



## Rule Self-Certification

June 2, 2015

### VIA ELECTRONIC PORTAL

Christopher J. Kirkpatrick  
Office of the Secretariat  
Commodity Futures Trading Commission  
Three Lafayette Center  
1155 21<sup>st</sup> Street, N.W.  
Washington, DC 20581

Re: **Regulation §40.6 Submission Certification**  
**Amendments to an Exchange Rule and Reference Guides**  
**Reference File: SR-NFX-2015-36**

Dear Mr. Kirkpatrick:

Pursuant to Section 5c(c)(1) of the Commodity Exchange Act, as amended (“Act”), and Section 40.6(a) of the regulations promulgated by the Commodity Futures Trading Commission under the Act, NASDAQ Futures, Inc. (“NFX” or “Exchange”) amends its Rulebook at Chapter IV, Section 4 to add more specificity to the description of a Stop Limit Order. The text of this amendment to the Rulebook is set forth in Exhibit A. The Exchange is also amending three reference guides, the main Reference Guide, the TradeGuard PTRM Reference Guide and the Market Maker Protection & Self-Match Prevention Reference Guide. The reference guide amendments are set forth in Exhibit B. The amendments mentioned herein will be implemented on June 17, 2015.

The Exchange is amending Chapter IV (Trading System) at Section 4(a)(vi) (Acceptable Orders) related to Stop Limit Orders to specify that a buy Stop Limit Order may be placed above or below the current market price. A buy Stop Limit placed below the current market becomes executable when a trade occurs at or lower than the Stop Price. A buy Stop Limit placed above the current market becomes executable when a trade occurs at or higher than the stop price. A sell Stop Limit Order may be placed above or below the current market price. A sell Stop Limit placed below the current market becomes executable when a trade occurs at or lower than the Stop Price. A sell Stop Limit placed above the current market becomes executable when a trade occurs at or higher than the stop price. This amendment is intended to clarify the function of Stop Limit Orders.

The Exchange is also amending the main Reference Guide, the TradeGuard PTRM Reference Guide and the Market Maker Protection & Self-Match Prevention Reference Guide to conform these guides to recent amendments to the Rulebook<sup>1</sup> and make other minor amendments, including corrections to capitalization where necessary. The Exchange amends these reference guides to provide clarity to the manner in which the trading rules operate.

With respect to the designated contract market core principles (“Core Principles”) as set forth in the Act:

- *Compliance with Rules:* Today the Exchange has in place Rules which describe the manner in which Futures Participants may access and trade on NFX. Chapter II, Section I provides for the qualifications and rules of participation applicable to Futures Participants as well as Authorized Traders. This Rule states that Futures Participants must utilize the Exchange’s services in a responsible manner, comply with Rules, cooperate with Exchange investigations and inquiries and observe high standards of integrity. In addition the Rule provides clear and transparent access criteria and requirements for Futures Participants and Authorized Traders. Chapter V, Section 18 describes prohibited activities with respect to the Trading System.

Trading will be subject to the Rules at Chapter III of the Exchange’s Rulebook, which include prohibitions against fraudulent, noncompetitive, unfair and abusive practices. Additionally, trading is subject to the trading procedures and standards in Chapter V of the Rulebook. Trading activity is subject to extensive monitoring and surveillance by NFX’s regulatory group in conjunction with the National Futures Association pursuant to the provisions of a Regulatory Services Agreement. Additionally, the Exchange has the authority to exercise its investigatory and enforcement power where potential rule violations are identified. The Exchange’s disciplinary Rules are contained in Chapter VI of the Rulebook, which permit the Exchange to discipline, suspend or expel Futures Participants or market participants that violate the Rules. Pursuant to Chapter V, Section 5, the Exchange may cancel or adjust trades when necessary to mitigate market disrupting events caused by the improper or erroneous use of the Trading System or system defects or malfunctions. The Exchange may review a trade based on its independent analysis of market conditions or upon request from a Futures Participant.

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<sup>1</sup> See SR-NFX-2015-35.

- *Prevention of Market Disruption:* The Exchange's Regulatory Department, which handles real-time surveillance, monitors trading activity on the Exchange with a SMARTS Surveillance Application through which the Exchange can track activity of specific Authorized Traders, monitor price and volume information and receive alerts regarding market messages. The Exchange's Regulatory Department, which handles real-time surveillance in conjunction with staff that handles T+1 surveillance, utilizes data collected by the SMARTS Surveillance Application to monitor price movements, as well as market conditions and volumes to detect suspicious activity such as manipulation, disruptive trading and other abnormal market activity. The Exchange has established comprehensive audit trail processes that capture trading information to facilitate the surveillance activities described herein. Futures Participants that access the Exchange electronically are responsible for maintaining audit trail information for all electronic orders pursuant to Chapter V, Section 1. The Exchange has in place risk controls, including the imposition of trading pauses or halts, to address risks posed by potential market disruptions pursuant to Chapter V, Section 16. The Exchange has the ability to reconstruct all Orders transacted on the Trading System.

- *Availability of Contract Information.* The Exchange has indicated within its trading Rules where specific information relates to a particular Contract. The Exchange will provide detailed information within the contract specifications for that particular Contract. The Exchange will post the terms and conditions of Exchange Contracts in its Rulebook along with trading Rules. The specifications for its Trading System will appear on the Exchange's website.

- *Publication of Information.* The Exchange will publish daily information on settlement prices, volume, open interest and opening and closing ranges for actively traded Contracts on its website. The Exchange's volume information will include information on the volume of Block Trades.

- *Execution of Transactions.* The Exchange operates an electronic trading facility that provides Futures Participants with the ability to execute Orders within the Exchange's Order Book and offers within a predetermined automated trade matching and execution algorithm. Orders submitted into the Trading System will continue to be matched in either Price-Time priority or Size Pro-Rata priority order, as specified by the Exchange. The Exchange specifies the types of Orders that will be accepted by the Trading System in Chapter IV, Section 4. Finally, the Exchange separately describes its Rules for executing transactions outside of the Order

Book, such as Block Trades and exchange for related positions (EFRPs), in Chapter IV, Sections 10 and 11 respectively.

- *Trade Information.* As previously described, the Exchange has established audit trail processes that capture trading information to facilitate the Exchange's trade practice and market surveillance activities. The audit trail program is based on original source documents that are unalterable, sequentially identified records. The audit trail contains a history of all Orders as well as other identifying information. All data gathered as part of the audit trail is maintained in accordance with the Commission's recordkeeping requirements and in a manner that does not allow for unauthorized alteration, erasure or other potential loss.

- *Financial Integrity of Transactions.* The Exchange's Rules provide that all matched trades generated by the Trading System, after the application of pre-trade risk parameters, will be automatically submitted to the Clearing Corporation as described in Chapter V, Section 2. Chapter II, Section 1 of the Exchange's Rules requires that all Futures Participants must be members of the Clearing Corporation either directly or indirectly. Futures commission merchants (FCMs) must maintain an account directly with the Clearing Corporation. Clearing Futures Participants are required to guarantee all trades transacted on NFX on behalf of itself, its Customers and Non-Clearing Futures Participants. Clearing Futures Participants must guarantee and assume financial responsibility for all Exchange Contracts of each Futures Participant guaranteed by it, and will be liable for all trades made by that Futures Participant. The Exchange requires a similar guarantee for Authorized Customers submitting trades into the Trading System via Direct Access pursuant to Chapter V, Section 4. The Exchange's Rules governing minimum financial requirements and protection of Customer funds are set forth in Chapter III.

- *Protection of market participants.* Chapter III of the Exchange's Rulebook contains prohibitions precluding intermediaries from disadvantaging their customers. These rules apply to trading in all Contracts.

There were no opposing views among the Exchange's Board of Directors, members or market participants. The Exchange hereby certifies that the amendment to Chapter IV, Section 4 and the amendments to the Reference Guide, the TradeGuard PTRM Reference Guide and the Market Maker Protection & Self-Match Prevention Reference Guide comply with the Commodity Exchange Act and regulations thereunder. The Exchange also certifies that a notice of pending certification with the Commission and a copy of this submission have been

concurrently posted on the Exchange's website at [www.nasdaqomx.com/nasdaq-futures](http://www.nasdaqomx.com/nasdaq-futures).

If you require any additional information regarding the submission, please contact Angela S. Dunn at +1 215 496 5692 or via e-mail at [angela.dunn@nasdaq.com](mailto:angela.dunn@nasdaq.com). Please reference SR-NFX-2015-36 in any related correspondence.

Regards,

A handwritten signature in black ink that reads "Daniel R. Carrigan". The signature is written in a cursive style with a large, prominent "D" and "C".

Daniel R. Carrigan  
President

cc: National Futures Association  
The Options Clearing Corporation

**Exhibit A**

*New text is underlined and deleted text is stricken.*

**NASDAQ Futures—Rules**

**Section 4 Acceptable Orders**

Orders entered into the Trading System for display and/or execution, as appropriate, are executable against marketable contra-side Orders in the Trading System.

(a) Types of Orders accepted by the Trading System are as follows:

(i) – (iv) No change.

(v) Stop Limit Order. A "Stop Limit Order" is an Order which has two components: (1) the Stop Price and (2) the limit price. When a trade has occurred at or through the Stop Price, the ~~o~~Order becomes executable and enters the market as a Limit Order at the limit price. The Order will be executed at all price levels from the Stop Price ~~up~~ to and including the limit price. If the Order is not fully executed, the remaining quantity of the Order will remain active on the Order Book at the limit price. A buy Stop Limit Order may be placed above or below the current market price. A buy Stop Limit placed below the current market becomes executable when a trade occurs at or ~~higher~~ lower than the Stop Price. A buy Stop Limit placed above the current market becomes executable when a trade occurs at or higher than the Stop Price. A sell Stop Limit Order may be placed above or below the current market price. A sell Stop Limit placed below the current market becomes executable when a trade occurs at or lower than the Stop Price. A sell Stop Limit placed above the current market becomes executable when a trade occurs at or higher than the Stop Price.

(v) – (xi) No change.

(b) No change.

\* \* \* \* \*

**Exhibit B**

# NASDAQ Futures, Inc. (NFX) General Reference Guide

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Version ~~1.001.01~~ | ~~2015-5-01~~2015-06-17





## **CONFIDENTIALITY/DISCLAIMER**

This Reference Guide is being forwarded to you strictly for informational purposes and solely for the purpose of developing or operating systems for your use that interact with systems of NASDAQ Futures, Inc. (NFX<sup>SM</sup>) and its affiliates (collectively, NFX). This specification is proprietary to NFX.

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# 1 EXECUTIVE SUMMARY

Nasdaq Futures, Inc. (NFX or Exchange) is a Designated Contract Market regulated by the U.S. Commodity Futures Trading Commission (CFTC). NFX is a wholly owned subsidiary of The NASDAQ OMX Group, Inc. (Nasdaq: NDAQ), a leading provider of trading, exchange technology, information and public company services across six continents.

NFX is one of Nasdaq's four U.S. derivative exchanges, which taken together with Nasdaq Nordic, one of the largest derivatives exchanges in Europe, Nasdaq Commodities, and Nasdaq NLX, a London based market for trading interest rate derivatives, represent a global Futures offering spanning a wide array of asset classes.

NFX is an all-electronic exchange utilizing Nasdaq's high-performance and proven technology, which provides market participants with advanced functionality for central limit Order Book ("CLOB") trading as well as real-time Off-Order Book trade reporting on the same Trading System (trading platform). The Exchange offers the opportunity to trade a competitive mix of new Futures and Options products on a 23 x 5 hours/days basis.

All clearing services for products listed on the exchange are provided by The Options Clearing Corporation (OCC). OCC, founded in 1973, is the world's largest equity derivatives clearing organization, and is a globally recognized entity that clears a multitude of diverse and sophisticated products. OCC operates as horizontal clearing provider servicing sixteen exchanges under the jurisdiction of both the U.S. Securities and Exchange Commission (SEC) and the CFTC. As a registered clearing agency under SEC jurisdiction, OCC clears transactions for exchange-listed options, security futures and OTC options. As a registered derivatives clearing organization under CFTC jurisdiction, OCC offers clearing and settlement services for transactions in futures and options on futures.

## 1.1 Introduction

The objective of this document is to provide an overview of the NFX market as well as act as an explanatory reference guide for the key concepts and services provided by NFX. The content is directed toward non-programming users who wish to gain a reasonable understanding of the operation of the NFX Trading System related to:

- Technology & Market Model
- Participant, User, and Account Configuration
- On-Exchange Trading including supported Order types
- Off-Exchange Trade Submission
- Risk Management Controls
- Contact Information

This document provides a set of references to other documents that provide more detailed information in specific areas. For consultation of terms used herein, please refer to the NFX Rulebook.

Please note that this document shall not supersede the NFX Rulebook. This document is intended to supplement the Rules.

## 1.2 Interfaces, API's, and Market Data

NFX is built upon the Nasdaq trading infrastructure which powers one in ten of the world's securities transactions, and leverages the expertise and knowledge of tried and trusted partners to create an efficient and robust market for the entire lifecycle of the trade.

The primary NFX trading platform is located in Chicago, IL within close proximity to other major futures exchange market centers. The disaster recovery site is co-located with other Nasdaq U.S. markets in Carteret, NJ. NFX offers market participants and Independent Software Vendors (ISV), Application Programming Interfaces (APIs) to create custom applications and services to suit specific needs, including customized algorithmic trading, risk management, data services and straight-through processing

NFX supports order management through FIX while market data can be obtained through Nasdaq ITCH:

- **Order Management** is done through a FIX 5.0 gateway. The NFX FIX implementation also includes FIX reference data as well as a FIX drop copy service.
- **Market Data** is available through an ITCH and AMD “NFX Auxiliary Market Data” feed. The ITCH feeds are taken straight from the matching engine to achieve ultra-low latency and full depth of market by order (MBO). Basic reference data, Orders, trades, and the net order imbalance indicator is distributed via the ITCH feed while reported trades, trade cancels, settlement prices, open interest, etc., is distributed via the NFX Auxiliary Market Data feed. In order to support firms to quickly recover the MBO status in the event that they experience issues in regard to their ITCH feed, GLIMPSE is offered as a point-to-point data feed connection that provides direct datafeed customers with a snapshot of the current state of the Order Book(s).

Orders & Quotes	FIX 5.0 SP2	Order and Quote Management, Trade Reporting	NFX FIX.pdf
Market Data	FIX 5.0 SP2	Reference Data	NFX FIX Reference Data.pdf
	ITCH	MBO & Reference Data	NFX ITCH.pdf
		Trade Reports, Market Statistics, etc.	NFX Auxiliary Market Data.pdf

Technology source document specifications are at: [www.nasdaqomx.com/nasdaq-futures](http://www.nasdaqomx.com/nasdaq-futures).

## 2 OVERVIEW OF THE MARKET

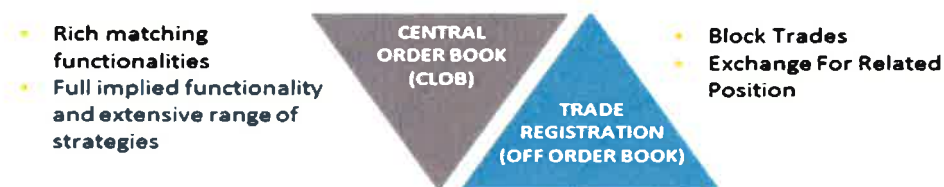
NFX facilitates trading in Energy and U.S. Treasury Futures and Options on Futures.

The terms of the products are standardized and detailed via the NFX product specifications and published in the NFX Rulebook. New Instrument series (contract months & strikes) are automatically generated by the platform as outlined in the product specifications.

This chapter provides an overview of the market structure, the relational model in the platform including participants, users, and accounts, as well as how to connect.

### 2.1 Market Structure

NFX is utilizing Nasdaq's high-performance and proven technology, which provides market participants with advanced functionality for central limit Order Book trading as well as real-time Off-Order Book trade reporting on the same platform.



The Trading Day is comprised of a set of defined sessions. There are various ways to participate in each session.

Trading starts with a Pre-Open Session prior to automatic trade matching or continuous trading in the Open Session. During the Pre-Open Session, price information disseminated includes an indicative Equilibrium Price (price at which the most quantity will execute with the lowest imbalance) when such a price can be established based on existing Order Book information. When an Equilibrium Price can be established, this price and the cumulative volume eligible for matching at that price will be shown on the first price level on both sides of the Order Book. During the Pre-Open Trade Session, pre-existing GTC and GTD Orders may be modified or canceled. Market Orders and Cross Orders will not be accepted during the Pre-Open Session. Any Order with a Time in Force Condition of FOK or IOC would also be rejected during the Pre-Open Session.

The Pre-Open Session is followed by the automatic trade matching or continuous Trading Session (the "Open Session"). The Pre-Open session ends with the uncross operation for transition to continuous trading. The opening price and allocation of matched trades are determined at this time.

In the Open Session, each new incoming Order is immediately checked for execution against Order(s) on the opposite side of the Order Book. Orders can be executed in full or partially. Orders in the Order Book will be matched utilizing the Price-Time execution algorithm unless otherwise specified.

The market closes at the end of the Open Session (Close Session). During the Close Session, no matching of Orders (including Quotes) will take place. All unexecuted Orders which have expired at the end of the current Trading Day will be automatically canceled.

Following the Close Session, the Post-Close Session is available to modify and or cancel orders with attached time conditions. During the Post-Close Session, no matching of Orders (including Quotes) will take place.

