>Insider Account</td></tr>
<tr><td>NA</td><td>Not Applicable</td></tr>
<tr><td>SS</td><td>Significant Shareholder</td></tr>
</table></td></tr>
<tr><td>6767</td><td>BuyAccountType</td><td>N</td><td>Identifies the buyer’s trading account for a cross order. If not explicitly specified and if Side (54) = 8 (Cross) or 9 (Cross Short), this field will be defaulted to NC (Non Client).
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>NC</td><td>Non Client (Default)</td></tr>
<tr><td>CL</td><td>Client</td></tr>
<tr><td>ST</td><td>Equities Specialist</td></tr>
<tr><td>IN</td><td>Inventory</td></tr>
<tr><td>OF</td><td>Options firm account</td></tr>
<tr><td>OT</td><td>Options market maker</td></tr>
<tr><td>BU</td><td>Bundled</td></tr>
<tr><td>MC</td><td>Multiple Clients</td></tr>
</table></td></tr>
</table>

6768	SellAccountType	N	Identifies the seller's trading account for a cross order. If not explicitly specified and if Side (54) = 8 (Cross) or 9 (Cross Short), this field will be defaulted to NC (Non Client). **Value** **Meaning** NC Non Client (Default) CL Client ST Equities Specialist IN Inventory OF Options firm account OT Options market maker BU Bundled MC Multiple Clients
6769	BuyAccountID	N	Identifies the buy side trading account for a cross order.
6770	SellAccountID	N	Identifies the sell side trading account for a cross order.
6771	BuyRegulationID	N	Identification marker for UMIR-specific designation to orders and trades. Used on the buy side of a cross order. **Value** **Meaning** IA Insider Account NA Not Applicable SS Significant Shareholder
6772	SellRegulationID	N	Identification marker for UMIR-specific designation to orders and trades. Used on the sell side of a cross order. **Value** **Meaning** IA Insider Account NA Not Applicable SS Significant Shareholder

<table>
<tr><td>6773</td><td>CrossType</td><td>N</td><td>For crosses, the absence of this field will be interepreted as National (‘N’) if the Bypass (6791) flag is set to ‘N’.
Identifies the type of cross being printed.
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>N</td><td>National (Default)</td></tr><tr><td>I</td><td>Internal</td></tr><tr><td>V</td><td>VWAP</td></tr><tr><td>C</td><td>Contingent</td></tr><tr><td>X</td><td>Non NEO Cross (Reserved for future use)</td></tr><tr><td>B</td><td>Basis</td></tr><tr><td>D</td><td>Derivative</td></tr></table></td></tr>
<tr><td>6781</td><td>BuyJitney</td><td>N</td><td>Indicates the buy side of a cross order is marked as being executed on behalf of another Member.</td></tr>
<tr><td>6782</td><td>SellJitney</td><td>N</td><td>Indicates the sell side of a cross order is marked as being executed on behalf of another Member.</td></tr>
<tr><td>6783</td><td>NonResident</td><td>N</td><td>Absence of this field is interpreted as N (No).
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>Y</td><td>Yes</td></tr><tr><td>N</td><td>No (Default)</td></tr></table></td></tr>
<tr><td>6791</td><td>ByPass</td><td>N</td><td>Identifies an order as eligible to match against displayed volume only. Absence of this field is interpreted as N (No).
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>Y</td><td>Yes</td></tr><tr><td>N</td><td>No (Default)</td></tr></table></td></tr>
</table>

6792	NCIB	N	Identifies Normal Course Issuer Bid orders. Absence of this field is interpreted as N (No). **Value** **Meaning** Y Yes N No (Default)
7713	SelfTradePrevention	N	A marker which identifies the eligibility to trade with other orders originating from the same member firm. **Value** **Meaning** T Trade No Print
7714	SelfTradeKey	N	Client specified identifier of order relevant to self trading. Self trade prevention will occur only between orders with SelfTradePrevention (7713) set, and the same value on both sides in SelfTradeKey (7714). Conditionally required if SelfTradePrevention (7713) is set.
7729	ShortMarkingExempt	N	Marker for "Short-Marking Exempt" order designation. **Value** **Meaning** 0 SME (Non Cross Order) 1 Buy Cross SME 2 Sell Cross SME 3 Both Buy and Sell Cross SME
8020	DisplayRange	N	(Reserved for future use) For an Iceberg order, used to denote an upper and lower limit used to randomize display quantity. Minimum value and Maximum value should be stated respectively, comma separated. Values should be integer.
8025	CustomerAccount	N	Account Number for clients not eligible to obtain an LEI

8026	AlgorithmID	N	Unique identifier for a client automatically generating orders on a predetermined basis
8027	CustomerLEI	N	LEI for clients of the Broker Dealer eligible to obtain an LEI including LEI of the foreign dealer equivalent (FDE)
8028	BrokerLEI	N	Non-Participating Organization (PO) IIROC Dealer Member (Correspondant Broker)
20000	VisibilityType	N	Indicates whether the order is fully transparent, or fully hidden. Absence of this field is interpreted as 1 (Transparent) for NEO-L and NEO-N. Absence of this field for NEO-D is interpreted as as 2 (Hidden). **Value** **Meaning** 1 Transparent (Default for NEO-L and NEO-N) 2 Hidden (Default for NEO-D)
20001	MAQMatchType	N	Type of MAQ volume execution restriction for orders entered with a MAQ. Conditionally required if a MinQty (110) is specified. **Value** **Meaning** 1 Single contra order match (Default if MinQty specified) 2 Multiple contra order match (Reserved for future use) *Note: Single - individual order execution must meet defined MAQ quantity* *Multiple – Multiple executions can be cumulated to meet defined MAQ quantity (Reserved for future use)*

20002	DeriveInto	N	(Reserved for future use) Indicates to which NEO trading book(s) a Derived order will be derived. Used in combination with ExDestination (100). **Value** / **Meaning** 1 – NEO-N 2 – NEO-D 3 – NEO-D and NEO-N
20004	ParticipantType	N	(Reserved for future use) Indicates the Participant Type sending an order. **Value** / **Meaning** 1 – Retail 2 – Non-Retail
20005	MatchingStateParticipation	N	Indicates which order flow type a Passive Dark order will interact with. Passive Dark orders have a Time In Force of Day or RHO. Active Orders have a Time in Force of IOC or FOK. **Value** / **Meaning** 1 – Active Orders Only 2 – Passive Orders Only 3 – Both Active and Passive Orders (Default)
20006	SizeUp	N	(Reserved for future use) Indicates interest to participate in a SizeUp Auction event. Allowed for resting Dark orders only. **Value** / **Meaning** Y – Yes N – No

20007	PriceImprovementOnly	N	(Reserved for future use) Indicates the type of interaction the order desires to receive with regards to price improvement. Only allowed on IOC or FOK active orders. Cannot be set to 'Y' if the Bypass flag is set. Absence of this field is interpreted as N (No). **Value** **Meaning** Y Yes N No (Default)
20008	FreeFormText	N	Pass-through Free text field. Clients should use this tag where pass-through is required instead of the Text (58) field. If a client submits Text (58) on a new order, it will be ignored.
20011	ContraParticipantType	N	(Reserved for Future Use) Indicates the Participant Type a Passive order will trade within the Continuous. Matching State. Absence of this field is interpreted as 1 (All). **Value** **Meaning** 1 All (Default) 2 Retail Only
20201	BuyCustomerAccount	N	Account Number for clients not eligible to obtain an LEI on the buy side of a cross.
20202	SellCustomerAccount	N	Account Number for clients not eligible to obtain an LEI on the sell side of a cross.
20203	BuyAlgorithmID	N	Unique identifier for a client automatically generating orders on a predetermined basis on the buy side of a cross.
20204	SellAlgorithmID	N	Unique identifier for a client automatically generating orders on a predetermined basis on the sell side of a cross.
20205	BuyCustomerLEI	N	LEI for clients of the Broker Dealer eligible to obtain an LEI including LEI of the foreign dealer equivalent (FDE) on the buy side of a cross.

