



**Off-Exchange Market Maker
Open Order & Corporate Action
Submission**

User Guide

CHX

October 18, 2007

Revision History

Date	Initials	Revision
Sep 15, 2006	TPR	Original
Feb 9, 2007	PH	Created Corp Action Version
Apr 11, 2007	RH	Combined & Revised Doc
Apr 24, 2007	RH	Removed internal acronyms; updated cutoff times.
Aug 24, 2007	RH	Clarified FTP submission method & Stock Symbol format.
Oct 18, 2007	RH	MM CA File Submission cutoff time revised.

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1 Overview

The purpose of this document is to provide a guideline to Off-Exchange Market Makers (MMs) for submission of open order and corporate action information to CHX.

CHX offers two types of trade and order reconciliation reports to Order Sending Firms (OSFs):

- Recap, an end of day report of executions, cancellations and open orders; and
- Limit Order Reconciliation (LOR), which reports discrepancies between OSF and MM open orders.

MMs can also obtain a selective LOR report from CHX, limited to orders received from their client OSFs.

Off-Exchange Market Makers are required to submit their open orders and corporate action updates to CHX on a daily basis, in order to keep the MM, CHX and OSF order data in synch and to ensure accurate Recap and LOR Reports.

2 File Delivery & Cutoff Times

Operational cutoff times for delivery of reports by CHX to OSFs are as follows:

- Recap files are generated for subscribing OSFs by 7:30 p.m. Central. OSFs fetch their Recap files via File Transmission Protocol (FTP).
- LOR input files are sent by subscribing OSFs between 3:30 p.m. and 11:00 p.m. Central. LOR output reports are generated for subscribing OSFs between 11:30 p.m. and 5:00 a.m. Central the following day. File submission and report retrieval are via FTP.

MMs have a number of options to submit order information to CHX based on their operations schedule.

- A daily open order file submitted within 60 minutes of primary session close (i.e. by 4:00 p.m. Central). This early delivery, if available, will be used by CHX to update any open order information in Recap files. The order data is used as is, i.e. with or without corporate actions applied to open orders.
- A daily file of corporate actions only, which must be submitted by 11:30 p.m. Central.
- A daily file of all orders, with corporate actions applied, which is used for LOR and must be submitted by 11:30 p.m. Central.

All FTP submissions to CHX use the FTP ASCII (A) method of file transmission.

3 Open Order File & LOR

The LOR system at CHX provides OSFs with the ability to reconcile their open orders with the MM's order book. In order to facilitate an accurate comparison, each MM must submit a file of all open orders to CHX. The sequence of events is as follows:

1. MMs individually submit their open orders to CHX via FTP.
2. OSFs submit their LOR input file to CHX.

3. The CHX LOR system compares and reconciles the MM submissions to the OSF submissions.
4. LOR discrepancy reports are generated.
5. These reports are staged for distribution.
6. The OSFs retrieve the LOR discrepancy reports via FTP.

As previously noted, corporate actions (e.g. ex-dividend) are not applied to open orders by CHX. All open orders submitted by MMs for reconciliation should have corporate actions applied.

3.1 Order Identification Methods

CHX uses two order identification methods for LOR:

- 1) The order's branch code and sequence number, or
- 2) The FIX Client Order ID.

The OSF will indicate to CHX which method is to be used. In order to maintain flexibility for the OSFs, CHX requires that MMs submit both the Order ID (FIX ClOrdID) as well as the Client Order ID (FIX SecondaryClOrdID).

Please see Appendix A for file naming convention and record layout details.

3.2 Daily Open Order File

The daily MM open order file may contain orders from multiple client OSFs. For LOR, the open order file must contain all open orders, i.e. including any to which corporate action processing has been applied by the MM.

MMs must assure that they transmit the correct open order file, pertaining to current orders only. If an open order file is rejected, or no open order file is received from an MM, CHX Operations will be alerted. The absence of confirming MM order data will be noted in the LOR report to OSFs as "order data not available from Market Maker."

FTP is the delivery method for submission of open order data from the MMs to CHX. Each MM will be furnished with an FTP site, user name, and password in order to make these submissions. The connection can be made from any web browser (e.g. Microsoft's Internet Explorer) or industry-standard FTP software.