Further details on the various sessions can be found in the NFX Rule Book at Chapter IV, Section 3.

### 2.1.1 Order Book ("On-Exchange Trades")

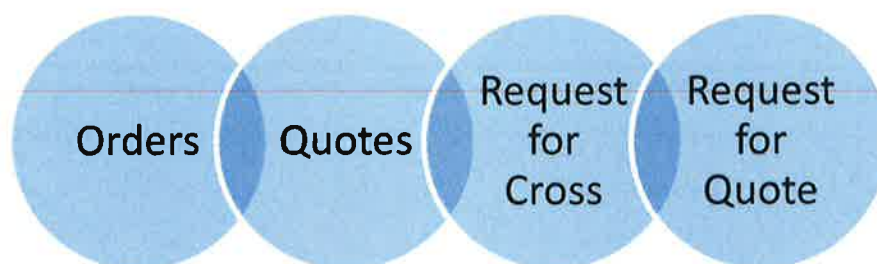
The Trading System provides sophisticated and rich trade matching functionalities including Implied Order generation with efficient execution of a broad range of hedge, strategy and contingent trades.

Market participants which have been configured as Users in the Trading System (Section 2.3), will be able to submit and manage Orders (including Quotes) through the FIX Order entry interface. All Orders (including Quotes) accepted by the Trading System are firm and made available for execution after going through market integrity controls to ensure fair and efficient markets. Orders (including Quotes) are maintained in Single Order Books and ranked and matched according to the trade match algorithm for each product. Quotes are not permitted in Combination Order Books.

The trading platform supports the following functionalities:

- Order—a bid or an offer which may have include time in force conditions or triggers which qualify Orders. See Chapter IV, Section 4 for Order types.
- Quote—a one or two-sided bid and offer message packet which is replaced with a new Quote. Only one active Quote packet can exist per Instrument series per trading participant (up to twenty-four bids and offers may be contained in one Quote packet).
- Request for Quote (RFQ)—an indication of intent to buy or sell a specified quantity of a Contract used to invite participants into a bidding process for specific products. Market participants who wish to trade an Instrument which may not be particularly liquid use RFQ functionality to request a price from the market and broadcast an interest in trading a particular Instrument.
- Request for Cross (RFC)—an indication of interest submitted by a single party for a two-sided Limit Order at the same price and quantity. Crossing Order functionality provides customers submitting Cross Orders the best available price with optimal market transparency.

The Order and Quote interfaces share the same FIX architecture and will not be advantaged or disadvantaged using one type or the other.



More details around CLOB trading can be found in this Reference Guide at Chapter 3.

### 2.1.2 Off-Order Book Trade Reporting ("Off-Exchange Trades")

The Trading System supports Real-Time trade reporting of privately negotiated transactions (brokered transactions) executed away from the Order Book.

- A Block Trade is a privately negotiated futures, options or combination transaction in a Futures Contract or Option that are listed on the Exchange. Block Trades are permitted in specified products and are subject to minimum transaction size requirements which vary according to the product, the type of transaction and the time of execution. Block Trades may be executed at any time at a fair and reasonable price. NFX will support Block Trades electronically submitted by voice brokers as well as principle-to-principle transactions.
- Brokered trades of any size may also be submitted to NFX as an Exchange for Related Position (EFRP). Each EFRP trade must be labeled with the appropriate EFRP type (i.e. EFP, EFR or EOO) on the trade report submission. EFRP trade eligibility will be notated on each individual product specification for products in which the Exchange will accept EFRP trades. The Exchange accepts the following:
  - Exchange for Physical (EFP) - A privately negotiated and simultaneous exchange of an Exchange futures position for a corresponding cash position.
  - Exchange for Risk (EFR) - A privately negotiated and simultaneous exchange of an Exchange futures position for a corresponding OTC swap or other OTC Instrument.
  - Exchange of Options for Options (EOO) - A privately negotiated and simultaneous exchange of an Exchange option position for a corresponding OTC option position or other OTC Instrument with similar characteristics.

More information concerning trade reporting are located in the NFX Rule Book at Chapter IV, Sections 1011 and 1112 as well as in Appendix D-Off-Exchange Transaction Reference Guide.

## 2.2 Instrument Structure

Instruments available for trading consist of standardized Futures and Options on Futures Contracts. Each Instrument can be traded and as an outright Instrument for purchase or sale, or as part of a eCombination Order (strategy), namely the simultaneous purchase or sale of two, but no more than four, Instruments (respective legs). The Exchange may list Futures and or Options combinations for trading, and users may create custom Combinations Orders (“Tailor-Made Combination” or “TMC”) for Futures and/or Options which are combinations not already defined in the Order Book. Market participants can place working GTD eCombination Orders that, if matched, simultaneously trade the referenced single leg Instruments according to the specified strategy without execution risk. Once created intra-day, a TMC Order Book is visible to the entire market for the remainder of the trading day.

Standard Combinations which will be pre-defined in the Trading sSystem for Futures and/or Options will be comprised of the most liquid Intra-Commodity (e.g., NFX WTI Crude Oil Financial Futures: March versus June contract) and Inter-Commodity combinations (e.g., NFX WTI Crude Oil Financial Futures versus NFX RBOB Gasoline Financial Futures versus NFX Heating Oil Financial Futures “Crack Spread”). See Section 3.10 of this Reference Guide for further discussion on eCombination Orders (strategies). Implied Out and Implied In Order functionality are also supported on the Exchange. Whereas Combination Orders specify a quantity and indicate whether those Orders are buying or selling the combination upfront, Implied orders are automatic Orders generated by the Trading System for the purpose of trading various combinations. A Combination/Implied Order reference guide is posted on the Exchange website at Appendix XX. See also the Combination and Implied Orders Technical Reference Document.

Each Futures Contract will reference detail in its contract specifications description the underlying asset or Instrument, contract size, ticker symbol, monthly contract listings, trading hours, minimum trading price intervals, dDaily sSettlement pPrice, last trading day, final settlement date and the final settlement price.

Each Options Contract will reference detail in its contract specifications description the underlying asset or Instrument, strike price, contract size, ticker symbol, monthly contract listings, trading hours, minimum trading price intervals, dDaily sSettlement pPrice and last trading day. Call and Put Options will be offered for trading.

- **Call Options:** Purchaser has the right (but not the obligation) to buy the underlying Futures Contract at the strike price (receive a long Futures Contract). Seller has the obligation to sell the underlying Futures Contract at the strike price (deliver a short Futures Contract). The purchaser and seller may, at any time prior to the exercise or expiration of the Option, enter into a closing transaction.
- **Put Options:** Purchaser has the right (but not the obligation) to sell the underlying Futures Contract at the strike price (receive a short Futures Contract). Seller has the obligation to buy the underlying Futures Contract at the strike price (deliver a long Futures Contract). The purchaser and seller may, at any time prior to the exercise or expiration of the Option, enter into a closing transaction.

Options Exercise Styles offered for trading are as follows:



- **American-style exercise** means the right but not the obligation to exercise and take delivery of a Futures contract on any day the underlying Futures contract is available for trading.
- **European-style exercise** means right but not the obligation to exercise and take delivery of a Futures contract on one day per contract month (Expiry) the underlying Futures contract is available for trading.

The NFX Instrument structure illustrates the Trading System hierarchy which defines the Instrument series traded on the Exchange and is described in detail below:

- **Exchange** – Nasdaq Futures, Inc. (NFX)
- **Market** – Asset class consisting of a group of products belonging to a given economic sector or market segment.
- **Instrument Class** – A Futures or Option product is an Instrument class. For example, the NFX Crude Oil Futures product (NFX WTI Crude Oil Financial Futures (CLQ)) includes each outright contract representing a different expiration month and combination Instruments representing the buying and selling of combinations of expiration months. The Crude Oil options product (NFX Options on NFX WTI Crude Oil Financial Futures (LOQ)) includes all outright contracts representing different expiration months and different strike prices and combination Instruments representing the buying and selling of eCombination\_Orders of expiration months and different strike prices.
- **Instrument Series** – represents the individual monthly Expiry contracts on which Orders and Quote are submitted and filled.



## 2.3 Relational Model

The Relational Model reflects the manner in which market participants are identified in the trading platform as well as the organization of their identifiers and characteristics. The core components in the trading platform are Clearing Futures Participant, Futures Participant, Account, Authorized Traders and Authorized Customer.



### 2.3.1 Clearing Futures Participant

An Exchange Participant that is also a member of OCC and guarantees such trades, assuming financial responsibility for trades executed on the Exchange. A Clearing Futures Participant can elect to sponsor a Participant or non-Participant for Direct Access to the Trading System. All Futures Clearing Merchants or “FCMs” must be members of OCC.

### 2.3.2 Trading Participant

A Trading Participant submitting Orders into the Trading System shall be an entity. Orders may be submitted for itself or on behalf of a eCustomer.

Each Participant will be assigned, by the Exchange, one or several unique identification codes, known as Participant IDs. Authorized Traders of Participants will be assigned Trader IDs.

The following categories of Trading Participants may trade on NFX:

- **Clearing Futures Participant**—an Exchange Participant that clears trades at OCC and may elect to sponsor other Futures Participants, non-Futures Participants and/or Authorized Customers for ~~direct access~~Direct Access to the Trading.
- **Futures Participant**—an Exchange Participant that clears trades through a Clearing Futures Participant and may elect to sponsor other Futures Participants, non-Futures Participants and/or Authorized Customers for ~~direct access~~Direct Access to the Trading System.
- **Authorized Customer**—an individual person or entity that is granted Direct Access may directly access the Trading System, upon approval by the Exchange.

All Trading Participants ~~trading on the Exchange~~ are subject to Pre-Trade Risk controls. See the NFX Rulebook at Chapter IV, Section 7; Chapter V, Section 4; and ~~Appendix C~~the TradeGuard PTRM Reference Guide.

### 2.3.3 Account

Each Trading Participant must maintain at least one account with the Exchange. An Account is a mandatory information field for all Orders, and each account will need to be registered in the Trading System, and the information will be verified at order entry.

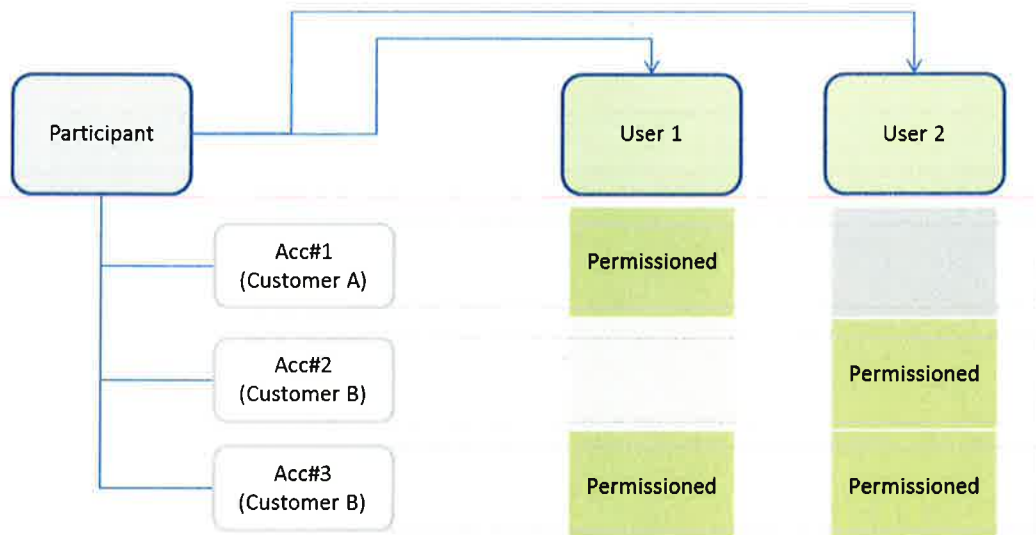
### 2.3.4 Authorized Trader

The Exchange requires that each trader that physically ~~submitting~~ an Order to the Trading System through the FIX interface ~~can~~ be identified by a unique ID -an Authorized Trader ID (using Party Role 12= Executing Trader as outlined in the Exchange FIX specification).

A Participant accessing the Trading System will be assigned one or many unique User IDs as basis for login to the Trading System. The User ID issued by the Exchange will also be used for populating Tag 50 (SenderSubID) of the Exchange FIX specification.

There can be multiple traders accessing the Trading System via one individual User ID as long as the necessary tags identifying the Authorized Trader IDs are included.

The Trading System supports verification of specific access to one or multiple Accounts. Each User ID will be assigned access rights to a specific set of accounts registered in the Trading System.



## 2.4 Trading System Access

Participants and Users may participate in either Direct Access (“DMA”) or Indirect Access in the following ways:

- Direct Connectivity – The Authorized Customer may connect directly to NFX for trading and / or market data.
- Indirect Connectivity – The Authorized Customer may connect through a Clearing Futures Participant’s (Futures Commission Merchant or FCM) infrastructure or a third party Independent Software Vendor (ISV).
- “Direct Access” shall mean connecting directly to the Exchange, whereby Orders do not pass through the order management system (“OMS”) of a Futures Participant.
- “Indirect Access” shall mean utilizing an approved and authorized Independent Software Vendor (“ISV”) and/or utilizing an OMS owned and/or controlled by a Futures Participant to access the Exchange’s Trading System. A Futures Participant or Authorized Customer that accesses the Trading System by such Indirect Access is subject to all of the Rules of the Exchange, including, without limitation, use of a Trader ID, audit trail requirements and the requirement that any such Futures Participant or Authorized Customer be guaranteed by a Clearing Futures Participant. Connectivity to the Trading System established by an ISV may not be used by the ISV itself for its own trading activities. Futures Participants or Authorized Customers utilizing Indirect Access shall be required to provide information.

All Authorized Customers and ~~their traders~~ Authorized Traders, may accessing the Trading System through ~~DMA~~ either Direct or Indirect Access. These market participants will be assigned Trader IDs.

Participants shall establish trading arrangements such that each Authorized Customer or Authorized Trader is able to meet the requirements set out in the Exchange Rulebook and ~~that~~ all other relevant obligations contained in ~~the~~ CFTC Regulations and Exchange Rules.

## 2.5 Designated Representatives

Each Clearing Futures Participant ~~or Futures Participant (the Exchange Member)~~ shall ~~provide instructions to the Exchange for adding~~assign Authorized Traders and/or Authorized Customers ~~an Authorized Trader ID in a form and manner as prescribed by the Exchange~~. Each Clearing Futures Participant and Participant shall designate representatives, including an Executive Representative (a designated executive representative of a Futures Participant who shall represent and act for the Futures Participant in all the affairs of the Exchange) and an Authorized Risk Officer (an authorized employee or agent of a Clearing Futures Participant who is authorized to set or change Pre-Trade risk management parameters).

Clearing Futures Participants and Futures Participants must immediately notify the Exchange of any change to its Executive Representative or Authorized Risk Officer(s) by contacting Nasdaq Futures Membership at + 1 215 495 5322 or emailing at [membership@nasdaq.com](mailto:membership@nasdaq.com).

## 2.6 Risk Management Services

The Exchange provides the following Risk Management services:

- TradeGuard – pre-execution control limits on Futures and Options;
- Kill Switch - Mass Cancellation of Orders at the Account level;
- Drop Copy - application messages on a separate session for risk management purposes; and
- Cancel on Disconnect - functionality that cancels all resting oOrders in the event of a disconnect.

These services are further described below.

### 2.6.1 Trade Guard - Pre-Trade Risk Management (PTRM)

The Exchange provides Participants with the ability to facilitate volumetric Pre-Trade protection on the Trading System via TradeGuard as a complementary service. Pre-Trade risk services encompass On-Exchange Orders and Off-Exchange trades submitted via FIX. It provides an overview of the PTRM system's functionality as well as detailed descriptions of each risk check, including the manner in which it is configured, maintained and monitored.

TradeGuard is centered on the establishment of a Pre-Trade Limits Group (PTLG), which is comprised of a single account or a group of accounts connected to the same Participant ID. A PTLG can therefore encompass the entire Order flow of a Participant or simply Orders submitted by a single Aaccount or a group of Aaccounts. A PTLG may only be connected to one Participant ID and an Aaccount may only be associated with one PTLG. PTLGs may consist of either Aaccounts or User IDs, but not both.

Active risk checks and their limits are configured per PTLG, as described below. It is not possible to create and activate a PTLG intra-day nor is it possible to add or remove accounts from a PTLG intra-day (any intra-day change request will be held for overnight processing).

All risk checks, except the maximum order/second rate, are configurable per Instrument Type or class level referred to by a Futures or Options product. Each Futures and Option product will have its own set of risk limits (e.g., NFX WTI Crude Oil Financial Futures (CLQ) or NFX Options on NFX Brent Crude Financial Futures (BCQ)). See Section 2.2 of this Reference Guide on Instrument Structure for additional information on Instrument hierarchy.

The PTRM service provides the following risk checks:

1. Maximum Order Volume or Quantity per PTLG, Product, and Combination;
2. Daily Total Net Buy Checks (Traded Net + Open Buy Orders) per PTLG and Product; and
3. Daily Total Net Sell Checks (Traded Net + Open Sell Orders) per PTLG and Product.