20206	SellCustomerLEI	N	LEI for clients of the Broker Dealer eligible to obtain an LEI including LEI of the foreign dealer equivalent (FDE) on the sell side of a cross.
20207	BuyBrokerLEI	N	Non-Participating Organization (PO) IIROC Dealer Member (Correspondent Broker) on the buy side of a cross.
20208	SellBrokerLEI	N	Non-Participating Organization (PO) IIROC Dealer Member (Correspondent Broker) on the sell side of a cross.
20209	BuyOrderOrigination	N	Type of client entity sending an order to the Broker Dealer on the buy side of a cross. **Value** – **Meaning** 5 – Order received from a direct access client (DEA) 6 – Order received from a foreign dealer equivalent (FDE) 7 – Order received from an order execution only service (OEO)
20210	SellOrderOrigination	N	Type of client entity sending an order to the Broker Dealer on the sell side of a cross. **Value** – **Meaning** 5 – Order received from a direct access client (DEA) 6 – Order received from a foreign dealer equivalent (FDE) 7 – Order received from an order execution only service (OEO)
20211	BuyRoutingArragementIdicator	N	**Value** – **Meaning** 0 – No routing arrangement in place 1 – Routing arrangement in place
20212	SellRoutingArragementIdicator	N	**Value** – **Meaning** 0 – No routing arrangement in place 1 – Routing arrangement in place

Standard Trailer

7.5.2 Order Cancel Request

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	F = Order Cancel Request
Message Body			
11	ClOrdID	Y	Client specified identifier of the cancel request.
37	OrderID	N	FIX server specified identifier of the order being cancelled. Required if OrigClOrdID (41) is not specified.
41	OrigClOrdID	N	ClOrdID (11) of the order being cancelled. Required if OrderID (37) is not specified.
54	Side	Y	Must match the value in the order.
55	Symbol	Y	Must match the values in the order.
60	TransactTime	Y	Time the order cancel request was created.
100	ExDestination	N	Indicates the NEO trading book to which the order should be directed. Will be defaulted to 'L' if a value is not specified. When cancelling an order in any book other than NEO-L, this field is required. If not provided, the cancel request will be rejected. **Value** / **Meaning** L – NEO-L N – NEO-N D – NEO-D S – SST
6751	UserID	Y	Must match the values in the order.
20008	FreeFormText	N	Pass-through free text field.
Standard Trailer			

7.5.3 Order Cancel/Replace Request

Tag	Field Name	Req	Description

Standard Header			
35	MsgType	Y	G = Order Cancel/Replace Request
Message Body			
1	Account	N	This is an amendable field
11	ClOrdID	Y	Unique client specified identifier of the cancel/replace request.
18	ExecInst	N	Space separated field indicating specific instructions to be carried out on the order due to various events. Must match the original order. **Value** **Meaning** R National Best (Reserved for future use) 6 Resting Only M Mid-point i Imbalance Only 100 Re-Price (Resting only orders) x Minimum Price Improvement
21	HandlInst	Y	Handling instructions for the order. Must match the original order. **Value** **Meaning** 1 Directed Action Order (DAO) 5 Protect and Cancel 6 Protect and Reprice
23	IOIID	N	(Reserved for future use) Field indicates the order is in response to an Indication of Interest message sent by NEO for participation in a Size Up Auction. This value must equal the IOIID sent in the original message.
37	OrderID	N	FIX server specified identifier of the order. Required if OrigClOrdID (41) is not specified.

38	OrderQty	Y	Total order quantity. This is an amendable field.
40	OrderType	Y	Must match original order. **Value** **Meaning** 1 Market 2 Limit 3 Stop (Reserved for future use) 4 Stop Limit (Reserved for future use) P Pegged
41	OrigClOrdID	N	Unique ClOrdID (11) of the order being amended. Required if OrderID (37) is not specified.
44	Price	N	Limit price of the order. This is an amendable field. Required if OrderType (40) is Limit (2) or Stop Limit (4).
54	Side	Y	Must match original order. **Value** **Meaning** 1 Buy 2 Sell 5 Sell Short 8 Cross 9 Cross Short
55	Symbol	Y	Must match original order.
59	TimeInForce	N	DAY, GTC, GTT, GTD, RHO orders can only be amended to DAY, GTT, GTD, GTC, RHO. ATC and OPG orders cannot be amended to another TIF value. Absence of this field is interpreted as Day (0).
60	TransactTime	Y	Time the message was created.

<table>
<tr><td>63</td><td>SettlmntTyp</td><td>N</td><td>Amendable if tag was set on original order.
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Cash</td></tr><tr><td>2</td><td>Next Day</td></tr><tr><td>6</td><td>Future</td></tr><tr><td>11</td><td>Non-Net</td></tr></table></td></tr>
<tr><td>64</td><td>FutSettDate</td><td>N</td><td>Amendable field. Specific date of trade settlement in YYYYMMDD format. Required if SettlmntTyp (63) is set to a value 6.</td></tr>
<tr><td>99</td><td>StopPx</td><td>N</td><td>(Reserved for future use)
Amendable field. Required if OrderType (40) is Stop (3) or Stop Limit (4)</td></tr>
<tr><td>100</td><td>ExDestination</td><td>N</td><td>Indicates the NEO trading book to which the order should be directed. Value must match the original order. Will be defaulted to ‘L’ if a value is not specified.
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>L</td><td>NEO-L</td></tr><tr><td>N</td><td>NEO-N</td></tr><tr><td>D</td><td>NEO-D</td></tr><tr><td>S</td><td>SST</td></tr></table></td></tr>
<tr><td>110</td><td>MinQty</td><td>N</td><td>This is an amendable field.</td></tr>
<tr><td>111</td><td>MaxFloor</td><td>N</td><td>This is an amendable field.</td></tr>
<tr><td>126</td><td>ExpireTime</td><td>N</td><td>This is an amendable field. Required if TimeInForce (59) is GTD (6) and ExpireDate (432) is not specified.</td></tr>
<tr><td>211</td><td>PegDifference</td><td>N</td><td>This is an amendable field.</td></tr>
<tr><td>432</td><td>ExpireDate</td><td>N</td><td>This is an amendable field.
Date the order expires. Required if TimeInForce (59) is GTD (6) and ExpireTime (126) is not specified. Date displayed in YYYYMMDD format.</td></tr>
</table>

1090	StopDepth	N	(Reserved for Future Use) This is an amendable field.
1724	OrderOrigination	N	Type of client entity sending an order to the Broker Dealer. **Value** **Meaning** 5 Order received from a direct access client (DEA) 6 Order received from a foreign dealer equivalent (FDE) 7 Order received from an order execution only service (OEO)
2883	RoutingArragementIndicator	N	**Value** **Meaning** 0 No routing arrangement in place 1 Routing arrangement in place
6750	AccountType	N	Type of trading account. This is an amendable field. **Value** **Meaning** NC Non Client CL Client ST Equities Specialist IN Inventory OF Options firm account OT Options market maker BU Bundled MC Multiple Clients
6751	UserID	Y	Owner of the order.
6754	BasketTrade	N	This is an amendable field. **Value** **Meaning** Y Yes N No

6755	ProgramTrade	N	This is an amendable field. **Value** **Meaning** Y Yes N No
6757	Jitney	N	A 3 digit numeric assigned member firm number. This is an amendable field.
6761	Anonymous	N	This is an amendable field. **Value** **Meaning** Y Yes N No
6763	RegulationID	N	Identification marker for UMIR-specific designation to orders and trades. This is an amendable field. **Value** **Meaning** IA Insider Account NA Not Applicable SS Significant Shareholder
6783	NonResident	N	This is an amendable field. **Value** **Meaning** Y Yes N No
6792	NCIB	N	This is an amendable field.
7713	SelfTradePreventio n	N	This is an amendable field.
7714	SelfTradeKey	N	This is an amendable field.