At least 60 minutes after the close of primary trading, CHX systems will check to ensure that all MM open order files for that trading day have been received via FTP at their designated locations. If files are missing, CHX Operations will be alerted, and CHX cached open order data will be used instead.

3.3 Open Order File Rejects

The entire set of open orders for a submitting MM will be rejected for the following reasons:

- The records are out of sequence (the MM open order file must contain the application header, any detail records, and trailer, in that order).
- The total number of detail records does not match the number of records indicated on the trailer record.
- The date on the header or trailer records does not match the current processing date.

4 Corporate Action Processing

Corporate actions on orders must be applied by the MM's system (i.e. CHX does not perform corporate action processing).

Once the corporate actions are applied by the MM, the modified order information must be sent to CHX so that updates can be applied to its database, thereby keeping the CHX and MM systems in synch.

4.1 MM Corporate Action File Submission

The flow of information for file submission and OSF update is:

1. MM applies corporate actions.
2. MM generates a corporate actions file.
3. MM sends file to CHX via FTP.
4. CHX receives file.
5. CHX updates order data in its database.
6. CHX queues a message to the OSF for each order update.
7. CHX sends order update messages to the OSF at start of day, after the OSF has established communications with CHX.

MMs must submit their corporate action file to CHX no later than 11:30 p.m. Central of each trading day. MMs must assure that they transmit the correct corporate action order file, pertaining to current orders only. If the corporate action file is rejected, or no file is received from an MM, CHX Operations will be alerted and OSF orders will not be updated.

The corporate action file must contain only the orders that had corporate actions applied by the MM. CHX will update its database with the prices and volumes sent in the MM corporate action file. Note that a corporate action file is always required. An empty file (i.e. header and trailer only) indicates there were no corporate actions applied.

Please see Appendix A for file naming convention and record layout details.

4.2 Daily Corporate Action File

FTP is the delivery method for submission of corporate action files from the MM to CHX. Each MM will be furnished with an FTP site, user name, and password in order to make these submissions. The connection can be made from any web browser (e.g. Microsoft's Internet Explorer) or industry-standard FTP software.

4.3 Corporate Action File Rejects

The entire set of corporate actions for a submitting MM will be rejected for the following reasons:

- The records are out of sequence (the file must contain the application header, any detail records, and trailer, in that order).
- The total number of detail records does not match the number of records indicated on the trailer record.
- The date of on the header or trailer records does not match the current processing date.

5 Recap & LOR

CHX's Recap service is distinct from LOR. Recap output is not part of the LOR application, but does include order information as submitted by the MMs. Some OSFs prefer to create their own order reconciliation process. The Recap report from CHX is used by some OSFs for that purpose.

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7 Market Maker Contacts

CHX requires each MM to provide a telephone and email contact for operational support.

8 CHX Contacts

Application Questions, Trading Support, MM & OSF User Support

- CHX Customer Service (312) 663-2626

24/5 Operations Support

- CHX IT Operations (312) 663-2606

9 Appendix A: File Names and Record Layout

This appendix specifies details for the following file components:

File Naming Convention
Application Header Record
Application Detail Record
Application Trailer Record

9.1 File Naming Conventions

The daily Open Order File, which is to be submitted via FTP, must utilize the following naming convention:

MMO_ORDERS_<Market Maker ID>.TXT

where <Market Maker ID> is the 4 character MM mnemonic.

The daily Corporate Action File, which is to be submitted via FTP, must utilize the following naming convention:

CORACT_ORDERS_<Market Maker ID>.TXT

where <Market Maker ID> is the 4 character MM mnemonic.

9.2 Header Record

An application header record must be sent as the first record in the file. The date contained in the application header record must be the current trade date, not the next trade date. The File ID field must contain 'CHX MMO', otherwise the entire file will be rejected.

Field Name	FIX Field Name ¹ (if applicable)	Relative Position	Size	Description
Market Maker ID	DeliverToCompID	1	4	Firm mnemonic or trading symbol give-up.
Trade Date		5	8	Last trade date in MMDDYYYY format. For example: If you are sending open-orders from the end-of-Monday, the file should contain Monday's date—not Tuesday's date
File Id		13	18	'CHX MMO'
(filler)		31	162	Not used.

