

Sub-Penny Order Specifications

Message Formats

FIX Protocol via CCG and CMS

For firms using the NYSE FIX 4.2 protocol, sub-penny prices (up to 4 decimal places) will be supported on orders (New Order Single - Msg Type “D”) in FIX Tag 44 – [Price] and cancel with replacement orders (Order Cancel Replace – Msg Type “G”) in FIX Tag 44 – [Price] and FIX Tag 99 – [StopPx].

FCS Protocol via CMS

For firms using the CMS Floor Communication Standard (FCS) protocol, sub-penny prices (up to 4 decimal places) will be supported on orders, cancels and partial cancels (line 3) and on cancel with replacement orders (long format - lines 3 & 3C) and (short format/price only - lines 3 & 3B).

Implementation Plan

Phase 1 – Sub-Pennies converted to Pennies

In phase 1, sub-penny priced messages received for NYSE and NYSE Alternext securities greater than \$1.00, will be rejected.

CCG Reject:

The following reject text will be sent in FIX Tag <58> in FIX format:

- “REJ-INVALID TAG <44> 1.2501” (where as 1.2501 represents the sub-penny price received on order)

CMS Rejects:

The following existing reject will be sent in FIX Tag <58> in FIX format:

- “REJ-INVALID TAG <44>”

The following reject text will be sent in FCS format:

- "REJ-PRICE OR MKT ERROR L-3 FLD-3"

Sub-penny priced messages (orders, cancels, cancel/replacement orders) received for NYSE and NYSE Alternext securities under \$1.00 will have their price(s) converted based on the following rules:

- If the order instruction is Buy or Buy Minus, the 3rd and 4th digits of the price will be truncated.
- If the order instruction is Sell, Sell Plus or Sell Short, the price will be rounded up to the nearest penny.

Order Price (examples)	Order Instruction	Expected Results
1.25	Buy or Sell	Accepted
1.2501 -> 1.2599	Buy or Sell	Rejected based on sub-penny price being greater than \$1.00
0.001-> 0.009999	Buy	Rejected as truncated price equals zero



0.001-> 0.009999	Sell	0.01
0.9999	Buy	0.99
0.9999	Sell	1.00
0.7898	Buy	0.78
0.7898	Sell	0.79
0.999	Buy	0.99
0.999	Sell	1.00
0.789	Buy	0.78
0.789	Sell	0.79
0.01 -> 0.99	Buy or Sell	Accepted

Activities received from CCG:

Due to the truncation or rounding that sub-penny priced messages will encounter, activities against these orders, (e.g., Order Acks, Reports, Price Corrections, Busts, Admin Responses (UROUTS), Drop Copies (orders , reports, admin responses) and Specialist Copies will contain the adjusted order price (represented in pennies), when returned to the originator.

Activities received from CMS:

The **adjusted** order price (represented in pennies), will be returned to the originator on the activities listed above, except Order Acks and Order Drop Copies will contain the original order price received from the originator.

Examples of select FIX messages can be found on pages 3 through 5.

Examples of select FCS messages can be found on pages 6 through 8.

Phase 2 – Sub-Pennies processed as Sub-Pennies

In phase 2, sub-penny priced messages received for NYSE and NYSE Alternext securities will be processed as sub-penny priced messages (no conversion). All activities will contain the original order price received from the originator at that time.

Sub-penny priced messages received for NYSE and NYSE Alternext securities greater than \$1.00, will continue to be rejected in Phase 2, with the reject text documented in Phase 1 on previous page.



NYSE FIX 4.2 Examples

1. The following example illustrates a sub-penny Buy order.

Message Type "D" - New Order Single		
Standard Header		
Tag Name	FIX #	Value
OnbehalfOfCompID	115	ABC
SenderCompID	49	(Identifies the session)
MsgType	35	D
Message Body		
ClOrdID	11	FKN10/11242008
HandlInst	21	1
SecurityExchange	207	N
Side	54	1
OrderQty	38	1000
Symbol	55	ABC
Order Type	40	2
Price	44	0.1234
TimeInForce	59	0
Rule80A	47	A
Standard Trailer		

Notes:

- 1) Sub-penny price will also be accepted on an Order Cancel Replace messages (Msg Type "G").
- 2) If Order Type equal "3" (Stop order), sub-penny price will be accepted in Tag 99 [StopPx].



2. The following example illustrates the order price on a CCG order acknowledgement (incl. pending replace) contains the truncated price “0.12”, not “0.1234” as received on the original Buy order.

Message Type “8” – Order Acknowledgement		
Standard Header		
Tag Name	FIX #	Value
OnbehalfOfCompID	115	ABC
SenderCompID	49	(Identifies the session)
MsgType	35	8
Message Body		
ClOrdID	11	FKN10/11242008
AvgPx	6	0
CumQty	14	0
ExecID	17	0
ExecTransType	20	0
LastPx	31	0
LastShares	32	0
OrderID	37	FKN10/11242008
OrderQty	38	1000
OrderStatus	39	0
ExecType	150	0
SecurityExchange	207	N
LastMkt	30	N
Side	54	1
Symbol	55	ABC
Order Type	40	2
Price	44	0.12 (adjusted)
TimeInForce	59	0
Rule80A	47	A
Standard Trailer		



Notes:

- 1) On an Order Cancel Replace Acknowledgement (Msg Type “8”), the originator will also receive the adjusted order price (truncated if on Buy or Buy Minus order and rounded up if on Sell, Sell Plus or Sell Short order).
- 2) On a CMS Order Acknowledgement, the originator will receive its original order price sent to the NYSE (i.e., 0.1234).
- 3) The following example illustrates the order price on the execution report (also applies to price corrections, busts, urouts and replaced messages) contains the rounded up price “0.13”, not “0.1234” as received on a different Sell order.