In addition, the following eOrder controls may be applied:

1. Order Rate Checks per PTLG;
2. PTLG defined Trading Restrictions (per symbol);
3. Manual blocking of eOrder flow per PTLG;
4. Mass Cancellation of open eOrders per PTLG;
5. Automatic blocking of eOrder flow at drop copy disconnect safeguard;
6. TradeGuard provides an easy to use and comprehensive GUI for configuration, monitoring, and management of the risk limits and controls;
7. Notifications via e-mail for risk limit notification and warning levels; and
8. User Interface (UI) for administering risk limits, uUsers and e-mail alerts, view risk checks consumption, mass cancel eOrders and block eOrder flow.

A PTRM Reference gGuide is posted on the Exchange's website.

## 2.6.2 Kill Switch

TradeGuard provides the ability for Participants to quickly and easily cancel all active, open Orders (including Quotes) for a PTLG. This can be done using the Mass Cancel functionality via the TradeGuard uUser interface (UI) or API. Once a Mass Cancellation has been executed, previously active Orders for the effected PTLG will need to be re-entered.

## 2.6.3 Drop Copy

The Drop Copy service allows Participants to receive real-time copies of execution report and acknowledgement messages as they are sent from the Trading System on a separate, dedicated path.

TradeGuard offers a drop copy disconnect safeguard for ~~DMA~~ Participants called Automatic Block at Drop Copy Disconnect Safeguard. This safeguard monitors for lost drop copy connections, which if detected, generates an event to block all PTLGs associated with the effected User as if they were blocked manually. New Orders may not be entered if blocked. NFX Market Operations must manually unblock affected to reactivate the monitored User.

## 3 TRADING ON THE EXCHANGE

This section provides an introduction to the Exchange trading day. The trading day is comprised of standard Trading System session states, various ways to participate in each session, and risk management and limits during those sessions. When all sessions have terminated, no Orders or Quotes will be accepted by the Trading System.

The following outlines components of a trading day. Please consult product specifications for trading hours per product.

A trading day is divided into four sessions (times are EPT):



- Pre-Open Session Commences – 18:45 (Closes at 19:00)
- Open Session Commences – 19:00 (Closes at 17:00 the next trading day)
- Close Session Commences – 17:00 (Closes at 17:00)
- Post-Close Session Commences – 17:00 (Closes at 17:30)

### 3.1 Pre-Open Session

To commence the Pre-Open Session, a market message is sent out to all Participants subscribed to Market Data indicating the start of the Pre-Open Session.

During the Pre-Open Session, Authorized Traders may enter Orders (including Quotes) which may be modified and canceled during the session. Orders will be time-stamped and queued until the end of the Pre-Open Session. During the Pre-Open Session, pre-existing Good-till-Cancelled (GTC) and Good-for-Day (DAY) Orders may be modified or canceled. Market Orders and Cross Orders will not be accepted during the Pre-Open Session. Any Order with a Time in Force Condition of FOK or IOC would also be rejected during the Pre-Open Session. See Chapter IV, Section 3 of the Rulebook for Order types and ~~time conditions~~ Time in Force Conditions.

Orders submitted during the Pre-Open Session shall remain in the Order Book unmatched until the Uncross occurs at the beginning of the Open Session. During the Pre-Open Session, the market is transparent; all submitted and /or modified Orders with associated volume are disseminated to subscribers of market data. Implied Orders are not calculated or disseminated during the Pre-Open Session.



An Equilibrium Price, the price at which the most quantity will execute with the lowest imbalance, is calculated and disseminated after every Order Book update throughout the Pre-Open Session. Specifically, the equilibrium Price is the price at which the lowest imbalance will execute with the most quantity, at a price closest to: (i) the last price; (ii) the prior day's Daily Settlement Price; or (iii) a price determined by NFX Market Operations. The Equilibrium Price includes Limit Orders, ~~Market-to-Limit Orders~~ and Quotes, but will exclude Market Order, Market-to-Limit Order, Stop, Stop Limit Orders, Implied Orders, Immediate or Cancel Orders, and Fill or Kill Orders.

See Section 5 of this Reference Guide for further discussion of Order types and ~~conditions~~ Time in Force Conditions.

All Orders will be disclosed to Participants with their actual price during the Pre-Open Session and a crossed Order Book will be disseminated. Order information will be available as Market-by-Order (MBO) information via the Nasdaq ITCH Market Data feed (see technical specifications on the Exchange's website). MBO information enables Participants to see individual Orders in the Order Book. The Exchange will disclose the full market depth at Order price level over ITCH. MBO information enables Participants to see aggregated volume and price for each price level.

**Table 2 Example: Schedule for a Futures Contract Pre-Open Session with Open at 19:00 Eastern US Prevailing Time**

Attribute	Pre-Open Session	Uncross
	18:45-19:00	19:00
Order Management	Order Management Order Entry: Limit, <del>Market-to-Limit</del> , and Stop Orders with associated valid <del>time in force conditions</del> <u>Time in Force Conditions</u> DAY, GTC, GTD, and IOC. Quotes with valid <del>time in force</del> <u>Time in Force Conditions</u> GFD. Volume and Limit Price will be displayed	
Auto Matching	No	Uncross Algorithm
Equilibrium Price	Equilibrium Price (EP) calculated and disseminated at every update. Crossed <del>Orders are</del> matched on Order Book at Uncross. EP at Uncross disseminated as Opening Price.	No
ITCH Market Data	Anonymous Market-by-Order; quantity and price of all added, updated and removed Orders/Quotes. EP and associated quantities.	Anonymous Market-by-Order; quantity and price of all added, updated, removed, and executed Orders/Quotes.

### 3.2 The Uncross

During the Pre-Open Session, a two sided auction is organized, where Orders entered during the Pre-Open Session on both sides of the Order Book are uncrossed automatically, at the Equilibrium Price at the conclusion of the Pre-Open Session ~~start of the Open Session~~. Before the Uncross is performed, a check is made for whether or not it is needed (i.e. if there are any crossed prices). If the Uncross is not required, the Open Session will commence and establish the Best Bid and Offer (BBO). The Trading System will



automatically match all crossed Orders at the Equilibrium Price. The Open Session will commence and the opening price will be either: (i) the Equilibrium Price; or (ii) the first match in the Trading Session. During the Open Session, the Trading System will match Orders (which includes Quotes).

The Equilibrium Price is the price at which the most quantity will execute with the lowest imbalance. Accordingly, following the Uncross, there are no crossed prices left in the Order Book. Executions at the Uncross are labelled as such in the ITCH Market Data protocols.

The Equilibrium Price includes the following Order Types:

- Limit Orders; and
- ~~Market-to-Limit Orders~~
- Quotes.

The following are excluded from the calculation of the Equilibrium Price:

- Market Orders;
- Market-to-Limit Orders;
- Stop Orders;
- Stop Limit Orders;
- Implied Orders;
- Immediate or Cancel Orders; and
- Fill or Kill Orders.

The following methodology is used to calculate Equilibrium Price:

- **Maximize Executed Quantity** – subject to the following, the Equilibrium Price shall be the price at which the execution of most quantity will occur.
- **Minimize Surplus Quantity** – if there is more than one price at which the most Orders will be executed, then, subject to the following, the Equilibrium Price will be the price which would generate the lowest imbalance.
- ~~Let Market Pressure Decide~~ – if there is more than one price at which the same lowest imbalance is possible, subject to the following, the Equilibrium Price shall be determined by market pressure.
- **Choose Price Closest to Reference Price** – if there is more than one price which would be determined by market pressure, the Equilibrium Price shall be the price closest to the Reference Price (a Reference Price can be: (i) the last price; (ii) previous day's settlement price; or (iii) price set manually by NFX Market Operations).

**Note:** It is possible to calculate the Equilibrium Prices in Combination Order Books, based on Combination Orders entered directly into the Combination Order Book. This is determined in the same way as Equilibrium Price calculations for the Single Order Book with one exception; instead of the price closest to a Reference Price being selected for the Equilibrium Price, the average of the highest and lowest eligible price is chosen as Equilibrium Price.

Any ~~crossed~~ Cross Order matched at the Equilibrium Price will sets the ~~Open~~ Price in the Open Session. The Order Book then moves from no-matching during the Pre-Open Session to automated matching during

the Open Session.

At the end of the Pre-Open Session, the System will remove unmatched or partially matched orders placed during the Pre-Open Session with Time-In-Force set to Immediate or Cancel. Partially matched Market-to-Limit Orders with ~~Time In Force~~ Time in Force Conditions set to DAY, GTD or GTC are converted to Limit Orders with price equal to the Equilibrium Price. If trigger conditions are met by the Uncross, Stop Orders are triggered and executed. Stop Orders can be triggered by the Equilibrium Price, but do not contribute to the calculation of the Equilibrium Price.

Once the Uncross is complete in the respective leg markets, the Combination ~~Strategy~~ Order Books are Uncrossed at their respective Equilibrium Price. Immediately following the Uncross of Combination Orders, Implied Orders are activated for the Open Session derived from the best bid and/or best offer of its respective legs. However, the Trading System will not generate Implied Orders for Inter-Commodity Combination Orders in the Open Session or any other session.

### 3.3 Open Trading Session – Automatic (Continuous) Matching

Ranking for all Orders entered prior to the Uncross and during automatic matching are based on a Price-Time execution algorithm. Matches are allocated based on price and then time, for Price-Time Priority. Orders (with ~~time conditions~~ Time in Force Conditions GTC and GTD) entered prior to the current trading day will retain priority. Orders in the Order Book will be matched according utilizing the Price-Time execution algorithm unless otherwise specified in the product specifications.

**Table 3 Example Schedule for Exchange Open and Close for Futures**

	Open Session	Post Close Session
	19:00-17:00	17:00-17:30
Order Management	Unexecuted Limit and Stop Orders with <del>Time in Force</del> <u>Time in Force Conditions</u> DAY, GTC and GTD following the Uncross enter continuous market, IOC Orders are cancelled. Unexecuted Quotes with <del>Time in Force</del> <u>Time in Force Conditions</u> Day enter continuous market. Order Entry, Quoting, Cancel and Cancel/Replace allowed. Orders are disseminated. Off Order Book Trade Reporting <u>occurs</u> .	Unexecuted Limit Order, GTC, GTD, can be amended or deleted. GTC, GTD Orders are entered back into the market at Pre Open <u>Session</u> of next Trade Day. Order Cancel messages <u>sent</u> .
Auto Matching	Yes	No
Equilibrium Data	No	No
ITCH Market Data	Anonymous Market-by-Order; quantity and price of all added, updated, executed and removed Orders/Quotes.	No, Market-by-Order.
Auxiliary Multicast Market Data	Off Order Book trades, cancel trades, RFQs, and <del>S</del> ettlement <del>P</del> rices.	

### **3.3.1 Automatic Order Matching**

Resting buy or sell Orders entered into the Order Book are matched against a corresponding incoming buy or sell Order in the Order Book, to create a matched trade. Each incoming Order is immediately checked for execution against resting Orders on the opposite side of the Order Book. Orders can be executed in full or in part in one or more steps. Buy Orders submitted into the Order Book with a buy price higher or equal to the sell Order with the lowest price (crossing prices), will be matched into one or more trades depending on the volume of the incoming Order and the volume and the price of the resting sell Order(s). The match price is determined by the price of the resting Order in the Order Book. The matching process will attempt to fill as much as possible of the volume of the incoming sell or buy Order until the limit of the crossing prices is passed.

### **3.3.2 Matching Priority for Products**

Orders entered in the Order Book will be matched according to the Futures product rules.

#### **3.3.2.1 Price, Time /Pro Rata Priority Algorithm Definition**

NFX will support Price-Time and Size Pro -Rata Priority allocations based on the product (contained in product specifications). The Price-Time algorithms utilized will not prioritize by Participant.

All Orders and/or Quotes are publicly disseminated during the Open Session. Order information will be available as Market-by-Order (MBO) information via ITCH. MBO information enables Participants to see each individual Order in an Order Book. The Exchange will disseminate full depth of Orders via ITCH. All Orders and matched Trades are disseminated as real-time market data. All matches are anonymous and therefore counterparty information is not published.

It is important to note that an Order loses priority when modified in any of the following ways:

- Increase in quantity; or
- Change in price.

### **3.4 Close Session**

At the end of the Open Session the Trading System will no longer accept Orders and no matching will occur. GTC and GTD Orders will remain in the Order Book.

### **3.5 Post Close Session**

At the end of the Close Session, a Post Close Session will commence. During the Post Close Session, Futures Participants may modify and cancel Orders. New Orders cannot be submitted during the Post-Close Session. At the end of the Post-Close Session, Order management ceases and the Trading System will close. No new Orders will be accepted at this time. During the Post Close Session all Order updates are disseminated only to the respective Authorized Trader (Order information is not available via ITCH or FIX).

**Table 4 Example Schedule for Futures Post Close**

	Exchange Close	Post Close Session
	17:00	17:00-17:30
Order Management	Auto-matching ceases. DAY Orders and Quotes automatically cleared from the Order Book.	GTC and GTD Orders in the Order Book can be modified and cancelled.
Auto Matching	No	No
Equilibrium Data	No	No

### 3.6 Trading Halts and Restoration of Trading

Trading may be suspended by NFX Exchange Operations either for technical, regulatory, or emergency reasons, pursuant to Exchange Rules. The Exchange shall provide Participants with information on trading halts and the subsequent restoration of trading will be disseminated via an Exchange notice or any other method that the Exchange deems appropriate.

Specifically, the Exchange will halt trading in all Contracts subject to NFX Rules at Chapter IV, Section 123 and shall not reopen trading in those Contracts until trading in the Contracts may be resumed when the interests of a fair and orderly market are best served by a resumption of trading. When a halt is initiated, the Trading System will complete the processing of trades that are in the course of being processed by the Trading System prior to the start of such a halt period, and reject all other Orders. The Exchange will issue a notification to the market of a halt. Once the halt is initiated, any new Orders, Quotes, cancellations or Order modifications submitted to the Trading System will be automatically rejected by the Trading System. The Exchange will issue a notification indicating the commencement of trading and conclusion of the Trading Halt. Trading will commence with an Open Session which will following a Pre-Open Session after a halt.

### 3.7 Quotes

Quotes are similar to Orders, but with the following additional characteristics:

- A special FIX message is used for entering and replacing Quotes (streaming Quotes).
- Quotes can be single-sided or two-sided, i.e. both the bid and ask side can be provided in one message packet.
- A Quote can be replaced by a new Quote in the same Order Book (although it is possible to replace only one side with the other side retaining its priority). This is done in an atomic manner to enable market makers to provide continuous quotes.
- All Quotes are assumed to be valid until end of day (or until canceled or replaced).
- Only one active Quote packet can exist per Instrument series per trading participant (up to twenty-four bids and offers may be contained in one Quote packet).
- Quotes may only be submitted into Single Order Books.
- Quotes may not be submitted into Combination Order Books.

Quotes are firm, and will automatically be matched when executable against other Orders and Quotes.

In order to keep the Quote message as small as possible, it does not include any account information (FIX Tag 1 of the Order specification). Each User will have a pre-defined account as the Quote account and all trades will be associated to that account after execution for transmission to OCC for clearing.

### **3.8 Request for Quote (RFQ)**

The execution of a RFQ is supported for all NFX Products. An RFQ is a Trading System broadcast message initiated by an Authorized Trader requesting an indication to buy or sell a specified quantity of a Contract. An RFQ must specify whether it is a buy or sell Order and the quantity interest in a Contract. The initiator of an RFQ can specify an Expiry (Delivery Month) or Combination Order (Strategy that is pre-defined or customized (TMC)). An RFQ is sent to all Participants anonymously. A RFQ is not an Order. When an RFQ is published, responding Participants may enter or update their Quotes or Orders in the Order Book in response to the RFQ.

### **3.9 Pre-Negotiated / Cross Transactions**

The execution of pre-negotiated cross transactions is supported for all NFX Products. Participants and Users can submit pre-negotiated, two-sided Cross Orders to the Exchange for execution. However, prior to execution, the Cross Order transaction must interact with any available liquidity in the Order Book prior to any volume being crossed. A Request for Cross (RFC) which is an RFQ must be entered before the Cross Order can be submitted.

All Cross Order transactions must follow the following rules and procedures prior to execution:

- Cross Orders can contain only a two-sided buy Order at the same price and quantity. Multi-legged transactions will be rejected (i.e. buy 50, buy 50 and sell 100).
- The Cross Order will interact with all existing Order types at the Cross Order price (i.e. crossing price) prior to any volume being crossed (including Implied and Iceberg Orders). If the crossing price is at or outside the best bid and/or offer (BBO) in the Order Book, it shall trade against existing Orders in the Order Book.
- If the quantity in the crossing transaction is larger than the aggregated Order quantity in the Order Book at the crossing price, then the crossing transaction will trade partially with the Order Book, and the residual crossing quantity will trade against itself (remaining volume that was not crossed will be cancelled from the Order Book).
- If no Order exist in the Order Book (i.e. there is no BBO), then the crossing transaction will trade fully against itself.
- The crossing transaction will interact with all Order types in their entirety prior to any volume being crossed according to the execution algorithm (e.g., price then time). If the crossing transaction interacts with hidden or non-displayed volume, such as an Iceberg, the non-displayed portion of the Order which becomes displayed after the original portion is executed will be equal to the original non-displayed quantity. Only if the volume is reduced for an Iceberg Order will it retain its position in the time-priority queue.

Cross Order transactions that are submitted by Participants and/or Users that are not properly configured for both the RFC and Cross Order functionality will be rejected. Cross Orders will not be accepted during the Pre-Open Session. See NFX Rulebook at Chapter V, Section 11.