7729	ShortMarkingExempt	N	Marker for "Short-Marking Exempt" order designation. Must match the original order. **Value** **Meaning** 0 SME (Non Cross Order)
8020	DisplayRange	N	(Reserved for future use) This is an amendable field.
8025	CustomerAccount	N	Account Number for clients not eligible to obtain an LEI
8026	AlgorithmID	N	Unique identifier for a client automatically generating orders on a predetermined basis
8027	CustomerLEI	N	LEI for clients of the Broker Dealer eligible to obtain an LEI including LEI of the foreign dealer equivalent (FDE)
8028	BrokerLEI	N	Non-Participating Organization (PO) IIROC Dealer Member (Correspondent Broker)
20000	VisibilityType	N	Indicates whether the order is fully transparent, or fully hidden. Must match the original order. **Value** **Meaning** 1 Transparent 2 Hidden
20001	MAQMatchType	N	Type of MAQ volume execution restriction for orders entered with a MAQ. Conditionally required if a MinQty (110) is specified. **Value** **Meaning** 1 Single contra order match 2 Multiple contra order match

20005	MatchingStateParticipation	N	Indicates which order flow type a Passive Dark order will interact with. Must match original order. **Value** **Meaning** 1 Active Orders Only 2 Passive Orders Only 3 Both Active and Passive Orders (Default)
20008	FreeFormText	N	This is an amendable field.
Standard Trailer			

7.5.4 Execution Report

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	8 = Execution Report
Message Body			
1	Account	N	Trading account specified by the trader.
6	AvgPx	Y	Average price of all fills for the order.
11	ClOrdID	Y	Client specified identifier of the order.
14	CumQty	Y	Total cumulative quantity filled.
17	ExecID	Y	FIX server specified identifier of the message.

<table>
<tr><td>18</td><td>ExecInst</td><td>N</td><td>Space separated field indicating specific instructions to be carried out on the order due to various events.
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>R</td><td>National Best (Reserved for future use)</td></tr><tr><td>6</td><td>Resting Only</td></tr><tr><td>M</td><td>Mid-point</td></tr><tr><td>i</td><td>Imbalance Only</td></tr><tr><td>100</td><td>Re-Price (Resting only orders)</td></tr><tr><td>x</td><td>Minimum Price Improvement</td></tr></table></td></tr>
<tr><td>19</td><td>ExecRefID</td><td>N</td><td>Reference to the execution being cancelled or corrected. Required if ExecTransType (20) is Cancel (1) or Correct (2).</td></tr>
<tr><td>20</td><td>ExecTransType</td><td>Y</td><td>The Execution Transaction type.
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>New</td></tr><tr><td>1</td><td>Cancel</td></tr><tr><td>2</td><td>Correct</td></tr><tr><td>3</td><td>Status</td></tr><tr><td>5</td><td>Auto Execution</td></tr></table></td></tr>
<tr><td>21</td><td>HandlInst</td><td>Y</td><td>Handling instructions for the order.
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Directed Action Order (DAO)</td></tr><tr><td>5</td><td>Protect and Cancel</td></tr><tr><td>6</td><td>Protect and Reprice</td></tr></table></td></tr>
</table>

23	IOIID	N	(Reserved for future use) Field indicates the order is in response to an Indication of Interest message sent by NEO for participation in a Size Up Auction. This value must equal the IOIID sent by NEO in the Indication of Interest Message.
30	LastMkt	N	For trades will be set to the NEO MIC Code, "NEOE".
31	LastPx	N	Price of this fill. Will be "0" if ExecType (150) is not Partially Filled (1) or Filled (2). Required if ExecTransType is not Status (3).
32	LastShares	N	Quantity executed in this fill. Will be "0" if ExecType (150) is not Partially Filled (1) or Filled (2). Required if ExecTransType is not Status (3).
37	OrderID	Y	FIX server specified identifier of the order.
38	OrderQty	Y	Total order quantity.
39	OrdStatus	Y	Current status of the order. **Value** **Meaning** 0 New 1 Partially Filled 2 Filled 4 Cancelled 5 Replaced 8 Rejected

40	OrdType	Y	Type of the order. **Value** **Meaning** 1 Market 2 Limit 3 Stop (Reserved for future use) 4 Stop Limit (Reserved for future use) P Pegged
41	OrigClOrdID	N	ClOrdID (11), of the order which has been amended or cancelled. Stamped only in the immediate ER generated to convey a solicited amendment/cancellation.[2]
44	Price	N	Value submitted with the order.
54	Side	Y	Side of the order. **Value** **Meaning** 1 Buy 2 Sell 5 Sell Short 8 Cross 9 Cross Short
55	Symbol	Y	Identifier of the instrument.
58	Text	N	Text specifying the reason for the rejection or cancellation.
59	TimeInForce	N	Value submitted with the order.
60	TransactTime	Y	Time of the execution.

[2] Any subsequent ERs sent regarding any executions, expirations etc. of the order will not be stamped the OrigClOrdID(41).

63	SettlmntTyp	N	Indicates settlement period. **Value** **Meaning** 1 Cash 2 Next Day 6 Future 11 Non-Net
64	FutSettDate	N	Specific date of trade settlement. Date should be specified in YYYYMMDD format.
75	TradeDate	N	Indicates date of trade referenced in this message in YYYYMMDD format. Absence of this field indicates current day (expressed in local time at place of trade). This field will be used to indicate a T+1 trade for NEO Connect trades.
99	StopPx	N	(Reserved for future use) Stop price. Required if OrderType (40) is Stop (3) or Stop Limit (4)
100	ExDestination	N	Indicates the NEO trading book to which the order should be directed and indicates the NEO trading book in which the order will be anchored for Derived orders. **Value** **Meaning** L NEO-L N NEO-N D NEO-D C Cross S SST
103	OrdRejReason	N	Code specifying the reason for the reject. Please refer to Section 8.1.1 for a list of reject codes. Required if ExecType (150) is Rejected (8).

110	MinQty	N	User defined minimum match volume restriction which must be satisfied by contra order(s) before it can be traded.
111	MaxFloor	N	User defined disclosed quantity.
126	ExpireTime	N	Time the order expires which must be a time during the current trading day. Required if TimeInForce (59) is GTD (6) and ExpireDate (432) is not specified.
132	BidPx	N	For hidden orders in NEO-L, NEO-D, NEO-N and price improving orders in NEO-N, this field will contain the NBB at the time of the trade.
133	OfferPx	N	For hidden orders in NEO-L, NEO-D, NEO-N and price improving orders in NEO-N, this field will contain the NBO at the time of the trade.
150	ExecType	Y	Reason the execution report was generated. **Value** **Meaning** 0 New 1 Partially Filled 2 Filled 4 Cancelled 5 Replaced 8 Rejected D Restated
151	LeavesQty	Y	Quantity available for further execution. Will be "0" if OrdStatus (39) is Filled (2), Cancelled (4), or Rejected (8).
198	SecondaryOrderID	N	The public order ID for displayed orders.
211	PegDifference	N	(Reserved for future use) Defines trailing Offset added to trailing stop/stop limit orders or tick increment offset for a pegged order. Only positive values will be accepted.