¹ Provided for cross-reference only – this is not a FIX-compliant file.

9.3 Trailer Record

Each field in the trailer record must comply with the specified field definition to be valid. The trailer record must contain the same date as in the header record, and the total number of detail records for the entering firm. If a trailer record is not found, the date is not current, or the detail record count on the trailer record does not match the actual detail records, all detail records will be rejected.

Field Name	FIX Field Name ¹ (if applicable)	Relative Position	Size	Description
Market Maker ID	DeliverToCompID	1	4	Firm mnemonic or trading symbol give-up. (Same date as in the header record.)
Trade Date		5	8	Last trade date in MMDDYYYY format. (Same date as in the header record.)
Record Count		13	7	Numeric; Right justified, zero filled. Total number of detail records. The count does not include the header and trailer records.
(filler)		20	173	Not used.

¹ Provided for cross-reference only – this is not a FIX-compliant file.

9.4 Record Detail

Field Name	FIX Field Name ¹ (if applicable)	Relative Position	Size	Description
Order ID	CIOrdID	1	40	Primary Order ID assigned by CHX.
Client Order ID	SecondaryCIOrdID	41	40	The ID of the order as CHX received from the order sending firm.
Firm ID	OnBehalfOfCompID	81	4	Used to identify firm originating order.
Symbol	Symbol SymbolSfx	85	15	Issue symbol. If the Issue symbol has a suffix, put a period between the Issue symbol and the suffix.
Creation Date		100	8	Date order was entered in MMDDYYYY format.
Creation Time		108	6	Time order was entered in HH24MISS format (e.g. 8:15:01 AM = 081501, 2:45:17 = 144517)

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Field Name	FIX Field Name ¹ (if applicable)	Relative Position	Size	Description
Order Side Code	Side	114	1	1 = Buy 2 = Sell 3 = Buy minus 4 = Sell plus 5 = Sell short 6 = Sell short exempt
Order Type Code	OrdType	115	1	1 = Market 2 = Limit 3 = Stop 4 = Stop limit 5 = Market on close 6 = With or without 7 = Limit or better B = Limit on close
Order Quantity	OrderQty	116	9	Number of original shares. Numeric. Right Justified, zero filled.
Cumulative Quantity	CumQty	125	9	Cumulative number of executed shares. Numeric. Right Justified, zero filled.
Leaves Quantity	LeavesQty	134	9	Number of remaining shares. Numeric. Right Justified, zero filled.
Stop Price	StopPx	143	12	Stop price. Numeric, zero filled. If there is no stop price, fill with zeros.
Limit Price	Price	155	12	Limit price. Numeric, zero filled. If there is no limit price, fill with zeros.
Time In Force Code	TimeInForce	167	1	0 = Day 1 = Good Till Cancel 2 = At the Opening 3 = Immediate or Cancel 4 = Fill or Kill 5 = Good Till Crossing 6 = Good Till Date
Expiration Date	ExpireTime	168	8	If Time In Force Code = 6, the date order will expire in MMDDYYYY format.

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Field Name	FIX Field Name ¹ (if applicable)	Relative Position	Size	Description
Settlement Type Code	SettlmntTyp	176	2	0 = Regular 1 = Cash 2 = Next Day (T+1) 3 = T+2 4 = T+3 5 = T+4 6 = Future 7 = When And If Issued 8 = Sellers Option 9 = T+5
Settlement Date	FultSettDate	178	8	Required when SettlmntTyp = 6 (Future) or 8 (Sellers Option) - format is MMDDYYYY.
All or None Flag		186	1	blank = N = Execute on discretion N = Execute on discretion Y = AON (All or None)
DNI Flag		187	1	N = Adjust for dividends Y = DNI (Do Not Increase)
DNR Flag		188	1	N = Adjust for dividends Y = DNR (Do Not Reduce)
Held Code		189	1	N = HELD Y = NOT HELD
(filler)		190	3	Not used.

¹ Provided for cross-reference only – this is not a FIX-compliant file.