### 3.10 Strategies – Combination Orders

The Trading System supports the trading of Strategies also referred to as Combination Orders, which will trade in a separate Order Book. The Exchange may list Futures and/or Options combinations for trading, and users may create their own tailor made combination (TMC) for Futures and/or Options combinations not already defined in the Trading System. Market participants may submit GFD Combination Orders that, if matched, will simultaneously trade the referenced single leg Instruments according to the specified strategy without execution risk. Combination Orders will first execute against respective legs of Orders before executing against other Combination Orders within the Combination Order Book. Once created intraday, a TMC Order Book is visible to the entire market and lives throughout the trading day. Quotes are not permitted in Combination Order Books, only Orders are permitted.

Representative types of Combination Orders accepted by the Trading System, which may be comprised of a minimum of two, but not exceed four, legs are as follows:

- **Buy and Write (a.k.a. Covered Call)** – Buy a Futures Contract, and write call Options.
- **Call (Put) Spreads** – Buy and sell two call (put) Options of the same underlying and expiration but with different strikes.
- **Calendar (Horizontal) Spreads** – Buy and sell two call (put) Options of the same underlying and strike, but with different expirations.
- **Straddles** – Buy a call Option and a put Option of the same underlying, expiration and strike.
- **Strangles** – Buy a call Option and a put Option of the same underlying and expiration, but with different strikes.
- **Conversion** – Sell a call Option and buy a put Option of the same underlying, expiration and strike at the same time as buying the underlying, or an underlying Future.
- **Reversal** - Buy a call Option and sell a put Option of the same underlying, expiration and strike at the same time as selling the underlying short, or selling an underlying Future.
- **Butterfly Spread** – A Contract strategy consisting of three legs either for Futures or Options. Butterfly Option Spreads consist of three put and/or call Contracts. Butterfly Futures Spreads consist of three Contracts.
- **Condor and Iron Condor Spreads** – A Contract strategy consisting of four legs. Condor Options Spreads consist of four Options Contracts (all put or all call Contracts). Condor Futures Spreads consist of four Futures Contracts. Iron Condor Options Spreads consist of four Options Contracts (two put and two call Contracts).
- **Intra-Commodity (Time) Spread** – Combinations may be formed by buying and selling two Futures of the same underlying, but with different expirations. Combinations may be formed by two different Future Expiries (NFX WTI Crude Oil Financial Futures, March versus June contract).

- The price ratio for the underlying legs will be configured to an integer of one. There will be no change to the trading tick size.
- **Inter-Commodity Spread** – Combinations may be formed of two or three different underlying Futures Contracts (NFX WTI Crude Oil Financial Futures versus NFX RBOB Gasoline Financial Futures versus NFX Heating Oil Financial Futures "Crack Spread").
  - The price ratio for the underlying legs will be configured to an integer of less than one, but rounded to four decimal places to the right from an initial calculation of fourteen places. Accordingly, the minimum price interval for a respective leg price is one hundredth of a cent (\$0.0001) versus its outright leg trading tick which may be 0.01.

### 3.11 Implied Orders

The Exchange offers Implied Out and Implied In Order functionality. Whereas Combination Orders specify a quantity and whether they are buying or selling the combination upfront, Implied Orders are automatic orders generated by the Trading System for the purpose of trading various combinations, except for Inter-Commodity Spreads. An Implied Order cannot be an FOK or IOC.

Implied Out Orders are calculated and inserted into the single Order Book legs. Implied Out Orders advertise the liquidity available in the marketplace due to the Combination Orders, and increase the possibility of executing Combination (Strategy) Orders. Implied Out Orders are generated only during automatic matching (the Open Session). Implied Out Order dissemination is via ITCH Market Data, except for Inter-Commodity Spreads.

The Exchange offers Implied In Order functionality, which derives its price and quantity from the net differential from the best prices as between two contract months for a Contract). The Exchange will not disseminate these Orders via ITCH Market Data. Consequently the Participants and Users will need to calculate their own (deterministic) set of Implied In Orders locally (e.g. via ISV or proprietary graphical user interface). Implied In Orders are generated only during automatic matching (the Open Session).

A Combination/& Implied Orders Technical Reference Document overview guide is posted on the Exchange's website.

### 3.12 Trade at Settlement

The Exchange may determine from time-to-time those Contracts and contract months for which MembersFutures Participants may execute trades at the Daily Settlement Price ("Trade at Settlement" or "TAS") and the trading hours of each contract during which Members may execute trades at the Daily Settlement Price (Daily Settlement Price first announced by the Exchange for the trade date on which the TAS Order is executed).

The Exchange may also designate Contracts and contract months where MembersFutures Participants may execute trades at a premium or discount to the Daily Settlement Price. When designating such Contracts and contract months the Exchange may limit the permissible trading range around the Daily Settlement

Price within which trades may be executed. The Exchange may vary this trading range at any time with immediate effect. TAS trades are executed on the NFX Platform at a price of zero representing the Daily Settlement Price.

For those Contracts and contract months where it is permitted to trade at a premium or discount to the Daily Settlement Price, the price of such settlement trades will be prefixed by a plus or minus sign as appropriate. For example, settlement trades executed at +1 cent will be at a premium of one cent to the settlement price while those executed at -1 cent will be at a discount of one cent to the settlement price.

After the Exchange has determined the Daily Settlement Prices of the associated underlying Futures contracts; the Exchange shall enter a reversing trade (to offset the exact initial trade at settlement transaction) and then an overtaking trade that is equal to the sum of the initial trade at settlement trade and the Daily Settlement Price for the relevant underlying Futures contract. Only the overtaking trade will be sent to OCC for clearing.

### 3.13 Trade Cancellations

The Exchange Price Limit system is designed to prevent the submission of Orders with significant pricing errors, and eliminate the need for manual intervention by an NFX Official to invalidate a particular trade. However, in some circumstances an NFX Official may conclude that a trade has been executed at an errant price and will cancel the trade pursuant to Exchange Rules.

Fair value may be determined by observing bids, offers, and trades that were entered into the relevant product, in either the same or neighboring Expiries, before and after the trade in question. When a trade is cancelled the counterparties to the trade will be informed as soon as possible by telephone and by a broadcast message from the Trading System. Also see additional guidance about trade cancellations in [Appendix E the Error Trade Policy Reference Guide](#).

### 3.14 Order Price Limit Protection

In order to prevent erroneous transactions that might occur due to fat finger pricing or manifest errors, NFX will implement the price limit structure described below.

There are no price limits during the Pre-Open Session and the Uncross. However, throughout the Open Session, Price Limits for all products will be calculated from a Reference Price within the same margin allowed above and below the Reference Price. The Exchange will set the applicable price margin above and below the Reference Price for each Contract.

The Reference Price is based on the logic detailed below:

During the Pre-Open Session, Price Limits will not be activated.

During the Open Session, the Reference Price for a product is defined as:

1. If the bid is greater than the last updated Reference Price then the bid shall be the Reference Price. If the ask is less than the last updated Reference Price then the ask shall be the Reference Price. Finally,



if there exists a Reference Price then the last updated Reference Price (not the bid or ask) shall be the Reference Price.

2. If a Trade has not matched and there is no available bid/ask for the relevant contract:

- The last traded price from the previous Trading Session following the previous Business Day's Daily Settlement Price calculation; or
- If no such trade is available from the previous Trading Session, the Daily Settlement Price from the previous Business Day.

Both outright and Implied Orders will be disclosed to the market if they are at or within the current price limits. However, if Implied Out Orders are entered outside the price limit, they will be displayed at the price limit. Thus, the price of an Implied bid Order shall be constrained to the upper price limit, while an Implied Offer shall be constrained to the lower price limit.

Buy Orders with prices lower than the lower price limit and sell Orders with prices above the upper Price Limit are allowed to enter the Trading System. Conversely, buy Orders with prices above the upper price limit and sell Orders with prices below the lower price limit will be rejected.

Attempts to enter Orders and Quotes during the Open Session outside the prevailing price limits for the relevant product will be rejected by the Trading System. Combination Limit Orders, Market-to-Limit Orders, and both single and strategy Market Orders are not validated against price limits. The Trading System will send a message notifying the Participant's relevant Authorized Trader of the rejection. The permitted margins above and below the ~~r~~Reference ~~p~~Price for price limit determination for each product will be set from time-to-time by the Exchange. The margins may be adjusted to reflect market conditions with the objective of preventing the execution of any Orders submitted to the Trading System with manifest pricing errors and/or at unrepresentative price levels.

Although a series of Options on a particular Future may trade frequently, any single specific Option and strike price may not trade or even be quoted regularly. Additionally, the underlying Futures contract may move significantly since the last Option transaction making the last trade and previous day's Daily Settlement Price irrelevant from a ~~r~~Reference ~~p~~Price perspective. Because of this NFX will not support Price Limits for NFX Option products. Any Option pricing inquiries, including potential erroneous transactions, should be brought to the attention of Exchange Staff immediately.

### **3.15 Market Makers**

A ~~M~~arket ~~M~~aker is a Participant that quotes both the buy and sell side in a given market. The main function of the ~~M~~arket ~~M~~aker is to provide liquidity to the marketplace.

Authorized Customers and Authorized Traders may use the Mass Quote functionality to submit bid/ask pairs and generate two-sided markets for multiple Instruments during the Open Session.

Marker Maker designation is via application to the ~~Exchange~~NFX membership department.

### 3.15.1 Mass Quote Function

Mass Quote functionality allows traders to create and maintain a one or two-sided market on a large number of Instruments more efficiently by enabling Authorized Traders and Authorized Customers to:

- Create and update their action to buy and sell up to 2429 Instruments utilizing a single message;
- Modify only one side (bid or sell) of a resting Quote by using the appropriate bid or offer quantity and price values in a new Mass Quote entry message;
- Quote cancel is accomplished by modifying the price and quantity of a Quote to zero;
- Cancel one side of a resting quote and leave the opposite side unchanged;
- Cancel one side of a resting Quote and modify the opposite side;
- Cancel both sides of a resting Quote; and
- Cancel all Quotes entered by Authorized Traders and Authorized Customers.

### 3.15.2 Market Maker Protection

The Exchange offers functionality to protect Market Makers from large scale rapid-fire Quote executions that can occur in a short amount of time during periods due to extreme market volatility. This functionality is designed to enable Market Makers to quote in Contracts while determining acceptable risk levels. ~~The Trading System will automatically withdraw all Quotes and Orders if certain thresholds are achieved.~~

Market Maker Protection parameters are configurable by the Market Maker. The Market Maker can update (change or disable) the parameters intra-day. The parameters possible required to be set by a for a Market Maker to set for an underlying are:

1. **Exposure Limit Time Interval**—~~rolling time interval for market maker protection re-calculation and shall be set in number of seconds~~ the number of contracts executed during a period of time specified in seconds per Contract.
2. **Quotation Frozen Time**— cannot enter Quotes for a period of time specified in seconds per Contract.
3. **Quantity Protection**— ~~a threshold value, i.e. a value that if equal or exceeded will trigger the system to delete Quotes~~ a volume threshold value which, if the number of contracts executed, equals or exceeds such value during the Exposure Limit Time Interval, the Trading System will remove all Group Quotes in a Contract.
4. **Delta Protection**—~~a net delta value per Contract that if equal or exceeded will trigger the Trading System to delete Quotes~~ based on absolute value of the sum with (or without) Futures.

If the Market Maker's pre-set parameters have been met or exceeded in either the Quantity Protection or the Delta Protection, the Trading System will prevent new Quotes from being entered by the Group for the Quotation Frozen Time. If an execution would cause the volume threshold or the net delta value to be met or exceeded, the Trading System completes the transaction prior to the removal of all Group Quotes in a Contract. A setting of zero will result in the Quotation Frozen Time Period setting to prevent Quotes from being entered for the remainder of that Open Session, unless the setting is modified. The Quantity Protection and Delta Protection risk mechanisms operate independently of each other. The Trading System will send a notification message to the Market

Maker when Quotes are removed as a result of either the Quantity Protection or Delta Protection mechanisms for a Contract.

See the Market Maker Protection & Self-Match Prevention Reference Guide.

# 4 ORDER TYPES AND TIME CONDITIONS

## 4.1 Order Types

The following Order types, time-in-force and time conditions are available for all Products:

Order Types	DAY (Good-for-Day)	GTC (Good-till-Cancel)	GTD (Good-till-Date)	FOK (Fill-or-Kill)	IOC (Immediate-or-Cancel)
Market Order				X	X
Limit Order	X	X	X	X	X
Market-to-Limit Order	X	X	X	X	X
Stop Order	X	X	X	X	X
Stop Limit Order	X	X	X	X	X
Iceberg Order	X	X	X	X	X
Trading at Settlement	X				
Combination Order	X	X	X		
Implied Orders	X				
Linked Orders	X			X	X

### 3. Market Orders

Market Orders are accepted only during the Open Session. Market Orders are executed at the best available price and are therefore entered without a price. Note that an IOC Market Order will trade through the Order Book until the entire quantity is filled or partially filled (an FOK will only trade if the entire volume in the Order can be filled).

Given the following Order Book:

Order book A							
Buy Side				Sell Side			
AON	Order Id	QTY	Price	Price	QTY	Order Id	AON
--	11	10	10.50	11.00	10	14	-
-	12	10	10.40	11.10	10	15	-
-	13	10	10.40				-

An aggressive Market Order to Sell 20 @ MKT would execute 10 @ 10.50 with Order #11 and another 10 @ 10.40 with Order #12.

Market Orders cannot be stored in the Order Book during automatic matching, and will be canceled if they are not immediately executed.

### 4. Limit Order

A Limit Order must specify a price that is valid according to its minimum trading price increment and will only execute at prices equal to or greater than its specified limit price.

Given the following Order Book:

Order Book A							
Buy Side				Sell Side			
AON	Order Id	QTY	Price	Price	QTY	Order Id	AON
--	11	10	10.50	11.00	10	14	-
-	12	10	10.40	11.10	10	15	-
-	13	10	10.40				-

*An aggressive Limit Order to Sell 20 @ 10.50 would execute 10 @ 10.50 with Order #11 and then would then be handled as per its specified Time-in-Force.*

Limit Orders can have additional quantity and reserve conditions, which are described below in “Time Conditions.”

### 5. Market-to-Limit Order

Market-to-Limit Orders will execute at the best possible price. If the Order is partly matched, the remainder is converted to a Limit Order priced at match price. In comparison with a normal Market Order, the Market-to-Limit Order only executes at the best price level and therefore does not trade through the Order Book.

Given the following Order Book and a tick size equal to 0.10:

Order Book A							
Buy Side				Sell Side			
AON	Order Id	QTY	Price	Price	QTY	Order Id	AON
--	11	10	10.50	11.00	10	14	-
-	12	10	10.40	11.10	10	15	-
-	13	10	10.20				-

*An aggressive Market-to-Limit Order to sell 30 @ MKT would execute 10 @ 10.50 with Order #11 and the remaining balance would be stored in the Order Book at 10.50, and the resulting Order Book would reflect the following:*

Order Book A							
Buy Side				Sell Side			
AON	Order Id	QTY	Price	Price	QTY	Order Id	AON
-	12	10	10.40	10.50	20	16	-
--	13	10	10.20	11.00	10	14	-
				11.10	10	15	-

All Time in Force Conditions are accepted for Market-to-Limit Orders in the Open Session. In all no-matching sessions (Pre-Open, Close and Post-Close Sessions) or auction (Uncross) ~~(during the Pre-Open Session)~~ all ~~time conditions~~ Time in Force Conditions are in force except for FOK Orders.-

For Market-to-Limit Orders the following would apply in automatic matching:

By defining ~~time conditions~~ Time in Force Conditions to either be Fill-or-Kill (FOK) or Immediate or Cancel (IOC), the Market-to-Limit Order type will behave as a Market Order that only matches at one price level.

During an automatic matching session, a Market-to-Limit Order is immediately canceled if no match can be executed, e.g. if no Order exists on the opposite side of the market. Market-to-Limit Orders for a Combination Order Book will not match with the respective leg Order Books. Therefore if no Orders exist on the opposite side of the market in the Combination Order Book, the Market-to-Limit Order in the Combination Order Book is immediately canceled, since no match can be executed.

For Market-to-Limit Orders the following applies in no-matching sessions (Pre-Open, Close and Post-Close Sessions) or auction (Uncross) (Pre-Open Session):

Market-to-Limit Orders entered in a no-matching sessions (Pre-Open, Close and Post-Close Sessions) or auction (Uncross) (Pre-Open Session) are treated as Market Orders, participate in the Uncross at an Equilibrium Price and if any quantity remains after the Uncross the Order will be posted in the Order Book at the Equilibrium Price.

## 6. Stop Order

A Stop Order becomes a Market Order when the Price designated on the Order is triggered by a trigger condition.

Stop Orders are only active in the Order Book once the trigger condition has been met.

Consider the following Stop Order:

Order 1 Buy 10 @ MKT, Trigger last trade  $\geq$  10.50

And the following Order Book:

Order Book A							
Buy Side				Sell Side			
AON	Order Id	QTY	Price	Price	QTY	Order Id	AON
--	11	10	10.50	11.00	10	14	-
-	12	10	10.40	11.10	10	15	-
-	13	10	10.40				-

A new, "normal" Order coming into to Sell 5 @ 10.50 would result in a trade at 10.50, and the triggering of the Stop Order. The Stop Order would then execute with Order # 14 at the market price of 11.00.