336	TradingSessionID	N	The Trading Session for the trade. **Value** **Meaning** 0 Opening 1 Post Open 2 Closing 3 Extended Trading 4 Midpoint (Reserved for future use) 5 SizeUp (Reserved for future use) 6 Cross 7 Post Halt
375	ContraBroker	N	For trades, indicates the Member on the contra side of the trade. Note: this is a stand alone tag and is not used in conjunction with the NoContraBrokers (tag 382) repeating group.
378	ExecRestatementReason	N	Indicates reason why an order is restated. **Value** **Meaning** 0 Corporate Action 1 Renewal / Restatement 3 Repricing of Order 8 Market Option 18 Triggered (Reserved for future use)
432	ExpireDate	N	Date the order expires. Required if TimeInForce (59) is GTD (6) and ExpireTime (126) is not specified. Date displayed in YYYYMMDD format.
836	PegOffsetType	N	(Reserved for future use) Identifies the Peg Offset type. **Value** **Meaning** 2 Ticks

<table>
<tr><td>1090</td><td>StopDepth</td><td>N</td><td>(Reserved for future use)
Identifies the user defined tick increment at which the triggered Stop order will stop executing.</td></tr>
<tr><td>1057</td><td>AggressorIndicator</td><td>N</td><td>For trades, indicates if the order was the aggressor or not (Active or Passive side of the trade indicator).
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>Y</td><td>Yes</td></tr><tr><td>N</td><td>No</td></tr></table></td></tr>
<tr><td>1138</td><td>DisplayQty</td><td>N</td><td>The quantity that is displayed.</td></tr>
<tr><td>1724</td><td>OrderOrigination</td><td>N</td><td>Type of client entity sending an order to the Broker Dealer.
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>5</td><td>Order received from a direct access client (DEA)</td></tr><tr><td>6</td><td>Order received from a foreign dealer equivalent (FDE)</td></tr><tr><td>7</td><td>Order received from an order execution only service (OEO)</td></tr></table></td></tr>
<tr><td>2883</td><td>RoutingArragementIndicator</td><td>N</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>No routing arrangement in place</td></tr><tr><td>1</td><td>Routing arrangement in place</td></tr></table></td></tr>
</table>

6750	AccountType	N	Type of trading account. **Value** **Meaning** NC Non Client CL Client ST Equities Specialist IN Inventory OF Options firm account OT Options market maker BU Bundled MC Multiple Clients
6751	UserID	Y	Owner of the order.
6754	BasketTrade	N	Identifies an order as part of a basket trade. **Value** **Meaning** Y Yes N No
6755	ProgramTrade	N	A marker to indicate that the order is part of a specialized basket trade comprised of Index securities to offset an options or futures position). **Value** **Meaning** Y Yes N No
6757	Jitney	N	Marker identifying the order as being executed on behalf of another member. 3 digit numeric assigned member firm number.
6761	Anonymous	N	Marker identifying the order as anonymous or attributed. **Value** **Meaning** Y Yes N No

6763	RegulationID	N	Identification marker for UMIR-specific designation to orders and trades. **Value** **Meaning** IA Insider Account NA Not Applicable SS Significant Shareholder
6773	CrossType	N	The type of cross. **Value** **Meaning** N National I Internal V VWAP C Contingent X Non NEO Cross (Reserved for future use) B Basis D Derivative
6774	BrokerNumber	N	The Member number of the client.
6776	PrincipalTrade	N	Indicates a cross between a client and another account type for a same member match. **Value** **Meaning** N No Y Yes
6783	NonResident	N	Indicator for Non-Resident. **Value** **Meaning** Y Yes N No

6791	ByPass	N	Identifies an order as eligible to match against displayed volume only. **Value** **Meaning** Y Yes N No
6792	NCIB	N	Identifies Normal Course Issuer Bid orders. **Value** **Meaning** Y Yes N No
7713	SelfTradePrevention	N	A marker which identifies the orders eligibility to trade with orders originating from the same member firm. **Value** **Meaning** T Trade No Print
7714	SelfTradeKey	N	User defined identifier.
7729	ShortMarkingExempt	N	Marker for "Short-Marking Exempt" order designation. **Value** **Meaning** 0 SME (Non Cross Order) 1 Buy Cross SME 2 Sell Cross SME 3 Both Buy and Sell Cross SME
7732	MatchingPriority	N	Indicates the type of priority used to match an order in a trade. **Value** **Meaning** 1 Broker Preferencing 100 Market Maker Preferential Trading (Note: this value will only be sent to Market Makers)
8025	CustomerAccount	N	Account Number for clients not eligible to obtain an LEI.

8026	AlgorithmID	N	Unique identifier for a client automatically generating orders on a predetermined basis.
8027	CustomerLEI	N	LEI for clients of the Broker Dealer eligible to obtain an LEI including LEI of the foreign dealer equivalent (FDE).
8028	BrokerLEI	N	Non-Participating Organization (PO) IIROC Dealer Member (Correspondent Broker).
8020	DisplayRange	N	(Reserved for future use) Echo value indicated on order entry.
20000	VisibilityType	N	Visibility type of order. **Value** **Meaning** 1 Transparent 2 Hidden
20009	LastOrderBook	N	For trades, indicates the NEO trading book in which the trade occurred. **Value** **Meaning** L NEO-L N NEO-N D NEO-D C Cross S SST
20001	MAQMatchType	N	Type of MAQ volume execution restriction for orders entered with a MAQ. **Value** **Meaning** 1 Single contra order size 2 Multiple contra order match (Reserved for future use)

20002	DeriveInto	N	(Reserved for future use) Indicates the NEO trading book(s) in which a Derived order was derived. **Value** **Meaning** 1 NEO-N 2 NEO-D 3 NEO-D and NEO-N
20004	ParticipantType	N	(Reserved for future use) Indicates the Participant Type sending an order. **Value** **Meaning** 1 Retail 2 Non-Retail
20005	MatchingStateParticipation	N	Indicates which order flow type a Passive Dark order will interact with. Passive Dark orders have a Time In Force of Day or RHO. Active Orders have a Time in Force of IOC or FOK. **Value** **Meaning** 1 Active Orders Only 2 Passive Orders Only 3 Both Active and Passive Orders
20006	SizeUp	N	(Reserved for future use) Indicates interest to participate in a SizeUp Auction event. Allowed for resting Dark orders only. **Value** **Meaning** Y Yes N No

20007	PriceImprovement Only	N	(Reserved for future use) Indicates the type of interaction the order desires to receive with regards to price improvement. Only allowed on IOC or FOK active orders. Cannot be set to 'Y' if the Bypass flag is set. **Value** **Meaning** Y Yes N No
20010	SelfTrade	N	Indicator of a Self Trade. **Value** **Meaning** Y Yes N No
20008	FreeFormText	N	Pass-through Free text field.
20011	ContraParticipantType	N	(Reserved for future use) Indicates the Participant Type a Passive order will trade within the Continuous Matching State. **Value** **Meaning** 1 All 2 Retail Only
Standard Trailer			

7.5.5 Order Cancel Reject

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	9 = Order Cancel Reject
Message Body			
11	ClOrdID	Y	ClOrdID (11) that was submitted with the order cancel or cancel/replace request being rejected.

37	OrderID	Y	FIX server specified identifier of the order for which the cancel or cancel/replace was submitted. Will be "NONE" if the order is unknown.
39	OrdStatus	Y	Current status of the order. Will be Rejected (8) if the order is unknown or the request cannot be processed. **Value** **Meaning** 0 New 1 Partially Filled 2 Filled 4 Cancelled 5 Replaced 8 Rejected
41	OrigClOrdID	N	OrigClOrdID (41), if any, that was submitted with the order cancel or cancel/replace request being rejected.
58	Text	N	Text specifying the reason for the rejection.
60	TransactTime	Y	Time the reject was generated.
102	CxlRejReason	Y	Code specifying the reason for the rejection. Please refer to Section 8.1.2 for a list of reject codes.
6751	UserID	Y	Owner of the order specified in the Order Cancel request.
434	CxlRej ResponseTo	Y	Type of request being rejected. **Value** **Meaning** 1 Order Cancel Request 2 Order Cancel/Replace Request
Standard Trailer			

7.6 Application Messages: Others

7.6.1 Indication of Interest (Reserved for future use)

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	6 = Indication of Interest
Message Body			
11	ClOrdID	Y	Client Order ID of the underlying Size Up Interest order.
23	IOIID	Y	ID
27	IOIShares	Y	Will always be 0 as the number of instruments will not be shown.
28	IOITransType	Y	Will always be 'N'.
37	OrderID	Y	The underlying Order ID of the underlying Size Up Interest order.
44	Price	Y	The price of the NBBO midpoint at the time the IOI message was generated.
54	Side	Y	NEO will always return the opposite side of the underlying Size Up Interest order.
55	Symbol	Y	The instrument participating in the Size Up Auction.
Standard Trailer			

7.6.2 Business Message Reject

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	j = Business Message Reject
Message Body			
379	BusinessReject RefID	N	Client specified identifier (e.g. ClOrdID, etc.) of the rejected message if it is available.
45	RefSeqNum	Y	MsgSeqNum (34) of the rejected message.
372	RefMsgType	Y	MsgType (35) of the rejected message.