Message Type “8” – Execution Report		
Standard Header		
Tag Name	FIX #	Value
OnbehalfOfCompID	115	ABC
SenderCompID	49	(Identifies the session)
MsgType	35	8
Message Body		
ClOrdID	11	FKN20/11242008
AvgPx	6	0
CumQty	14	0
ExecID	17	FKN20/11242008^001001001
ExecTransType	20	0
LastPx	31	0.13
LastShares	32	5000
OrderID	37	FKN20/11242008
OrderQty	38	500
OrderStatus	39	2
ExecType	150	2
ExecType	151	0
SecurityExchange	207	N
LastMkt	30	N
Side	54	2
Symbol	55	ABC
Order Type	40	2



Price	44	0.13 (adjusted)
TimeInForce	59	0
Rule80A	47	A
TransactTime	60	20081124-13:27:18
BillingIndicator	9578	1
DBKLinkId	9483	000015
NoContraBrokers	382	1
ContraBroker	375	LOC
ContraTrader	337	0000
ContraTradeQty	437	500
ContraTradeTime	438	1327
ERCReferenceNumber	9440	001001001
NYSEDirect+™	9430	NX
SettlmntTyp	63	0
Standard Trailer		



FCS Examples

1. The following example illustrates the order price on the order acknowledgement contains the same price “0.1234” as received on the original order.

ORIGINAL ORDER	ORDER ACK
FKN^10↵ ↵ BUY↵ 500^XYZ^0.1234↵ GTC^P↵	FKN^10↵ ↵ BUY↵ 500^XYZ^0.1234↵ GTC^P↵

2. The following example illustrates the order price on the UROUT message contains the rounded up price “0.13”, not “0.1234” as received on the original Sell order.

ORIGINAL ORDER	CANCEL	UROUT
FKN^20↵ ↵ SL↵ 300^XYZ^0.1234↵ DAY^A↵	FKN^25↵ ↵ CXL^SL↵ 300^XYZ^0.1234↵ DAY^A↵ ↵ RE^FKN^20/112408↵	FKN^20↵ SL^300^XYZ^0.13↵ UR^OUT↵

Note: CMS will accept the original order price or adjusted order price on cancellation messages.



3. The following example illustrates the order price on the execution report contains the truncated price “0.12”, not “0.1234” as received on the original Buy order, followed by a cancel replace (long format) changing price to “0.1434”, followed by execution report containing truncated price “0.14”, not “0.1434” as received on the cancel replace order.

ORIGINAL ORDER	EXECUTION REPORT	CANCEL REPLACE (LONG)	EXECUTION REPORT
FKN^30↵ ↵ BUY↵ 500^XYZ^0.1234↵ DAY^A↵	FKN^30↵ BOT↵ 300^XYZ^0.12↵ ON^0.12^LMT↵ LVS^200^GTC↵ ID^001001001↵ ↵ 6789^LOC3/0000^0937↵	FKN^40↵ ↵ BUY↵ 200^XYZ^0.1434↵ DAY^A↵ CXL^BUY↵ 200^XYZ^0.1234↵ DAY^A↵ ↵ RE^FKN^30/112408↵	FKN^40↵ BOT↵ 200^XYZ^0.14↵ ON^0.14^LMT↵ FILLS^GTC↵ ID^001001001↵ ↵ 6789^LOC2/0000^0939↵

4. The following example illustrates the order price on the execution report contains the rounded up price “0.13”, not “0.1234” as received on the original Sell order, followed by a cancel replace (short format) changing price to “0.1034”, followed by execution report containing the rounded up price “0.11”, not “0.1034” as received on the cancel replace order.

ORIGINAL ORDER	EXECUTION REPORT	CANCEL REPLACE (SHORT)	EXECUTION REPORT
FKN^50↵ ↵ SL↵ 1000^XYZ^0.1234 DAY^A↵	FKN^50↵ SLD↵ 600^XYZ^0.13↵ ON^0.13^LMT↵ LVS^400^GTC↵ ID^001001001↵ ↵ 4567^LOC3/0000^0937↵	FKN^60↵ ↵ SL↵ 400^XYZ^0.1034↵ DAY^A↵ CXL^0.1234↵ ↵ RE^FKN^50/112408↵	FKN^60↵ SLD↵ 400^XYZ^0.11↵ ON^0.11^LMT↵ FILLS^GTC↵ ID^001001001↵ ↵ 4567^LOC2/0000^0939↵



5. The following example illustrates the order price on the price correction contains the truncated price “0.12”, not “0.1234” as received on the original Buy order.

Order	Execution Report	Price Correction
FKN^70↵ ↵ BUY↵ 300^XYZ^0.1234↵ DAY^A↵	FKN^70↵ BOT↵ 300^XYZ^0.11↵ ON^0.12^LMT↵ ID^001001001↵ ↵ 2345^LOC3/0000^0937↵	FKN^70↵ CORRECTED^PRICE^BOT↵ 300^XYZ^0.10↵ ON^0.12^LMT↵ ID^001001002↵ ↵ 2345^TOD3/0000^0940↵

6. The following example illustrates the order price on a busted report contains the rounded up price “0.13”, not “0.1234” as received on the original Sell order.

Order	Execution Report	Bust
FKN^80↵ ↵ SL↵ 500^XYZ^0.1234↵ DAY^A↵	FKN^80↵ SLD↵ 500^XYZ^0.13↵ ON^0.13^LMT↵ ID^001001001↵ ↵ 3456^LOC5/0000^0945↵	FKN^80↵ BUSTED^SLD↵ 500^XYZ^0.13↵ ON^0.13^LMT↵ ID^001001002↵ ↵ 3456^LOC5/0000^0948↵