Stop Orders are also supported by time conditions.

## 7. Stop Limit Order

When a trade has occurred at or through the stop price, the Order becomes executable and enters the market as a Limit Order at the limit price. The Order will be executed at all price levels from the stop price up to and including the limit price. If the Order is not fully executed, the remaining quantity of the Order will remain active on the Order Book at the limit price. ~~A buy Stop Limit Order becomes executable when a trade occurs at or higher than the stop price. A sell Stop Limit Order becomes executable when a trade occurs at or lower than the stop price.~~ A buy Stop Limit Order may be placed above or below the current market price. A buy Stop Limit placed below the current market becomes executable when a trade occurs at or lower than the Stop Price. A buy Stop Limit placed above the current market becomes executable when a trade occurs at or higher than the Stop Price. A sell Stop Limit Order may be placed above or below the current market price. A sell Stop Limit placed below the current market becomes executable when a trade occurs at or lower than the Stop Price. A sell Stop Limit placed above the current market becomes executable when a trade occurs at or higher than the Stop Price.

Consider the following Stop Limit Order:

Order 2: Buy 10 @ 10.90 Trigger last trade >= 10.60

And the following Order Book:

Order Book A							
Buy Side				Sell Side			
AON	Order Id	QTY	Price	Price	QTY	Order Id	AON
--	11	10	10.50	11.00	10	14	-
-	12	10	10.40	11.10	10	15	-
							-

*A new, "normal" Order coming into to Sell 5 @ 10.60 matches with a new Order to Buy 5 @ 10.60 resulting in a trade at 10.60, and the triggering of the Stop Limit Order. The Stop Limit Order would be placed in the Order Book as the new best bid (it is not executable).*

Order Book A							
Buy Side				Sell Side			
AON	Order Id	QTY	Price	Price	QTY	Order Id	AON
--	1	10	10.90	11.00	10	14	-
-	16	10	10.60	11.10	10	15	-
-	11	10	10.50				-
	12	10	10.40				

## **8. Iceberg Order**

An "Iceberg Order" is an Order where a portion of the Order is displayed and a portion of the Order is non-displayed. When the displayed quantity of the Iceberg Order is executed, a non-displayed portion of the remaining balance of the Order will be displayed in the Order Book as a new Order and will not retain its time priority. The non-displayed portion of the Order which becomes displayed after the original portion is executed will be equal to the original non-displayed quantity. Only if the volume is reduced for an Iceberg Order will it retain its position in the time-priority queue.

## **9. Trading at Settlement Order**

A "Trading at Settlement" or "TAS" Order is an Order to buy or sell a stated quantity of the relevant Contract at a price expressed as a differential (which may be zero) above or below the Daily Settlement Price for the Contract on the trading day on which the TAS Order is executed. TAS Orders may be priced in increments (plus or minus) of up to 10 minimum trading increments from the Daily Settlement Price. A TAS transaction executed at a zero differential will be filled and cleared at the Daily Settlement Price for the trading day.

## **10. Combination Order**

A "Combination Order" means an Order to simultaneously buy and/or sell at least two contracts in one or more Contracts in a form accommodated by the Trading System. All legs of a Combination Order are acquired simultaneously and must be for the same account or accounts with the same beneficial ownership. The Exchange will accept a Combination Order of up to four legs into the Trading System. Combination Orders may execute against other Combination Orders or they may execute against the respective legs of Orders within the Order Book. ~~Combination Orders will first execute against respective legs of Orders before executing against other Combination Orders within the Combination Order Book.~~ Combination Orders shall not update the prices of the respective legs of such Combination Orders in their respective Order Book. The Exchange will disseminate Combination Orders through ITCH and FIX protocols. These types of Orders may also be referred to as "Strategies." Quotes are not permitted in Combination Order Books, only Orders are permitted.

## **11. Implied Orders**

The term "Implied Orders" means Orders that are automatically generated by the Trading System from a derived price. An "Implied Out Order" derives its price and quantity from resting Combination Strategy Orders and the aggregate of the respective legs which are at the best price for a Contract. An "Implied In Order" derives its price and quantity from the net differential from the best prices as between two contract months for a Contract. The Exchange will not disseminate Implied In Orders through the ITCH Market Data Feed; it will disseminate through FIX.

## **12. Linked Orders**

The term "Linked Orders" means consists of a single message with two or more dependent Orders with the same quantity and Time in Force Conditions for each Order. An execution of one of the Linked Orders will result in an equal reduction in the quantity of all remaining Orders which are linked to that Order. The Orders in the Linked Order message will be separately executed and will be separately reported. A cancellation or rejection which impacts one or more Orders of the Linked Order will result in the



cancellation or rejection of all unexecuted Orders that are part of the Linked Order. Buy Orders and sell Orders cannot be combined in a Linked Order. A Linked Orders cannot have a Time in Force Conditions of GTC or GTD. A Linked Order may not be a Combination Order or an Iceberg Order. A Linked Order may contain a maximum of ten (10) Orders in a single message.

## **4.2 Time Conditions**

### **1. DAY “Good For Day” (DAY)**

A DAY Order is valid until the Open Session closes. A Day Order is active for the Business Day and any non-executed portion will be cancelled upon the transition to the Post Close, i.e. when the Exchange closes at the end of the Open Session.

### **2. Good Till Cancelled (GTC)**

The system supports GTC Orders in markets that have no specified limit to the maximum number of days an Order is allowed to stay in the book. A GTC Order will retain its original chronological order based on original entry time into the Trading System.

### **3. Good Till Date (GTD)**

A GTD Order is valid until a specified date in the future, up to a maximum of 255 days. If the Order is not matched during the Business Day it will be entered into the Order Book the following Open Session. A GTD Order will retain its original chronological order based on original entry time into the Trading System.

## **4.3 Time-in-Force**

### **1. Fill-or-Kill (FOK)**

A FOK Order is not stored in the CLOB at any time. If a FOK Order is not executed in its entirety, the Order will be cancelled. FOK Orders may only be entered during the Open Session.

### **2. Immediate or Cancel (IOC)**

An IOC Limit or IOC Market-to-Limit Order will match with all the resting volume on the opposite side of the Order Book, up to the limit price, and the remaining volume will be canceled. An IOC Market Order will match all available resting volume on the opposite side of the Order Book irrespective of the price, and any remaining unmatched volume of the IOC Order will be canceled.

## **4.4 Order Modification**

With respect to Order modifications, time priority will be retained if only the volume is reduced. If the Order modification results in an increase in volume, or price modification, time priority will not be retained for that Order.

## **4.5 Tick Sizes**

Tick size is the smallest allowed price increment for a specific product and thereby, is the smallest allowable differential between the buy and sell price in the Order Book for that product. If the price

specified by a limit price is not valid according to the allowed tick sizes specified in the Rulebook for the product, the Order is rejected by the Trading System.

See NFX Rulebook Chapter IV, Section 4.

## 5 REPORTING OF OFF-ORDER BOOK (OFF-EXCHANGE) TRADES

The Trading System supports real time trade reporting of privately negotiated transactions executed outside of the Order Book.

- A Block Trade is a privately negotiated Futures, Options or combination transaction in a Futures Contract and/or Option that is listed on the Exchange. Block trades are permitted in specified products and are subject to minimum transaction size requirements which vary according to the product, the type of transaction and the time of execution. Block trades may be executed at any time at a fair and reasonable price. Participation in Block Trades is restricted to Eligible Contract Participants as defined in the Commodity Exchange Act.
- Brokered trades of any size may also be submitted to NFX as an Exchange for Related Position (EFRP). Each EFRP trade must be labeled with the appropriate EFRP type (i.e. EFP, EFR or EOO) on the trade report submission. EFRP trade eligibility will be specified for each product in which the Exchange will accept EFRP trades
  - Exchange for Physical (EFP) - A privately negotiated and simultaneous exchange of an Exchange Futures position for a corresponding cash position.
  - Exchange for Risk (EFR) - A privately negotiated and simultaneous exchange of an Exchange Futures position for a corresponding OTC swap or other OTC Instrument.
  - Exchange of Options for Options (EOO) - A privately negotiated and simultaneous exchange of an Exchange Option position for a corresponding OTC Option position or other OTC Instrument with similar characteristics.

[See Off-Exchange Transaction Reference Guide posted on the Exchange's website.](#)

### 5.1 NFX Trade Reporting Overview

The main parties in the trade reporting process are:

- Customer that is the beneficial owner of one or more trading accounts (Account) held with a Clearing Futures Participant;
- Clearing Futures Participant; and
- Brokerage firm that facilitates the execution of the trade between the clients, and is responsible for registration of the trade report.

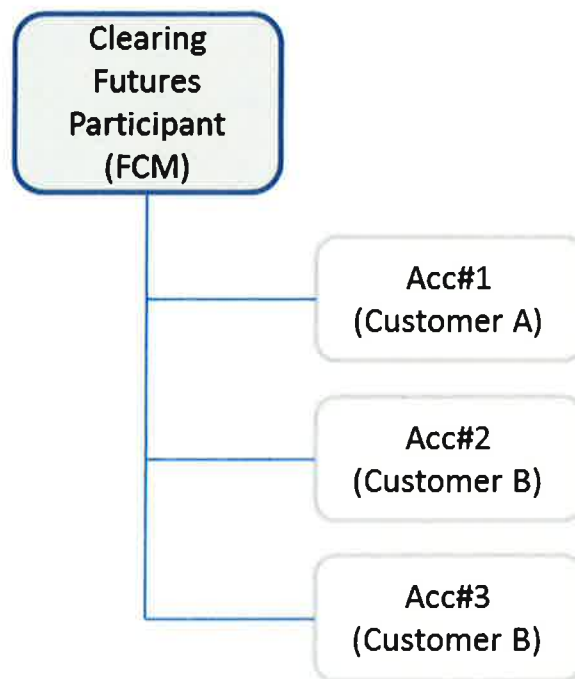
The broker will be required to obtain permission to do trade registration by a Clearing Futures Participant and obtain trade registration permission for a specific Account(s). Most clients (Trading Firms) who use Brokers rely on a variety of Broker Firms and permissions on a given account can be granted to multiple Brokerage Firms.

## 5.2 Client & Account Management

In order to submit a Block Trade to NFX, the party entering the transaction must have access to the reporting interfaces and must have been granted permission to enter the trades for the Account(s) involved in the Block Trade from the Futures Participant(s) carrying those accounts.

The following 3 steps need to be performed to submit Block Trades to the Exchange:

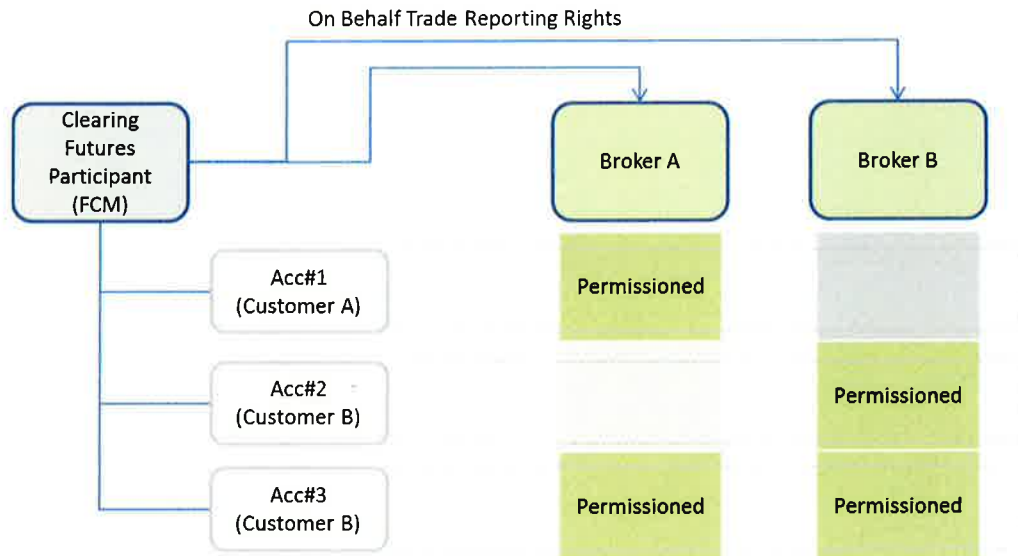
1. All customer Accounts must be registered in the NFX trading platform as accounts of a Clearing Futures Participant. This is required for all customer accounts, regardless if the customer is going to engage in Order Book trading or Block Trading. The account registration is electronically submitted via a request to the NFX Market Operations team.



2. A Participant (e.g. a broker) is granted the generic right to register Block trades on behalf of a Clearing Futures Participant.



3. The final step in the process of the Exchange permissioning a party to submit a Block Trade report is complete when the Clearing Futures Participant provides instructions for the assignment of a Participant with trade reporting rights for a specific Account (representing the Customer). The assignment is electronically submitted via the NFX Block trade reporting GUI, and any necessary modifications may be submitted and applied intra-day. Please note that no Block Trade reports can be submitted by a trade reporting Participant until the respective Accounts have been approved by the Exchange.



### 5.3 Trade Reporting Procedures

When a privately negotiated Futures, Options, or Combination Order transaction have been executed, the transaction must be reported to NFX within the specified time limits in the Exchange’s Rulebook.

NFX supports submission of both principal-to-principal Block Trades, where each party reports its respective side of the trade; as well as third party Block Trades, where the broker has the obligation to register on behalf of the two principals.

When reporting a Block Trade, the following information will be required:

- Contract (including contract month and contract year for Futures, and, additionally for Options, strike price and put or call designation);
- Quantity of the trade or, for spreads and combinations, the quantity of each leg;
- Price of the trade or, for spreads and combinations, the price of each leg;
- Buyer’s Clearing Futures Participant and seller’s Clearing Futures Participant;
- Buyer’s Customer Account and seller’s Customer Account; and
- Execution time of the Order (i.e. the time at which the trade was consummated).

As described in the previous section, the accounts involved in the Block Trade must have been approved by the Exchange. In the event that a Block Trade is executed for an Account(s) for which the appropriate permissions has not been completed by the Clearing Futures Participant, the Block Trade will be rejected.

However, the Futures Clearing Participant could make an intra-day modification to receive approval from the Exchange to submit Block Trades.

## 5.4 Reporting Interfaces

Block trades can be submitted the following ways:

1. Electronically via the NFX workstation; or
2. Electronically via FIX API.

### **NFX Workstation**

NFX provides Participants with a web-enabled user interface for submission of Block Trades. The interface allows users to enter complex Combination Orders up to twelve legs quickly.

All trades entered via the user interface will be qualified by the Pre-Trade Risk Management system, Genium INET TradeGuard PTRM (TradeGuard), before submission if such trades are part of a Pre-Trade Limit Group or PTLG created by the Participant.

Nasdaq adheres to high information security standards and the access to the NFX Workstation is thus protected by two factor authentication using client certificates. Please contact NFX market operations to request a client certificate.

### **API Interface**

The NFX trading platform provides full trade reporting functionality via FIX for integration of ISVs and proprietary interfaces. The API supports reporting of both single trades as well as completes strategies with up to 12 legs. Please reference the NFX FIX API specification for complete details. All trades entered via API will be qualified by the Pre-Trade Risk Management system TradeGuard before submission if such trades are part of a Pre-Trade Limit Group or PTLG created by the Participant.

## 5.5 Risk Management

All Block Trades submitted to the Trading System will pass through the Exchange's Pre-Trade Risk Management System, TradeGuard, before being accepted by the Exchange for clearing by OCC if such trades are part of a Pre-Trade Limit Group or PTLG created by the Participant. TradeGuard checks the initiated (pending) position with all respective positions and risk metrics (as defined by the Clearing Futures Participant) before accepting Orders into the Trading System for clearing. If the proposed trade is rejected, the User (Authorized Trader or Authorized Customer) and responsible parties will be notified and provided a reason for the rejection. A Combination strategy and its respective legs must be qualified in its entirety by the Pre-Trade Risk Management System to avoid partial acceptance of this Strategy. For more detailed information on TradeGuard please see Section 2.6.1 in this Reference Guide.

## 6 CONTACT INFORMATION

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NASDAQ Futures, Inc. Support:

+1 215 496 1571

futures@nasdaqomx.com



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# NASDAQ Futures, Inc. (NFX) TradeGuard PTRM Reference Guide

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# 1 EXECUTIVE SUMMARY

The Exchange provides Participants with the ability to facilitate volumetric Pre-Trade protection on the Trading System via TradeGuard as a complementary service. Pre-Trade risk management (PTRM) services encompass on-Exchange Orders and off-Exchange trades submitted via FIX. This PTRM [Reference Guide](#) (“Reference Guide”) provides an overview of the PTRM system’s functionality as well as detailed descriptions of each risk check, including the manner in which it is configured, maintained and monitored.

## 1.1 INTRODUCTION

TradeGuard is centered on the establishment of a Pre-Trade Limits Group (PTLG), which is comprised of a single account or a group of accounts connected to the same Trading User ID. Trading Participants can monitor customer exposures and adjust risk limits in real-time via the TradeGuard User Interface (UI).

The following categories of Trading Participants may trade on NFX:

- **Clearing Futures Participant**—an Exchange Participant that clears trades at The Options Clearing Corporation (OCC) and may elect to sponsor other Futures Participants, non-Futures Participants and/or Authorized Customers for direct access to the Trading.
- **Futures Participant**—an Exchange Participant that clears trades through a Clearing Futures Participant and may elect to sponsor other Futures Participants, non-Futures Participants and/or Authorized Customers for direct access to the Trading System.
- **Authorized Customer**—an entity that may directly access the Trading System upon approval by the Exchange.