371	RefTagID	N	If a message is rejected due to an issue with a particular field, its tag number will be indicated.
380	BusinessReject Reason	Y	Code specifying the reason for the rejection. Please refer to Section 9.2.2 for a list of reject codes.
58	Text	N	Text specifying the reason for the rejection.
Standard Trailer			

7.6.3 Market Command

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	MC=Market Command
Message Body			
20014	CommandID	N	Client specified identifier of the market command.
6751	UserID	Y	The owner of the Market Command request.
55	Symbol	Y	The symbol of the security.
326	SecurityTradingStatus	Y	Indicates the intention of the market command. **Value** **Meaning** 1 Delayed Symbol Open 17 Open Symbol 28 Set Reference Price
44	Price	N	The previous closing price of the instrument. Conditionally required if SecurityTradingStatus (326) is set to Reference Price (28).

100	ExDestination	N	Indicates which trading book the market command will be applied to. The value of 'L' is only applicable for market commands with SecurityTradingStatus (326) '1', '17' and '28'. The value of 'N' is only applicable for market commands with SecurityTradingStatus (326) '28' and '51'. Absence of this field is interpreted as L (NEO-L). **Value** / **Meaning** L / NEO-L N / NEO-N
Standard Trailer			

7.6.4 Market Command ACK

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	CA = Market Command Ack
Message Body			
20014	CommandID	N	Client specified identifier of the market command.
20012	CommandStatus	Y	**Value** / **Meaning** 0 / Accepted 17 / Rejected
6751	UserID	Y	The owner of the Market Command request.
55	Symbol	Y	The symbol of the security.
326	SecurityTradingStatus	Y	Indicates the intention of the market command. **Value** / **Meaning** 1 / Delayed Symbol Open 17 / Open Symbol 28 / Update Previous Close

44	Price	N	The value specified in the Market Command (35=MC). Conditionally required if SecurityTradingStatus (326) is set to Reference Price (28).
100	ExDestination	Y	**Value** **Meaning** L NEO-L N NEO-N
20013	RejectCode	N	The reject code applicable if the Market Command was rejected due to internal validations.
58	Text	N	Comment reject reason or other identifying information.
Standard Trailer			

8 Reject Codes

8.1 Order Handling

8.1.1 Execution Report

OrdRej Reason	Meaning
2	Exchange closed
5	Unknown order
16	Price exceeds current price band
99	Other

Please refer to the *appendix* for the list of reject codes and meanings specific to NEO.

8.1.2 Order Cancel Reject

CxlRej Reason	Meaning
1	Order not found (too late to cancel or unknown order)
8	Price exceeds current price band
99	Other

Please refer to the *appendix* for the list of reject codes and meanings specific to NEO.

8.2 Others

8.2.1 Reject

Session Reject Reason	Meaning
1	Required tag missing[3]
2	Tag not defined for this message type[4]
4	Tag specified without a value
5	Value is incorrect (out of range) for this tag
6	Incorrect data format for value
9	CompID problem
10	SendingTime accuracy problem
11	Invalid MsgType[5]
13	Tag appears more than once
14	Tag specified out of required order
15	Repeating group fields out of order
16	Incorrect NumInGroup count for repeating group
99	Other

Please refer to the *appendix* for the list of reject codes and texts sent for the specific rejections.

8.2.2 Business Message Reject

Business Reject Reason	Meaning
0	Other
2	Unknown instrument

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[3] This reject reason is sent when all the required tags for the message are not present in a message that is recognized by the gateway

[4] Delete this reject reason if the configuration to reject unknown fields in application messages is disabled.

[5] This reject reason is sent when a message that is not defined in the FIX data dictionary is received by the gateway

3	Unsupported message type[6]
4	Application not available
5	Conditionally required field missing
30	Session not established

[6] This reject reason is sent when the received message is not defined as a valid message for the Trading Gateway.

9 Appendix

9.1 FIX Tag Types & Field Lengths

Tag	Field Name	Data Type	Length	Max Decimals
1	Account	String	15	
6	AvgPx	F64	N/A	8
11	ClOrdID	String	20	
14	CumQty	F64	30	8
17	ExecID	String	15	
18	ExecInst	String	15	
19	ExecRefID	String	25	
20	ExecTransType	ENUM	1	
21	HandlInst	ENUM	1	
23	IOIID			
29	LastCapacity	ENUM	1	
30	LastMkt	String	4	
31	LastPx	F64	20	8
32	LastShares	F64	20	8
37	OrderID	String	12	
38	OrderQty	F64	30	8
39	OrdStatus	String	1	
40	OrdType	String	1	
41	OrigClOrdID	String	25	
44	Price	F64	N/A	8
54	Side	ENUM	1	

55	Symbol	String	25	
58	Text	String	60	
59	TimeInForce	String	2	
60	TransactTime	String	21	
63	SettlmntTyp	String	3	
64	FutSettDate	UI32	9	
75	TradeDate	UI32	9	
99	StopPx			
100	ExDestination	String	1	
103	OrdRejReason	I32	5	
110	MinQty	F64	30	8
111	MaxFloor	F64	30	8
126	ExpireTime	String	21	
132	BidPx	F64	N/A	8
133	OfferPx	F64	N/A	8
134	BidSize	F64	30	8
135	OfferSize	F64	30	8
150	ExecType	String	1	
151	LeavesQty	F64	30	8
198	SecondaryOrderID	String	21	
211	PegDifference			
336	TradingSessionID	String	1	
375	ContraBroker	String	12	
378	ExecRestatementReason	String	2	

432	ExpireDate	String	8	
554	Password	String	20	
836	PegDifferenceType			
1090	StopDepth			
1057	AggressorIndicator	String	2	
1138	DisplayQty	F64	30	8
1724	OrderOrigination	ENUM	1	
2883	RoutingArragementIndicator	ENUM	1	
6750	AccountType	String	2	
6751	UserID	String	11	
6754	BasketTrade	String	1	
6755	ProgramTrade	String	1	
6757	Jitney	String	3	
6761	Anonymous	String	1	
6763	RegulationID	String	2	
6767	BuyAccountType	String	2	
6768	SellAccountType	String	2	
6769	BuyAccountID	String	15	
6770	SellAccountID	String	15	
6771	BuyRegulationID	String	2	
6772	SellRegulationID	String	2	
6773	CrossType	String	1	
6774	BrokerNumber	String	11	
6776	PrincipalTrade	String	1	

6781	BuyJitney	String	3	
6782	SellJitney	String	3	
6783	NonResident	String	1	
6791	ByPass	String	1	
6792	NCIB	String	1	
7713	SelfTradePrevention	String	1	
7714	SelfTradeKey	String	6	
7729	ShortMarkingExempt	ENUM	1	
7732	MatchingPriority	String	3	
8025	CustomerAccount	String	20	
8026	AlgorithmID	String	20	
8027	CustomerLEI	String	52	
8028	BrokerLEI	String	20	
8020	DisplayRange			
20000	VisibilityType	ENUM	1	
20001	MAQMatchType	ENUM	1	
20002	DeriveInto			
20004	ParticipantType			
20005	MatchingStateParticipation	ENUM	1	
20006	SizeUp			
20007	PriceImprovementOnly			
20008	FreeFormText	String	60	
20009	LastOrderBook	String	1	
20010	SelfTrade	String	1	