TradeGuard is intended to provide backstop risk functionality, addressing the risks associated with:

- **Automated Trading Systems** (Automated Order Generators or AOG)
  - High frequency and algorithmic systems
  - “Runaway” AOG risk
- **Direct Access (DMA)** customers sponsored by a Clearing Futures Participant
  - Customers using their own direct connectivity
  - Customers using proprietary applications via API access to the NFX trading platform through another Futures Participant

- **Catastrophic Risk**
  - Provide protections against any type of adverse execution activity
  - Mitigate the infinity risk associated with operations

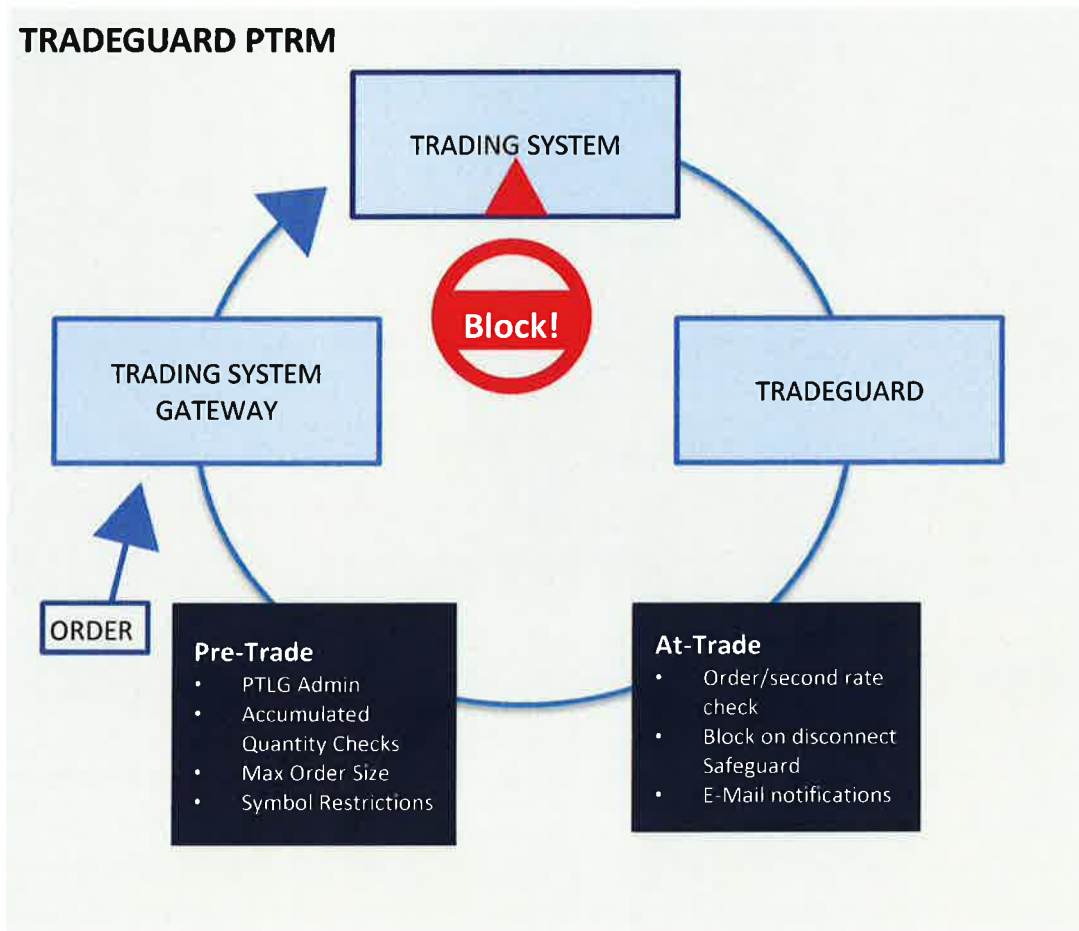
## 1.2 TRADEGUARD'S KEY BENEFITS

TradeGuard provides the following benefits to NFX Participants:

- **Accuracy** - TradeGuard's functionality includes real-time market information to ensure that the most accurate information is available for validating Orders prior to admittance to the matching engine.
- **Integrated** - TradeGuard provides an integrated Pre-Trade risk solution for electronically executed as well as off -exchange, trade reported transactions.
- **Flexibility** - TradeGuard is flexible and manages protection on one or multiple account levels.
- **Speed** – TradeGuard is fast, adding virtually no latency to Order roundtrip time.

## 2 TRADEGUARD OVERVIEW

Trading Participants (Participant) can set various Pre-Trade risk limits to control their house trading activity and the trading activity of their clients at the Participant account level, including prevention of potentially erroneous transactions and Pre-Trade checks of trade reported transactions.



TradeGuard consists of a number of Pre-Trade risk checks that can be combined in a flexible way, to validate Orders prior to allowing them into the Trading System. When Orders (including Quotes) are rejected, TradeGuard provides customers with clearly defined reasons for the rejection via a FIX message.

The TradeGuard User Interface provides Clearing Futures Participants with the ability to directly control and update all risk limits at the account level, including the ability to quickly mass cancel Orders (including Quotes) and block Order flow.

Notifications via e-mail are generated by TradeGuard to alert Clearing Futures Participants and their clients as threshold levels are breached. When Pre-Trade risk parameters have been met or exceeded, the Exchange's Trading System will reject all new Orders (including Quotes) for the Futures Participant, Authorized Trader or Authorized Customer until the Authorized Risk Officer adjusts the Pre-Trade risk parameters.

## 3 TRADEGUARD DEFINITIONS AND CONFIGURATION

This section defines the key terms and configurations that are vital to TradeGuard, its setup, and efficient operations.

### 3.1 ACCOUNT

An account is unique to a Participant and contains House or customer trades and positions. Each account will have a unique account number per Participant.

### 3.2 ACCOUNT SETUP

Accounts and their associated Authorized Traders will be configured via NFX Exchange staff and added to the TradeGuard User Interface for configuration into new or existing Pre-Trade Limits Groups (PTLG), both of which are described in more detail below and throughout this document.

### 3.3 AUTHORIZED TRADER

The Exchange requires that each trader physically submitting an Order to the Trading System through the FIX interface be identified by a unique Authorized Trader ID (using Party Role 11= Order Originating Trader as outlined in the Exchange FIX specification).

A Participant accessing the Trading System will be assigned one or many unique User IDs as basis for login to the Trading System. The User ID issued by the Exchange will also be used for populating Tag 50 (SenderSubID) of the Exchange FIX specification.

There can be multiple traders accessing the Trading System via one individual User ID as long as the necessary tags identifying the Authorized Trader IDs are included, to further identify the individual.

The Trading System supports verification of specific access to one or multiple accounts. Each User ID will be assigned access rights to a specific account or set of accounts registered in the Trading System.

### 3.4 FUTURES AND OPTION CONTRACTS

All risk checks, except the maximum Orders/sec rate, are configurable at the Instrument Class, Futures and Options on Futures Contracts level. Each NFX Futures Contract, or Option on Futures Contract, will have its own risk limits (Options on Futures Contracts will have individual limits for Calls and Puts). See examples below:

Contract Risk Limits	
Crude Oil Futures	<ul style="list-style-type: none"><li>• NFX WTI Crude Oil Futures (CLQ)</li><li>• NFX Brent Crude Futures (BFQ)</li></ul>
WTI Crude Oil Options on Futures	<ul style="list-style-type: none"><li>• NFX WTI Crude Oil CALL Options (LOQ)</li><li>• NFX WTI Crude Oil PUT Options (LOQ)</li></ul>
Refined Product Futures	<ul style="list-style-type: none"><li>• NFX RBOB Gasoline Futures (RBQ)</li><li>• NFX Heating Oil Futures (HOQ)</li></ul>
Natural Gas Futures	<ul style="list-style-type: none"><li>• NFX Henry Hub Futures - 10,000 (HHQ)</li><li>• NFX Henry Hub Futures - 2,500 (NNQ)</li></ul>

Trade at Settlement (TAS) Orders and transactions will be allocated to their related delivery Contracts and associated risk checks.

### 3.5 CLEARING FUTURES PARTICIPANT

Clearing Futures Participants (CFPs) will use TradeGuard to set Pre-Trade risk limits for their customers.

The NFX Rulebook at Chapter IV, Section 7 requires that the Clearing Futures Participant's Authorized Risk Officer to initially set and thereafter adjust, as appropriate, Pre-Trade risk parameters to a level that is appropriate for the trading activity of a Futures Participant, Authorized Trader or Authorized Customer for which the Clearing Futures Participant is the designated Clearing Futures Participant. The Pre-Trade risk controls must be appropriate for the level of trading engaged in by the Futures Participant, Authorized Trader or Authorized Customer.

An Authorized Risk Officer must initially set and thereafter adjust the following Pre-Trade risk parameters:

- Maximum Order/Quote Size
- Total Net Buy/Sell
- Restricted Contract

» Maximum Order/Quote Size – Maximum allowable order or quote size, based on volume, which may be sent to the Exchange for a given Group, Firm or Trader ID. Each bid and offer of a quote is considered independent of one another.



» Total Net Buy/Sell – Traded Net plus open buy/sell per Instrument

» Restricted Contract – List of Contracts that cannot be traded.

Each Clearing Futures Participant will be required to provide two Authorized Risk Officer contacts to the Exchange's Membership Department in a form prescribed by the Exchange. The Exchange will not authorize a Trader ID if an Authorized Risk Officer has not set Pre-Trade risk parameters for a specific Futures Participant, Authorized Trader or Authorized Customer.

Futures Participants are encouraged to also employ all other necessary Pre-Trade risk controls in their order management systems to secure the financial integrity of the markets and the clearing system, to avoid systemic risk, and to protect customer funds. Futures Participants and Authorized Traders are reminded that they remain ultimately responsible for the appropriate execution of oOrders on the Exchange in accordance with Commission Regulations and Exchange Rules. The Exchange makes no warranty that the Pre-Trade risk parameters required by the Exchange alone will place a Futures Participant or Authorized Trader in compliance with CFTC Rule 1.73. Clearing Futures Participants should consult with their compliance, regulatory, and legal departments or advisers to ensure their policies and procedures are compliant with CFTC Rule 1.73

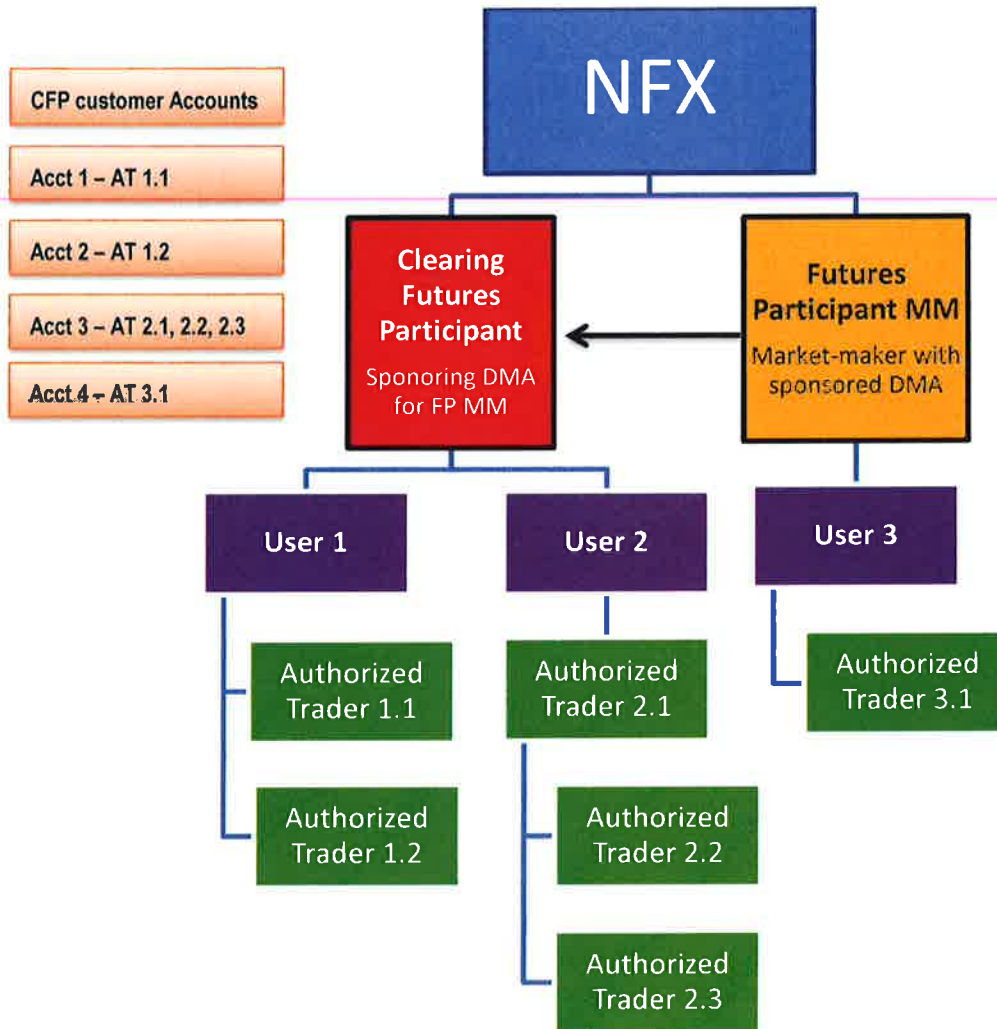
As noted above, Authorized Risk Officers will be required to adjust any Pre-Trade risk parameters. Such parameters may be set at the Futures Participant level, per Authorized Trader or per Authorized Customer. If the Pre-Trade risk parameters have been met or exceeded, the parameters must be adjusted prior to the commencement of trading.

### **3.6 PRE-TRADE LIMITS GROUP**

As previously mentioned, PTLG is comprised of a single account or a group of accounts connected to the same User ID. A PTLG can therefore encompass the entire Order flow of a Participant or simply Orders submitted by a single account or a group of accounts. A PTLG may only be connected to one User ID and an account may only be associated with one PTLG. PTLGs may consist of either accounts or User IDs, but not both.

Active risk checks and their limits are configured per PTLG as described in the sections that follow. It is not possible to create and activate a PTLG intra-day nor is it possible to add or remove accounts from a PTLG intra-day (any intra-day change request will be held for overnight processing).

Account information is not included in a mass quote (bunched) message. Participants that will be making markets using the mass quote functionality will have their mass quote consumption accumulate in a default PTLG. Each Participant can have only one default PTLG, and additional, standard accounts can be included in a Default PTLG.



## 4 TRADEGUARD RISK CHECKS

TradeGuard provides Clearing Futures Participants with the following risk checks and support tools:

### Trading Activity

- Daily Total Net Buy Checks (Traded Net + Open Buy Orders) per PTLG and Contract
- Daily Total Net Sell Checks (Traded Net + Open Sell Orders) per PTLG and Contract

### Order Management

- Maximum Order Volume or Quantity per PTLG, Contract, and Combination Class
- Maximum Trade Report (Block and EFRP) Size per PTLG, Contract, and Combination Instrument Class
- Mass Cancellation of open Orders (including Quotes) per PTLG

### Order Rates

- Order Rate Checks per PTLG

### Trading Restrictions

- PTLG defined Trading Restrictions (per symbol)
- Manual blocking of Order flow per PTLG

### Connectivity Issues

- Automatic blocking of Order flow at drop copy disconnect safeguard

### Risk Manager Support Tools

- Notifications via e-mail for risk limit notification and warning levels.
- TradeGuard User Interface for administering risk limits, accounts and e-mail alerts, view risk checks consumption, mass cancel Orders (including Quotes) and block Order flow.

All configured risk checks are active during all trading sessions. NFX will operate 22x5 hours/days basis, which, for example, may be 7PM EPT to 5PM EPT Sunday through Friday. All risk checks will be reset for the Pre-Open session prior to Open session that starts at 7PM EPT Sunday, and each night through and including Thursday and will remain in force until the completion of the Open session at 5PM EPT the following business day.

## 4.1 TRADING ACTIVITY RISK CHECKS

### 4.1.1 Daily Accumulated Volume/Quantity Checks

The daily accumulated checks are Pre-Trade risk checks that involve monitoring of a series of counters for each Contract. These risk checks will count transactions executed via the Order Book as well as off-Order Book (Block and EFRP) transactions via a single limit.

Different checks can be set on different PTLGs for the same User ID. Therefore, different limits can be assigned to different accounts within a User ID as long as the accounts are assigned to different PTLGs.

Limits are individually configured for each Contract and PTLG for the following risk limits:

Total Net Buy	Total Net Buy = Traded Bought – Traded Sold + Open Buy Orders per Contract
Total Net Sell	Total Net Sell = Traded Sold – Traded Bought + Open Sell Orders per Contract

The limit quantifier can be based on either the number of contracts (Quantity Calculation) or the underlying units of the specific Contract (Volume Calculation).

### 4.1.2 Reaching an Accumulated Volume or Quantity Limit

Since all accumulated volume or quantity limits are Pre-Trade limits, they can never be equal to or exceeded the limits. A pre-trade accumulated volume or quantity limit can be breached if a Clearing Futures Participant were to lower a limit below the existing consumption for a Contract. Thus when an Order is entered that will equal or exceed an accumulated volume or quantity limit for a Contract, the Order would be ejected. Likewise, if a Participant were to enter an off-Order Book (Block or EFRP) transaction on behalf of a PTLG that will equal or exceed an accumulated volume or quantity limit for a Contract, the entire trade report would be rejected. The PTLG could re-enter a new Order or trade reported transaction in the same Contract up to the amount of any unused consumption, but any Order/trade larger than the unused consumption will always lead to a rejection. Any non-cancelling, open Order modifications for the affected Contract that would equal or exceed the same accumulated volume or quantity limit would also be rejected. The PTLG can increase capacity (unused consumption) under a rejected limit by entering offsetting trades and/or canceling open Orders (including Quotes) for the specific Contract. Regardless, Authorized Traders connected to the concerned PTLG will still be allowed to enter Orders on Order Books traded on other Contract until their respective accumulated volume or quantity limits are reached.

For more information on how the accumulated volume or quantity checks work, please refer to Appendix A of this Reference Guide— Examples on Daily Accumulated Quantity Checks.

*Please note that if no action is taken by the Clearing Futures Participant when a limit is reached, on the next trading day, the PTLG will be able to enter Orders in the concerned Contract up to the full amount of the existing limit as the limits reset to zero for each trading day.*

*Please be advised that PTRM is NOT designed to automatically cancel open Orders (including Quotes) (and thereby prevent future executions of Orders (including Quotes) already residing on the book) once a limit is*

reached. PTRM will only prevent new Orders (including Quotes) from being accepted; previous Orders in the matching engine before the limit was reached may still be executed or cancelled.

### 4.1.3 Limitations of Accumulated Volume or Quantity Limits

Clearing Futures Participants are encouraged to consider the limitations stated below when defining the limits for the volume or quantity based checks:

All the accumulated volume or quantity limits are counted for each individual Contract only and therefore there are no global cross-Contract counters available.

- Combination Orders only affect the counters as described below:
  - Combination Orders are broken down into their individual legs and the size of the individual legs shall be added to the counters of the individual Contract legs.
  - For Combination Orders where the same Contract is both bought and sold in different legs, the buy and sell volume or quantity shall be netted and only the surplus shall be added to the Open Order Buy/Sell and traded bought/sold counters.
  - Combination Order risk checks can be configured and set for combinations where Contracts in the same Products are bought and sold, providing flexible risk management of time spreading.
- Already resting Stop Orders can be triggered and traded after a PTLG has been blocked.

## 4.2 ORDER MANAGEMENT RISK CHECKS

### 4.2.1 Maximum Order Volume/Quantity Check

The Maximum Order Volume or Quantity Check is a Pre-Trade risk check that provides Clearing Futures Participants with the ability to check Central Limit Order Book (CLOB) Order volume or quantity against a pre-set volume or quantity limit per Contract or Combination Order. The Order quantifier can be based on either the number of contracts (quantity calculation) or the underlying units of the specific Contract (volume calculation). For example, if the max Order quantity is set to calculate based on the quantity limit methodology and is set to 200 for the number of WTI futures contracts and an Order equals or exceeds 200 contracts, it will be rejected. Likewise, if the max Order limit is set to calculate based on the volume limit methodology and is set to 200,000 for the number of WTI barrels and an Order equals or exceeds 200,000 barrels, it will be rejected.

Different maximum Order volume or quantity checks can be set on different PTLG for the same Participant. Therefore, it is possible for a Clearing Futures Participant to assign different limits to different accounts for a Participant as long as the accounts are assigned to different PTLGs.

Different maximum Order volume or quantity thresholds can be specified per Contract. As an example, Clearing Futures Participants could request that the CLOB maximum Order size for WTI Crude should be less than 1,000 contracts while for Brent Crude the CLOB limit should be less than 250 contracts.

For Mass Quotes the maximum Order quantity check is performed per transaction. This means that the maximum quantity a user can add via one mass quote transaction is always  $2 * \text{MaxSize} * \text{Maximum Number of Quote Items}$ . E.g., with a Max CLOB Order Limit of 24, an optimized mass quote (NFX caps the max number of Instruments at 37), it's possible to add 1,776 ( $2 * \underline{24} * \underline{37}$ ) contracts regardless of any active daily accumulated quantity checks.

Orders in Combination Order Books are handled differently depending of the composition of the leg contracts.

Type of Combination	Examples	Max Order Volume or Quantity Check
All leg contracts are of the same Instrument class.	WTI Crude combo: CLQM5/N5  RBOB Combo: RBQZ5/F6	Net exposure is validated against the specified limit in the applicable Instrument. If zero net exposure no validation is done.
Leg contracts are not of the same Instrument class.	Combo Contracts combining Crude Oil futures:  WTI vs Brent Crude- CLQM5/BFQM5  Combo Contracts combining different commodities:  Crack: RBOB versus WTI Crude  RBQZ5/CLQZ5	The exposure in each leg contract is validated against the corresponding limit for the Instrument.

#### 4.2.2 Maximum Trade Report Size

Maximum Trade Report (Block and EFRP) Size is a pre-trade risk tool that permits Participant to place an upper limit on the volume or quantity for trade reporting of Off-Exchange transactions. If the trade report volume or quantity is equal to or greater than the pre-set limit, the off-exchange trade report will be rejected. Similar to other risk tools, the Maximum Trade Report Size can be set at the Product, and PTLG, or Combination level.

For multi-leg trade report transactions, each leg will be validated individually against the Maximum Trade Report Size limit. If at least one leg exceeds the pre-set limit, the entire transaction will be rejected.

The Max Trade Report Size limit, along with the Max Order Quantity Check (for CLOB Orders), will allow Participants to manage both Orders within the CLOB and Bblock Tradestransactions using a combined volumetric position limit. Participants will be able to manage max order/trade sizes in both CLOB and trade reported transactions independently at significantly different levels.

The Max Trade Report Size will also allow Participants to restrict accounts from transacting certain trade reported transactions, which meet or exceed the limit, by instrument class. Participants may set the Max Trade Report Size below the specific product BlockTrade threshold (note that minimum threshold allowable for EFRPs is 1 contract). Setting the Max Trade Report Size limit to zero will allow for an “unlimited” trade report size.

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#### **4.2.3 Mass Cancel of Open Orders**

Risk Managers can quickly and easily cancel ALL open Orders, including Quotes, (“Kill Switch”) for a PTLG via the TradeGuard User Interface.

This feature will immediately cancel ALL open, active and inactive Orders for ALL of the accounts associated with the respective PTLG.

This mass Cancel functionality can be executed with two mouse clicks via the UI, but can only be executed for a single PTLG.

### 4.3 ORDER RATE RISK CHECK

The maximum Order rate/sec limit is defined as new Orders/second and is set per PTLG and is measured as the combined Order flow for all Users connected to that PTLG.

The Order rate is based on information received after Order insertion (post Order validation). Thus, it is possible that Orders that are above the configured limit will be accepted and inserted to the Order Book.

The limit shall be expressed as an Order per 1 second rate and TradeGuard will check the Order rate every 1/10 of a second. If the Order rate for the last 1/10 of a second equals or exceeds 1/10 of the configured Order rate limit when the TradeGuard check is done, a breach will occur and the group is blocked on all Contracts.

The goal with this control is to capture abnormal aggregated Order/sec rates resulting from Orders submitted via a PTLG.

It is not possible to set different max Order/sec limit per Contract.

Should the limit be breached, the following actions will be taken:

- The affected PTLG will be blocked and all new Orders (including Quotes) will be rejected; and
- It will still be possible to cancel open Orders(including Quotes), which remain in the Order Book and are not canceled.

A block of a PTLG as a result of an Order rate breach must be unblocked manually by the Clearing Futures Participant, once the root cause of the excessive Order generation has been identified and resolved.

The Order Rate Check is based on new Orders inserted into the book. If an Order is traded at entry it will also count towards the Order Rate limit. The following examples will be ignored by the Order Rate Check:

- Order cancel requests;
- Timein Force Conditions that do not stay in the Order Book, such as Immediate or Cancel Orders (IOC) or Fill or Kill Orders (FOK) (except in auctions where they do stay in the Order Book);
- rejected Orders; and
- Order modifications.

For Mass Quotes the maximum Orders/sec check is done per item and side, meaning that a limit of 100 Orders/second will only allow the user to enter 49 double sided items per transaction without being blocked.

Stop Orders are validated against the maximum Orders/sec when triggered, and not at entry.



## 4.4 TRADING RESTRICTIONS

### 4.4.1 Restricted Contracts

Enabling restricted Contracts in the PTLG overrides the default setting. Once enabled, Users will be allowed to trade only the Contracts based on limits that have been configured.

The Restricted Contract check is performed Pre-Trade within the matching engine.

### 4.4.2 Blocking PTLGs

Clearing Futures Participants are able to manually block/unblock a PTLG using the TradeGuard UI.

Users of a blocked PTLG are:

- Not permitted to enter new Orders nor alter existing Orders;
- Able to delete existing Orders;
- Permitted to login; and
- Able to view the market, receive broadcasts, and send queries.

A manually blocked PTLG can be unblocked intra-day manually with the TradeGuard UI by a Clearing Futures Participant, or if nothing is done then the PTLG will be unblocked automatically the next day.

## 4.5 CONNECTIVITY ISSUES

### 4.5.1 Automatic Block at Drop Copy Disconnect Safeguard

The NFX Drop Copy service allows Participants to receive real-time copies of execution reports and acknowledgement messages as they are sent from the Trading System on a separate, dedicated path.

The TradeGuard Drop Copy at Disconnect safeguard monitors a User's drop copy connection, which if a disconnection is detected an event is generated to block all PTLGs associated with the User as if they were blocked manually. The affected PTLGs must then be manually unblocked by the Clearing Futures Participant when the monitored User is active again.

## 4.6 RISK MANAGER SUPPORT TOOLS

### 4.6.1 Email Notifications

The PTRM service automatically sends e-mail alerts to a list of pre-defined recipients connected to a PTLG in the following cases:

- For Pre-Trade risk checks there are two levels that can be configured to generate emails:
  - A notice level (percentage of limit) that is configurable per PTLG; and a
  - A warning level (percentage of limit) that is configurable per PTLG.
- When an Order is rejected TradeGuard will send a FIX message to the associated Users. In the event that a limit is lowered by the Clearing Futures Participant below its current consumption and therefore breached, an email notification of the breach will be sent to the configured recipients.

Not more than one of each the notification and warning emails will be generated per day per PTLG, Contract and type of risk check. Thus, no more than one notification and warning mail for every configured limit will be sent per day.

If a limit is changed intra-day by the Clearing Futures Participant, the counter is reset, meaning that one notification and warning and email will be allowed for that specific limit check regardless of what emails have been sent before the limit was adjusted.

Please note, as an Order rate limit breach results in a hard block (i.e. it requires a manual unblock by the sponsor), a new email will be generated each time the Order rate limit is breached.

Below are examples TradeGuard e-mail notifications:

Breach Event, Group: XXX\_XXX, Risk Check: TOTAL\_NET\_BUY, Time: Fri Feb 15 09:23:16 CET 2013, Event Level: Notice, Consumed: 40, Limit: 50

Breach Event, Group: XXX\_XXX, Risk Check: TOTAL\_NET\_BUY, Time: Wed Feb 13 13:17:18 CET 2013, Event Level: Warning, Consumed: 95, Limit: 100

### 4.6.2 TradeGuard User Interface

The Exchange provides Clearing Futures Participants with a TradeGuard User Interface which allows Clearing Futures Participants to:

- Define PTLG and risk checks;
  - Configure Contracts and the associated limits for each risk check;
  - Define restricted Contracts;
  - Add/remove account to/from a PTLG; and
  - Add or change monitored user for a PTLG.
- View the current consumption level of each risk check in real-time;
- Intra-day emergency block/unblock Order flow for a PTLG;
- Mass cancellation of all active, open Orders, including Quotes, for a PTLG;

- Identify if the maximum Order/sec limit has been breached;
- Unblock a PTLG that has breached the limit for maximum Order/sec; and
- Administrate e-mail addresses to receive alerts and warnings.



The TradeGuard UI may be configured such that a User has write access or read-only access. The scope of information available to a User may also be configured for all Participants (exchange users) or only for the Participant to which the User belongs (Participant users).

The UI is a web-based application accessed via a certificate and user credentials. The requirements to run the application are a Windows PC, at least 512MB of free memory, and Java 7 installed.

### 4.6.3 Intra-day and Next Day Changes

The following table shows what changes can be made intraday or for the next day.

CHANGE	Intraday	Next Day
Update the quantity or volume check limit values	X	
Update the Order rate limit	X	
Select restricted Instruments	X	
Add an email address to a PTLG notification list	X	
Update an email address of a PTLG notification list	X	
Update the warning and notice percentages on a PTLG	X	
Add/Remove a Contract to/from a PTLG		X
Change the calculation unit on a Contract		X
Remove an e-mail address from a PTLG notification list		X
Create or delete a PTLG		X

## 5 APPENDIX A – EXAMPLES ON DAILY VOLUME CHECKS

Calculation until: Volume

### Risk Limits (in contracts)

MaxSize	TotNetBuy	TotNetSell
61	200	200

The PTLG will neither be able to have a net traded exposure of more than 200 contracts in any direction.

### Current Consumption (in contracts)

MaxSize	TotNetBuy	TotNetSell
61	180	180

Presuming for the below examples that the PTLG has three open Orders of 60 contracts on each side of the book.

- Example 1 – PTLG enters a bid of 50 contracts in the Order Book.
  - The Order is rejected as the TotNetBuy (200 contract) limit would be exceeded.
- Example 2 - PTLG enters a bid of 20 contract in the Order Book.
  - The Order is rejected as all Orders are rejected if the resulting consumption is EQUAL TO GREATER THAN the respective limit.
- Example 3 – PTLG cancels two of its three, 60 contract buy Orders and then enters a new Order to buy 100 contracts.
  - The new 100 contract Order is rejected because it exceeds the Max Size limit of 61 contracts.
- Example 4 – PTLG cancels one of its three, 60 contract buy Orders and then enters a market Order to buy 60 contracts.
  - The Order is accepted and executed at the best market price or prices.

# NASDAQ Futures, Inc. (NFX) Market Maker Protection & Self-Match Prevention Reference Guide

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## 1 INTRODUCTION

This objective of this document is to provide an overview of NFX's Trading System Market Maker Protection (MMP) and Self-Match Prevention functionality, as well as act as an explanatory reference guide for these key concepts and services provided by NFX.

The Market Maker Protection functionality is designed to prevent rapid fire trade executions resulting from Market Maker (MM) Quotes. The Market Maker may elect MMP functionality whereby the Trading System will automatically purge all Quotes in a certain underlying Futures or Options Contract if a configurable number of contracts have been met or executed during a configurable amount of time. Market Makers will have the ability to use the MMP functionality for all underlying Contracts. Market Maker Protection is optional for Futures Participants and Authorized Customers. See NFX Rulebook.

Self-Match Prevention functionality prevents matching between counterparties affiliated with the same Participant or User. A Participant is defined as a Clearing Futures Participant, Futures Participant, or Authorized Customer. A User is defined as an Authorized Trader. (See NFX Reference Guide, Section 2.3, Relational Model). Futures Participants may elect that Orders not execute against Orders on the opposite side of the market by its Authorized Traders. A Futures Participant's Authorized Customer may elect that Orders not be executed against Orders entered on the opposite side of the market by its Authorized Traders. Self-Match Prevention is optional for Futures Participants and Authorized Customers. See NFX Rulebook, Chapter V, Section 9 for the rule related to Self-Match Prevention.

The term "Market Maker" shall refer to any entity approved and registered with the Exchange in such capacity. A Market Maker may be either a Futures Participant or Authorized Customer.

## 2 MMP PARAMETERS

The MMP parameters are configurable by the Market Maker and are set at the Participant level or Group level. The Market Maker can update (change or disable) the MMP parameters intra-day. Affiliated Market Makers of either a Futures Participant or an Authorized Customer constitute a ("Group"), if elected.

Parameters available for a Market Maker to set by underlying are:

- Exposure Limit Time Interval;
- Quotation Frozen Time;
- Delta Protection; and
- Quantity Protection; ~~and~~
- ~~Include Futures.~~

~~To prevent the "Quantity Protection" and "Delta Protection" parameters from being set too low by the Market Maker, thus triggering the MMP thresholds too often, there will be a pre-defined minimum~~



quantity parameter set by the Exchange. The minimum quantity will be specified per underlying Contract and the value will apply for both the “Quantity Protection” and “Delta Protection” parameters.