20011	ContraParticipantType			
20201	BuyCustomerAccount	String	20	
20202	SellCustomerAccount	String	20	
20203	BuyAlgorithmID	String	20	
20204	SellAlgorithmID	String	20	
20205	BuyCustomerLEI	String	52	
20206	SellCustomerLEI	String	52	
20207	BuyBrokerLEI	String	20	
20208	SellBrokerLEI	String	20	
20209	BuyOrderOrigination	ENUM	1	
20210	SellOrderOrigination	ENUM	1	
20211	BuyRoutingArragement Idicator	ENUM	1	
20212	SellRoutingArragement Idicator	ENUM	1	

9.2 FIX Reject Codes & Reasons

Reject Code	Reason	Length
000001	Order not found (too late to cancel or unknown order)	53
000001	Unknown instrument	18
000001	Required tag missing	20
000002	Exchange closed	15
000002	Unknown Symbol	14
000002	Unknown underlying	18
000002	Strategy already exists	23
000002	Tag not defined for this message type	37

000003	Order exceeds limit (i.e. rejected by risk system)	50
000003	Unsupported message type	24
000004	Tag specified without a value	29
000004	Application not available	25
000005	Order not found (too late to cancel or unknown order)	53
000005	Value is incorrect (out of range) for this tag	46
000005	Unknown quote	13
000006	Duplicate order	15
000006	Duplicate quote	15
000006	Unauthorized to submit a RFQ	28
000006	Incorrect data format for value	31
000007	Invalid bid/ask spread	22
000008	Price exceeds current price band	32
000008	Invalid BidPx (132) or OfferPx (133)	36
000009	Trading mnemonic not registered to quote instrument	51
000009	CompID problem	14
000009	Invalid Sender CompID	21
000009	Invalid Target CompID	21
000010	Price exceeds current price band	32
000010	Inaccurate OrigSendingTime value	32
000010	SendingTime accuracy problem	28
000011	Unsupported order characteristic	32
000011	Invalid MsgType	15
000012	Legs inconsistent with strategy type	36
000013	Tag appears more than once	26
000014	Tag specified out of required order	35
000015	Repeating group fields out of order	35

000016	Price exceeds current price band	32
000018	Invalid price increment	23
000018	Invalid or unsupported application version	42
000099	Other	5
000500	Other	5
000501	Strategy already exists	23
000502	Legs inconsistent with strategy type	36
000503	Unsupported strategy type	25
000504	User not registered to create user-defined strategies	53
001000	Invalid order size (≤ zero)	27
001001	Invalid order size (< minimum size)	35
001002	Invalid order size (not multiple of lot size)	45
001003	Invalid order size (> maximum size)	35
001004	Invalid order size	18
001005	Order exceeds maximum order value	33
001006	Invalid order size (will breach maximum gross consideration)	60
001007	Invalid order size (< minimum reserve order value)	50
001008	Invalid order size (< minimum reserve order size)	49
001009	Bid exceeds maximum order value	31
001010	Offer exceeds maximum order value	33
001011	Order exeeds maximum order size	31
001012	Bid exceeds maximum order size	30
001013	Offer exceeds maximum order size	32
001014	Order/Quote breaches the net consideration limit	48
001100	Invalid display size (< zero)	29

001101	Invalid display size (> order size)	35
001102	Invalid display size (not multiple of lot size)	47
001103	Invalid display size	20
001104	Orders with hidden size not permitted during auction call	57
001105	Iceberg orders disabled for instrument	38
001106	Fully hidden orders disabled for instrument	43
001107	New hidden orders not permitted during auction call	51
001108	Orders with hidden sizes not permitted for order book	53
001109	Invalid Min Quantity (< zero)	55
001150	Invalid minimum size (> order size)	46
001151	Invalid minimum size (not multiple of lot size)	47
001152	Orders with minimum size not permitted during auction call	48
001153	Orders with minimum size not permitted during Pause session	49
001154	Minimum fill orders disabled for instrument	50
001155	Orders with minimum size not permitted for order book	53
001156	Visible orders are not permitted to order book	46
001201	Invalid limit price (not multiple of tick)	42
001202	Invalid limit price (price band breached)	41
001203	Invalid limit price (> maximum price)	37
001204	Invalid limit price (< minimum price)	37
001205	Invalid limit price (short sale failed tick test)	49
001206	Invalid limit price (short sale failed bid test)	48
001207	Invalid limit price (not equal to closing price)	48
001300	Invalid trigger price (≤ zero)	30
001301	Invalid trigger price (not multiple of tick)	44

001302	Stop Price cannot be specified for Trailing Stop orders	55
001303	Stop Price cannot be amended in Trailing Stop orders	55
001304	Trailing Offset cannot be added to Stop orders	46
001400	Invalid order type (unknown)	28
001401	Invalid order type (market/stop/MIT order with limit price)	59
001402	Invalid order type (market or limit order with a stop price)	60
001403	Market orders disabled for instrument	37
001404	Stop orders disabled for instrument	35
001405	Market to limit orders disabled for instrument	46
001406	Invalid order type (market to limit order with limit price)	59
001407	Stop orders are not permitted during this session	49
001408	Market orders are not permitted during an auction call	54
001409	Invalid type (only limit orders permitted for order book)	57
001410	MIT orders disabled for instrument	34
001411	MIT orders are not permitted during this session	48
001413	Trailing Stop/Stop limit orders disabled for instrument	55
001414	Market or limit order with a Trailing Offset	44
001415	Market if Touch order with a Trailing Offset	44
001416	LTP/BBO is not available	24
001417	Invalid order type (Not permitted for order book)	49

001427	Maximum stop order limit reached for instrument	47
001500	Invalid TIF (unknown)	21
001501	Invalid expire time (elapsed)	29
001502	Invalid expire time (time is for a future date)	47
001503	Invalid expire date (elapsed)	29
001505	Invalid TIF (OPG stop/MIT orders not permitted)	47
001506	Invalid TIF (IOC & FOK not permitted during auction calls)	58
001507	Invalid TIF (OPG not permitted outside opening auction call)	60
001508	Invalid TIF (invalid date format)	33
001509	No time qualifier specified	27
001511	Invalid TIF (GFA orders not supported)	59
001513	Invalid TIF (ATC stop orders not permitted)	59
001514	Invalid TIF (GFA stop orders not permitted)	43
001515	Invalid TIF (IOC & FOK not permitted during Pause session)	58
001516	GTD orders disabled for instrument	34
001517	GTT orders disabled for instrument	34
001518	FOK orders disabled for instrument	34
001519	GTC orders disabled for instrument	34
001520	OPG orders disabled for instrument	34
001521	ATC orders disabled for instrument	34
001522	Invalid TIF (Not permitted for order book)	42
001523	Invalid TIF (CPX stop orders not permitted)	43
001524	Invalid TIF (not permitted during this session)	47
001525	Invalid TIF (GFA market to limit orders not permitted)	54
001526	CPX orders disabled for instrument	34

001527	Maximum parked order limit reached for instrument	49
001528	IOC orders disabled for instrument	34
001529	GTS orders disabled for instrument	34
001530	Invalid TIF (GTS Stop/Stop Limit orders not permitted)	54
001531	Invalid TIF (GTS orders not permitted during Pause session)	59
001532	Invalid TIF (Not permitted for MIT orders)	42
001533	TIF amendments not allowed for order book	41
001550	Expired (end of day)	20
001700	Invalid clearing details (details not provided or invalid)	58
001800	User not registered to submit interest for instrument	53
001801	User not registered to submit interest for %s	45
001802	Invalid order type for sponsored user (market order)	52
001803	Invalid order type for sponsored user (stop/MIT order)	54
001804	Invalid order type for sponsored user (quote)	45
001806	%s not registered to submit orders for instrument	49
001808	Invalid order for sponsored user (multi-legged instrument)	58
001809	Invalid order for sponsored user (market to limit order)	56
001810	% is not permitted to submit short sell orders	46
001900	Invalid side	12
001901	Invalid order status (%d)	25
001902	Received Prior to First Trading Date of instrument	50