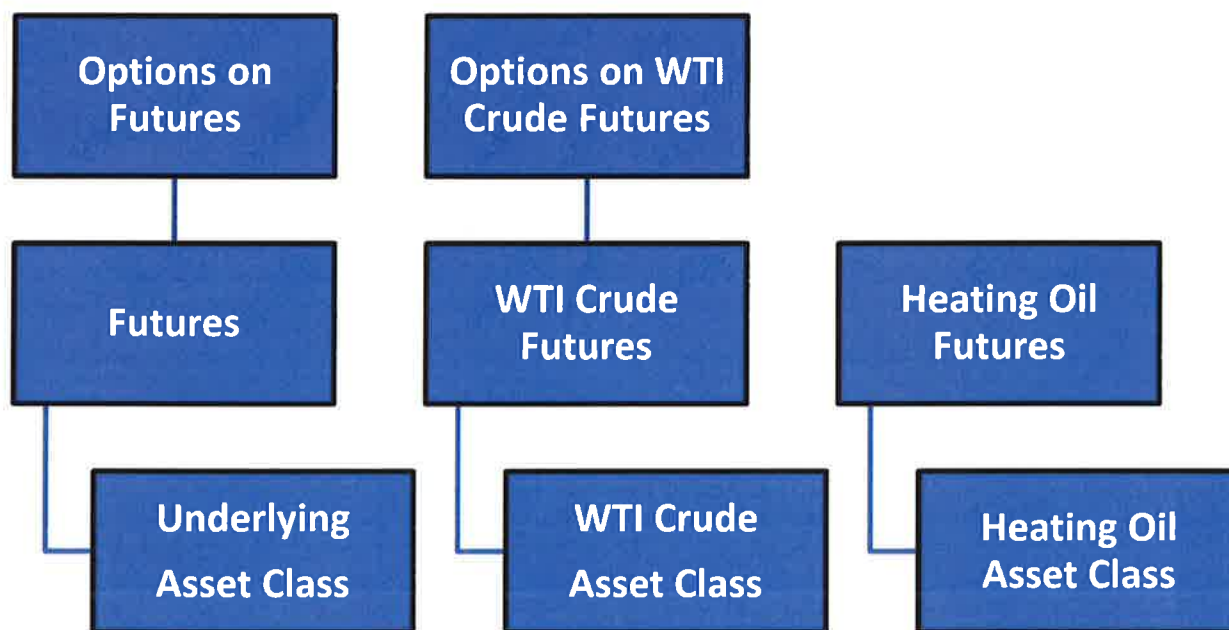
Note that all MMP parameter calculations will be measured on Market Maker Quote executions, and once triggered, only Market Maker Quotes will be purged from the Trading System Single Order Book. Orders entered into the Trading System are not included in any MMP parameter calculations.

## 2.1 DEFINITION OF UNDERLYING ASSET CLASS

The term “Underlying Asset Class” is an important concept in the configuration and implementation of NFX MMP. All parameters are monitored and calculated based on an Underlying Asset Class.

Underlying Asset Class is defined as the asset class upon which all of the related Futures and Options Contracts and Options on Futures Contracts are based. Per the diagram below, the NFX WTI Crude Underlying Asset Class includes WTI Crude Futures Contracts and Options on WTI Crude Futures Contracts.

If a MMP parameter threshold is triggered for an Underlying Asset Class, the Trading System would purge all Quotes for the WTI Crude Underlying Asset Class, which includes Quotes in WTI Crude Futures and Options.



The NFX Heating Oil Underlying Asset Class includes only Heating Oil Futures Contracts since no Options are listed.

## 2.2 EXPOSURE LIMIT TIME INTERVAL

The Exposure Limit Timer Interval is the number of contracts executed during a period of time specified in seconds per Contract by the Market Maker

Once the Market Maker commences submitting Quotes in a specified Contract, the Trading System will count the Exposure Limit Time Interval. A new Exposure Limit Time Interval commences with each execution in a Contract.

The rolling time interval is used to determine if the Quantity or Delta Limit Protection thresholds have been breached. Note that the Exposure Limit Time Interval can occasionally extend to 110% of the parameter due to Trading System constraints following excessive message activity.

It is especially important to note that if the rolling time interval is set to 0 (zero), the MMP functionality is turned off, disabling the MMP.

## 2.3 QUANTITY PROTECTION

The Quantity Protection threshold value is a value that if equaled or exceeded for a specific Underlying Asset Class will trigger the Trading System to purge all Quotes or Group Quotes in the respective Futures and Options Contracts. The Quantity Protection threshold value is as defined as the maximum ~~number~~volume threshold of trades executed contracts that the Market Maker wants to trade via Quotes within the given time interval (Exposure Limit Time Interval).

If the Quantity Protection threshold is set to 0 (zero), the Quantity Protection functionality would be effectively disabled.

## 2.4 DELTA PROTECTION

The Delta Protection threshold value, is a net delta value ~~which~~ that if equaled or exceeded for an Options Contract related to the same Underlying Asset Class, will trigger the Trading System to purge all Quotes or Group Quotes in the Underlying Asset Class (including Futures).. The Trading System calculates the absolute value of (long call executions + short put executions) – (short call executions – long put executions), which if equals or exceeds the net delta value during the Exposure Limit Time Interval, the Trading System will remove all Group Quotes in a Contract.

Market Makers may elect to also include Futures in that calculation per Contract. In this case, the Trading System calculates the absolute value of (long futures executions + long call executions + short put executions) – (short call executions – long put executions – short futures executions), which if equals or exceeds the net delta value during the Exposure Limit Time Interval, the Trading System will remove all Group Quotes in a Contract.

~~The Delta Protection threshold value is defined as the maximum number of executed contracts in the same direction (either long or short) that the Market Maker executes or Quotes, in an Options Contract, within the given time interval (Exposure Limit Time Interval).~~

The Delta Protection threshold value will be monitored for each Underlying Asset Class individually. There are two different methods to calculate the Delta Protection threshold value depending if Futures Contracts are included in the calculation. The methods are defined in Sections 2.4.1 and 2.4.2 herein.

If the Delta Protection is set to 0 (zero), the Delta Protection functionality would effectively disable MMP.

### 2.4.1 Delta Protection Including Futures

The Delta Protection threshold value calculation method including Futures Contracts is:

the Absolute value of the sum of [(bought Future Contracts + bought Call Options on Futures Contracts + sold Put Options on Futures Contracts) – (sold Future Contracts + sold Call Options on Futures contracts + bought Put Options on Futures Contracts)].

#### 2.4.2 Delta Protection Not Including Futures

The Delta Protection threshold value calculation method, not including Futures Contracts, is:

the Absolute value of the sum of [(bought Call Options on Futures Contracts + sold Put Options on Futures Contracts) – (sold Call Options on Futures Contracts + bought Put Options on Futures Contracts)].

### 2.5 QUOTATION FROZEN TIME INTERVAL

When MMP is triggered due to a Delta and/or Quantity Protection threshold breach, the Market Maker will be prevented from entering new Quotes for a period of time defined by this parameter. The Quotation Frozen Time interval parameter shall be specified in number of seconds. The “frozen” time period exists to prevent Market Makers from entering additional Quotes before the threshold counters can be reset, which would lead to additional rejections.

Once the Quotation Frozen Time interval has expired, the thresholds counter(s) for the specified Contract underlying(s) will be reset and the Market Maker can enter additional Quotes into the Trading System.

If the Quotation Frozen Time interval is set to 0 (zero), the quotes are considered frozen and the quotation ability can only be activated by updating the parameter for the remainder of the Open Session.

## 3 TRIGGERING CALCULATIONS AND CONSEQUENCES

### 3.1 TRADES INCLUDED IN THE CALCULATION

Only single-leg trades that are matched in the Order Book via Quotes entered by the Market Maker are counted for purposes of MMP.

Additionally, Off-Order Book trade reports (Block Trades and Exchange of Futures for Related (“EFRPs”) Products) entered by the Market Maker are ~~not~~ counted for purposes of MMP.

### 3.2 THRESHOLD BREACH ACTION

When a Quantity or Delta Protection threshold is reached and/or breached, all Quotes for the Underlying Asset Class in which the threshold violation took place will automatically be purged by the Trading System. Note that Quotes in Futures Contracts will be purged regardless of whether the Delta Protection threshold calculation is set to include or exclude Futures Contracts. As an example, if a Market Maker’s Delta Protection threshold calculation method excludes Futures Contracts and the Market Maker executes an amount of WTI Crude Options on Futures Contract trades via Quotes in one direction to reach or breach the Market Maker’s threshold, MMP will purge all of the Market Maker’s existing Quotes in WTI Crude Futures Contracts and WTI Crude Options on Futures Contracts (the WTI Crude Underlying Asset Class) regardless of direction (either long or short) of the Quotes.

Single Orders and Combination Orders submitted by the Market Maker will not be purged. The Market Maker will be informed via a Trading System broadcast message of the purge. There will be one Trading

System broadcast message sent for each purged Quote. The Market Maker will also be informed when limits have been reached or breached via a broadcast message.

In the case where the Market Maker has many Quotes in the Order Book in the same Instrument series, all Quotes will be purged.

### **3.3 RESET OF THE MARKET MAKER PROTECTION PARAMETERS**

After MMP has taken place, due to a threshold violation, and the respective Quotes are purged, the counted quantities will automatically reset to zero. This prevents the threshold breach from being triggered immediately after the initial trigger. The Market Maker will be able to submit additional Quotes in the underlying after the frozen time interval has expired.

### **3.4 QUOTING AFTER A MARKET MAKER PROTECTION EVENT**

If additional Quotes have been submitted by a Market Maker immediately after a MMP threshold breach has occurred, causing a purge of all Quotes in the underlying, but before the notification broadcast message is received by the Market Maker, additional Quotes will be rejected, and the Market Maker will receive an additional notification message with the reason code "Market Maker Protection." After the specified quotation frozen time, the Market Maker can start submitting Quotes into the Trading System. If the Market Maker wants to submit new Quotes earlier than this timeframe, the Market Maker has the ability to override the `qQuotation fFrozen tTime` by updating the parameters. When the parameters are updated, the calculated Quantity Protection and Delta Protection values will reset for that particular Underlying Asset Class; regardless of whether parameters have been changed.

### **3.5 MMP WITH MASS QUOTATIONS**

If a mass Quote is sent to the Trading System which results in trade executions, the mass Quote transaction shall be processed as multiple, individual transactions, instead of one composite transaction. If these multiple individual transactions were to cause a threshold breach, thus triggering MMP, the remaining unexecuted Quotes in the transaction in the same Underlying Asset Class will be purged with reason code "Market Maker Protection."

### **3.6 PASSIVE AND AGGRESSIVE QUOTES**

#### **3.6.1 Aggressive Quotes**

If an aggressive Quote is entered by the Market Maker that matches with Orders in the Order Book, the MMP is checked for each individual Quote. See example 1 in Section 5.1 herein.

#### **3.6.2 Passive Quotes**

If an aggressive single Order is entered into the Trading System that matches with passive Quotes from the Market Maker in the Order Book, MMP shall be checked when the aggressive Order has been fully matched. See example 2 in Section 5.2 herein.

### 3.7 IN-HOUSE TRADING

A Participant or User will not be able to match its Orders against its own Orders or Orders submitted by another Participant or User affiliated with a common Futures Participant or Authorized Trader.

#### 3.7.1 Aggressive Quote matched with a Combination Order

If an aggressive Quote by a Market Maker is matched with an Implied Order generated from a Combination Order, the MMP will first check each individual Quote item, and then consider other legs of the Combination Order Strategy, which shall be traded before the MMP is triggered, even if a threshold is reached after the first leg is traded. See example 3 in Section 5.3 herein.

#### 3.7.2 Passive Quote matched with a Combination Order

If a passive Quote by the Market Maker is matched with an Implied Order generated from a Combination Order the MMP will first check each individual Quote item, and then consider the other legs of the Combination Order Strategy, which shall be traded before the MMP is triggered, even if a threshold is reached after the first leg is traded.

### 3.8 STOP ORDERS

MMP has priority against resting Stop Orders. If a trade triggers MMP and the new last price also triggers a Stop Order, which is eligible to trade against another Market Maker Quote, the Stop Order will not be triggered before the Quotes have been purged.

### 3.9 SESSION STATES

The MMP will only be enabled during Trading Sessions with continuous matching (the Open Session).

## 4 SELF-MATCH PREVENTION

As mentioned in the introduction, this optional functionality prevents matching between counterparties affiliated with the same Participant or User. The Self-Match Prevention parameter is configurable at both the Participant and User level. The functionality will prohibit matching between counterparties affiliated with the same Participant or User. A Participant or User will not be able to match its Orders against its own Orders or Orders submitted by another Participant or User affiliated with a common Futures Participant or Authorized Trader. If a residual quantity of an Order exists after matching, crossed or locks with Orders from the same or commonly affiliated Participant or User, the residual quantity of the Order will be ~~canceled~~ rejected unless the only contra-side interest resting on the book is from its affiliated Authorized Traders, and the Order may interact with other resting Orders on the Order Book. If Self-Match is engaged, the last Order which is entered on the opposite side of the market at a price which is at or better than the affiliated Futures Participant's Authorized Trader's bid or offer will be ineligible to execute against that Order.

Self-Match Prevention at the Participant level can be configured to override any setting at the User level. Authorized Traders of a Futures Participant may be grouped together for purposes of Self-Match Prevention.

This configuration will apply also for Combination Orders, both when matching against other Combination Orders and against single-leg Orders.

For Mass Quotes, the configuration applies when matching against Orders. Regardless of the internal crossing configuration, only one optimized Quote per Options series and Participant is allowed and may never cross with each other.

The configuration applies in continuous matching Trading Sessions only (the Open Session). Therefore, two Orders submitted by the same Participant might match in an uncross (Pre-Open Session). Additionally, off-Exchange trade reports (Block Trades and EFRPs for Futures) and Crossing Transactions are not be subject to Self-Match Prevention functionality.



## 5 MMP EXAMPLES

### 5.1 EXAMPLE 1: AGGRESSIVE QUOTES (SECTION 3.6.1)

If an aggressive Quote is entered by the Market Maker that matches with Orders in the Order Book, MMP shall be checked for each individual Quote.

Example 1:

Assume that the Market Maker has defined the Quantity Protection to 9.

Assume that four individual Orders and one Quote are stored in the Order Book:

Bid			Offer		
Order No	Quantity	Price	Price	Quantity	Order No
1. Order	10	100.0			
2. Order	10	100.0			
3. Order	10	100.0			
4. Order	7	100.0			
5. Quote MM	5	99.0			

Assume that the Market Maker enters one Quote: sell 30@99.0.

This Quote is fully matched against all Orders and Quotes in the Order Book before the Quantity Protection is checked. The calculated Quantity Protection value is then 30, which exceeds the Quantity Protection of 9.

The Market Maker Protection is triggered.

Any Quotes belonging to the Market Maker in the affected Order Books are removed (thus removing the remaining of Quote number 5 in the Order Book).

The Order Book, after the Order has been matched, looks like:

Bid			Offer		
Order No	Quantity	Price	Price	Quantity	Order No
1	7	100.0			

## 5.2 EXAMPLE 2: PASSIVE QUOTES (SECTION 3.6.2)

Assume that the Market Maker has defined the Quantity Protection to 9.

Assume that two individual Quotes and two Orders are stored in the Order Book:

Bid			Offer		
Order No	Quantity	Price	Price	Quantity	Order No
1. Quote MM	10	100.0			
2. Order	10	100.0			
3. Order	5	99.0			
4.Quote MM	10	99.0			
5. Order	10	99.0			

Assume that a market participant enters one Order sell 30@99.0.

This Order is matched against all Orders and Quotes in the Order Book, leaving 5 in the Quote number 4. Next, the Trading System checks the Quantity Protection. The calculated Quantity Protection value is then 15 (10 from Quote number 1. + 5 from Quote number 4.), which exceeds the Quantity Protection of 9. Note that the calculated Quantity Protection value does not contain any quantity contribution from Order number 2 or Order number 3.

The Market Maker Protection is triggered.

Any Quotes belonging to the Market Maker in the affected Order Book are removed (thus removing the remaining of Quote number 4 in the Order Book).

The Order Book, after the Order has been matched, looks like:

Bid			Offer		
Order No	Quantity	Price	Price	Quantity	Order No
5. order	10	99.0			

## 5.3 EXAMPLES 3 AND 4: COMBINATION ORDERS (SECTION 3.8)

If an aggressive Quote by the protected Market Maker is matched with an Implied Order generated from a Combination Order Strategy, Market Maker Protection shall first check each individual Quote and then consider the other legs of the Combination Order Strategy which shall be traded before the Market Maker Protection is triggered, even if a threshold is reached after the first leg is executed.



**Example 3: Aggressive Quote matched with Combination Order Strategy**

Combination Order AB: buy A and sell B (A and B is part of the same underlying)

Step 1:

Market Maker A (MMA) has a one-sided Quote in series A. (10@10)

The Quantity Protection parameter is set to 9 for MMA.

Participant B (PB) enters an Order in series A. (5@10)

Participant A (PA) wants to buy the Combination Order Strategy AB 10 times at 2.

When PA enters the Combination Order, an Implied Order is generated in the series B Order Book.

Order Combo AB	
(PA) 10 @2	

Series A	
	10@10 (MMA)
	5@10 (PB)

Series B	
	10@8 (implied)

Step 2:

MMA enters a Quote in series B: buy 10@8.

Result:

The whole Order will execute before the Market Maker Protection is triggered, and the remaining Quotes (in the underlying Contract) would be removed because of the trigger. Orders are not removed as a result of the trigger.

The calculated Quantity Protection will be 20.

Combo AB	

Series A	
	5@10 (PB)

Series B	

**Example 4: Passive Quote matched with Combination Order Strategy**

Step 1 is the same as in example 3.

Step 2:

Participant B (PB) enters an Order in series B: 10@8.

The whole Order will execute before the Market Maker Protection is triggered, and the remaining Quotes (in the underlying Contract) would be removed because of the trigger. Orders are not removed as a result of the trigger.

Combo AB	

Series A	
	5@10 (PB)

Series B	

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