001903	Last Trading Date of instrument elapsed	39
001904	Invalid order capacity	22
001905	Invalid instrument set up (no tick structure)	45
001906	Short sales disabled for instrument	35
001907	Named orders disabled for instrument	36
001908	Only named orders permitted for order book	42
001909	Short sales disabled (reference price unavailable)	50
001910	Short sale market order failed tick test (invalid best bid)	59
001911	Short sale market orders disabled (bid test enabled)	52
001912	Monitoring user from sponsoring firm not connected	50
001913	Monitoring user from sponsoring firm disconnected	50
001914	Invalid order source [Reserved for future use]	46
001915	Invalid side (Sell short sales not permitted for order book)	60
001927	Maximum active order limit reached for matching thread	54
001928	Max active order limit reached for user for matching thread	59
001929	Buy orders are not allowed for the auction at this time	55
001930	Sell orders are not allowed for the auction at this time	56
001931	Invalid Price (worse than IAP)	30
001932	Invalid Size (greater than imbalance size)	42
001933	Invalid counterparty group (Unknown)	36
001934	Counterparty priority higher than the user priority	51

001935	Counterparty group not allowed (User Priority disabled)	56
001936	Counterparty group not allowed for order book	45
002000	Order not found (too late to cancel or unknown order)	53
002001	User not registered to mass cancel interest	43
002002	User not registered to mass cancel interest for firm	52
002003	Unknown user (submitting Trader ID)	35
002004	Unknown instrument	18
002005	Unknown underlying	18
002006	Unknown segment	15
002007	Unknown firm	12
002008	Unknown clearing mnemonic	25
002009	Unknown user (target Owner ID)	30
002010	Unknown user (target Trader ID)	31
002011	Invalid mass cancel type	24
002012	No orders for instrument/underlying	35
002014	Unknown Node ID	15
002015	Matching partition suspended	28
002016	Implied orders cannot be cancelled	34
002099	Other	5
003000	Invalid order size (< filled size)	34
003001	Size amendment of this order is not allowed at this time	56
003002	Size reduction of this order is not allowed at this time	56
003009	MIT order electable on entry	28
003010	Unsupported TIF amendment	25
003100	Invalid display size (> order size)	35

003101	Conversion of fully hidden order to iceberg order prohibited	60
003102	Conversion of fully hidden order to fully visible prohibited	60
003103	Conversion of iceberg order to fully hidden order prohibited	60
003104	Conversion of fully visible order to fully hidden prohibited	60
003700	Invalid owner (different from original order)	45
003800	User not registered to manage interest for instrument	53
003801	User not registered to manage interest for %s	45
003900	Invalid side (different from original order)	44
003902	Side may not be amended (order is a short sale)	47
003903	Stop/MIT orders may not be amended during this session	54
003904	Price amendment prohibited (order eligible for CPX session)	59
003905	Invalid price (price may not be better than closing price)	58
003906	Order type may not be amended	29
003907	Trigger price of an elected stop/MIT order may not be amended	61
003908	Stop/MIT order electable on entry	33
003911	Price amendment of this order is not allowed at this time	57
003912	Implied orders can not be amended	33
004000	Invalid bid size (> maximum size)	33
004001	Invalid offer size (> maximum size)	35
004002	Invalid bid size (not multiple of lot size)	43
004003	Invalid offer size (not multiple of lot size)	45

004004	Invalid Level ID <Level ID>	28
004005	Invalid bid size (< minimum size)	33
004006	Invalid offer size (< minimum size)	35
004200	Invalid bid price (≤ zero)	26
004201	Invalid offer price (≤ zero)	28
004202	Invalid bid price (not multiple of tick)	40
004203	Invalid offer price (not multiple of tick)	42
004204	Invalid offer price (quote is locked or crossed)	48
004205	Exceeds maximum quote spread	28
004300	Specified TIF is not valid for a quote	38
004302	Invalid expire time (elapsed)	29
004303	Invalid expire time (time is for a future date)	47
004306	Invalid TIF (GFA Quotes are not supported)	42
004307	Anonymity indication may not be amended	39
004800	User not registered to submit quotes for instrument	51
004900	Quote does not include a bid	39
004901	Quote does not include an offer	24
004902	Quote is same as previous quote	23
004904	Invalid quote (not submitted as a limit order)	16
004905	%s not registered to submit quotes for instrument	35
004905	Invalid quote (submitted with stop price)	51
004906	Invalid quote (amend order message used to update quote)	40
004907	Invalid quote (submitted in an agency capacity)	33
004908	Quotes disabled for instrument	26
004909	Mass quotes not permitted for order book	45
004910	Quotes not permitted during CPX session	36

004911	New quotes are not allowed at this time	46
004912	Quotes are not allowed to order book	57
006000	User not registered to submit RFQs for instrument	57
006005	RFQs not allowed	45
006006	Negotiations order book not attached	16
006007	Private RFQs not allowed for this book	29
006008	Only private RFQs allowed for this book	34
006009	Private RFQs not allowed	15
006010	Public RFQs not allowed	14
006011	Instrument not in Regular Trading	14
006012	Duplicate RFQ ID	33
006013	Invalid market maker for instrument	35
006014	User not registered to submit quotes for instrument	36
006015	Private quotes not allowed for this book	23
006016	Instrument not in Regular Trading	37
006017	Quote has to be Day or GTT	30
006018	Have to specify at least one side for a quote	28
006019	Price should be zero if size is zero	32
006020	Invalid RFQ ID for contra-party and instrument	18
006021	Cannot amend a single sided quote to a double sided quote	16
006022	Cannot amend a double sided quote to a single sided quote	12
006023	Side of a single sided quote cannot be amended	46
006024	No market makers for the specified instrument	30
006025	No default users	35

006026	Already elapsed response time	35
006027	Response Time is for a future date	56
006028	Invalid Session	36
006029	Invalid RFQ ID	33
006030	Invalid Quote Message ID	35
006031	Discrepancy in trade terms. Price.	34
006032	Size larger than contra-party quote	35
006033	Size should be at least minimum size	36
006034	RFQ is already rejected	23
006035	Invalid value for Quote Response Type	37
006036	Invalid symbol for negotiation	30
006037	Invalid side for negotiation	28
006038	Discrepancy in trade terms. Side	32
006039	Already negotiated	18
006040	Not a live quote	16
006042	Not a live quote submitted by the market maker	46
006043	Invalid symbol for negotiation	30
006044	Size cannot be zero for negotiation	35
006048	Market maker unspecified or invalid	35
006049	Invalid or unsupported party role for trade negotiations	56
006050	Size should be zero if price is zero	36
006051	Invalid minimum size (> bid size)	33
006052	Invalid minimum size (> offer size)	35
008001	Duplicate Client Order ID	25
009000	Unknown instrument	18
009001	Unknown Order Book	19
009002	Instrument Halted	17

009003	Instrument Halted or Suspended	31
009004	Instrument halted (last trading day reached)	44
009005	Market is closed	16
009006	Instrument halted (market suspended)	36
009007	Instrument halted (invalid trading session)	43
009008	Session is closed	17
009009	Instrument halted (order book in invalid state)	47
009011	Instrument in Post-Close session	32
009012	Instrument halted (invalid set up)	34
009013	Instrument halted (invalid order book set up)	45
009014	Instrument in Pre-Trading session	33
009015	Instrument in Closing Price Publication session	47
009016	Instrument in Closing Price Cross session	41
009100	Unknown user (Owner ID)	23
009101	Unknown user (Trader ID)	24
009102	User suspended	14
009103	User inactive	13
009104	Invalid user (not attached to trading firm)	43
009105	Firm inactive	13
009106	Order exceeds risk threshold (Rejected by risk system)	54
009108	User Log-on Pending at Matching System	43
009200	Invalid trading session (unknown)	33
009201	Invalid new order message	25
009202	Invalid amend order message	27
009203	Invalid cancel order message	28
009205	Invalid order management request. (Not the active partition)	60

009206	Orders are not allowed to be cancelled at this time	51
009207	Prices of orders can only be improved at this time	50
009208	Sizes of orders can only be increased at this time	50
009209	Orders cannot be removed from the auction call at this time	59
009210	Amendments to buy side of quote not allowed at this time	56
009211	Amendments to sell side of quote not allowed at this time	57
009212	Invalid Price (not allowed at this time)	40
009213	Invalid Price for Buy Side (worse than IAP)	43
009214	Invalid Price for Sell Side (worse than IAP)	44
009215	Invalid Size for Buy Side (greater than imbalance size)	55
009216	Invalid Size for Sell Side (greater than imbalance size)	56
009300	Unsupported strategy type	25
009301	User not registered to create tailor-made instruments	53
009996	Quote locked or crossed	23
010000	No open orders for specified Party ID	37
010001	Request limit for day reached	29
010003	Order download not permitted for specified Party ID	52
010004	Not authorised to request an open order download	48
010005	Open order download not permitted at this time	46
010006	Unknown Party ID	16

160000	Order cannot be amended/cancelled	33
160050	Conversion of Mixed Lot to Board/Odd Lot not permitted	54
160051	Conversion of Board Lot to Mixed/Odd Lot not permitted	54
160052	Conversion of Odd Lot to Mixed/Board Lot not permitted	54
160053	Conversion of Mixed/Board Lot to Odd Lot not permitted	54
160150	UserID may not be amended	25
160151	HandlInst may not be amended	28
160250	Amended price not equal to the closing price	44
160251	Amended price locks/crosses the order book	42
160252	SST amendments not allowed during pause	39
160253	ExecInst cannot be amended	26
160254	VisibilityType cannot be amended	32
160255	ShortMarkingExempt cannot be amended	36
160256	MatchingStateParticipation cannot be amended	44
160950	Instrument in Closing Auction Call	34
160951	Instrument in Pre-Close session	31
160952	Instrument in Pre-Open session	30
161000	Invalid order size (Mixed/Odd Lot order with MAQ)	49
161001	Invalid order size (Bypass Odd Lot order)	41
161002	Invalid order size (Mixed/Odd Lot in Neo)	44
161003	Invalid order size (Bypass Cross Odd Lot order)	47
161004	Invalid order size (Basis Cross Odd/Mixed Lot order)	52

161005	Invalid order size (VWAP Cross Odd/Mixed Lot order)	51
161006	Invalid order size (Contingent Cross Odd/Mixed Lot order)	57
161007	Invalid Quantity (fractional values not allowed)	48
161008	Invalid minimum quantity (greater than remaining quantity)	58
161009	Mixed Lot/Odd Lot not permitted for Closing Auction Call	56
161100	Invalid replenishment range	27
161101	MaxFloor cannot be zero	23
161102	Bypass orders cannot be Hidden	30
161103	Reserve order with MaxFloor	27
161150	MAQ orders not permitted	24
161151	MAQ orders cannot be Iceberg	28
161152	MAQ Match Type in Lit cannot be Multiple	40
161153	Invalid MAQ (greater than order quantity)	41
161155	MAQ Match Type in Dark cannot be Multiple	41
161156	Invalid MAQ for FOK (not equal to order quantity)	50
161157	MAQ is not a multiple of lot size	33
161200	Price outside QBBO	18
161201	Price outside NBBO	18
161202	Price not equal to listed market closing price	46
161203	QBBO not available	18
161204	NBBO not available	18
161205	Invalid limit price (unsupported tick for cross type)	53
161400	Reserve Resting Only orders not permitted	41

161401	Invalid order type (Resting Only market order).	47
161402	Invalid order type (Transparent midpoint order)	47
161403	Transparent national best orders not allowed	44
161404	Invalid order type (Transparent National Best with offset)	58
161405	Invalid order type (Reserve protected order)	44
161406	Protected orders not permitted during this session	50
161407	Invalid order type (Transparent MAQ)	18
161408	Hidden Market orders can only be IOC/FOK	40
161409	Invalid order type (Pegged order with Mixed/Odd Lot)	52
161410	Invalid order type (Aggressive MAQ)	35
161411	Invalid order type (Iceberg IO)	31
161412	Invalid order type (Stop IO order)	35
161413	Invalid order type (IO order with Mixed/Odd Lot)	48
161414	Invalid order type (Derived IO order)	37
161415	Invalid order type (IO order with MAQ)	38
161416	Invalid order type (IO order with incompatible ExecInst)	56
161417	Invalid order type (NonDerived order with Derived qualifier)	60
161418	Invalid order type (Day trading order with Part. Type)	54
161419	Invalid order type (Reserve or Iceberg Stop/Stop Limit)	56
161420	Invalid order type (Resting Only Stop/Stop Limit)	49
161421	Invalid order type (Passive SST order)	38

161422	Invalid order type (Reserve or Iceberg Mixed/Odd Lot)	53
161423	Invalid order type (SST order with Mixed/Odd Lot)	49
161424	Invalid order type (Bypass Stop/Stop Limit)	43
161425	Invalid order type (SST order with Stop/Stop Limit)	51
161426	Invalid order type (Midpoint/National Best SST order)	53
161427	Invalid order type (Midpoint/National Best Bypass order)	56
161428	Invalid order type (Anonymous SST order)	40
161429	Invalid order type (SST order with MAQ)	39
161430	Invalid order type (Iceberg/Reserve SST order)	46
161431	Invalid order type (SST OPR order)	34
161432	Invalid order type (Bypass SST order)	37
161433	Invalid order type (Odd Lot OPR order)	38
161434	Invalid order type (Midpoint order with peg offset)	51
161435	Invalid order type (Aggressive SORViewable order)	49
161436	Invalid order type (Aggressive order with Contr. Part. Type)	60
161437	Invalid order type (Future SST order with no settl. Date)	57
161438	Invalid order type (Bypass in Neo book)	42
161439	Invalid order type (Stop/Stop Limit in Neo)	46
161440	Invalid order type (PI Only order with Mixed/Odd Lot)	53
161441	Invalid order type (PI Only order with Bypass)	46

161442	Invalid order type (MIT order in the Neo book)	49
161443	Invalid order type (Reserve order in Neo book)	49
161444	Invalid order type (Iceberg MTL order)	38
161445	Invalid order type (Bypass with OPR)	36
161446	Invalid order type (Iceberg with MAQ)	37
161447	Invalid order type (National Best Stop/Stop Limit order)	56
161448	Invalid order type (Resting Only Pegged order in Neo)	56
161449	Invalid order type (Pegged order with OPR)	42
161450	Reserve orders are not permitted during this session	52
161451	Only cross trades can be submitted during this session	54
161452	Odd / Mixed lot orders not permitted during this session	60
161453	Invalid order type (Cross order with a stop price)	50
161454	Cross orders not permitted during this session	46
161455	Cross type not allowed during this session	42
161456	Invalid order type (Bypass flag set for invalid cross type)	59
161457	Invalid order type (SST not permitted for order book)	53
161458	Invalid order type (Resting only SST orders)	44
161459	Invalid value for ShortMarkingExempt	37
161460	Invalid Order Type (Pegged Order with incompatible ExecInst)	60
161461	National Best/Mid Point not permitted during auction calls	58

161462	Settlement Date specified for invalid Settlement Type	53
161463	Imbalance Only orders not allowed	33
161464	Odd lot amendments not allowed during CPX	41
161465	Odd / Mixed Lot orders not permitted after the Expiry Time	58
161466	Odd Lot amendments not allowed after the Expiry Time	53
161467	Passive orders not accepted for instrument at this time	55
161470	Odd / Mixed Lot orders not permitted before the Entry Time	58
161471	Odd Lot amendments not allowed before the Entry Time	52
161472	Invalid order type (Dark OPR order)	35
161473	Invalid order type (Resting only Dark order)	44
161474	Invalid order type (Dark order with Mixed/Odd Lot)	50
161475	Invalid order type (Bypass Dark order)	38
161476	Invalid order type (Iceberg Dark order)	39
161477	Invalid order type (Passive Limit/Market order for Dark)	56
161478	MAQ orders disabled for instrument	34
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