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Rule Self-Certification

November 22, 2016

Christopher J. Kirkpatrick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Center
1155 21st Street, NW
Washington, DC 20581

Re: **Implementation of Modifications to the NFX Trading System**
Reference File: SR-NFX-2016-106

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 ("CFTC" or the "Commission") under the Act, NASDAQ Futures, Inc. ("NFX" or "Exchange") amends its Rules at Chapters I and IV, the General, TradeGuard PTRM and Tailor Made Combination Orders Reference Guides. The amendments provide clarification of defined terms and existing functionality in the NFX Trading System ("Trading System"). The amendments also update the rulebook and reference guide to reflect modifications to the Trading System. This rule change will be implemented on December 11, 2016 for trade date December 12, 2016. The text of the amended rulebook is set forth in the attached Exhibit A. The text of the Reference Guides is set forth in Exhibit B.

Chapter I: Definitions

Implied Orders

Chapter I of the NFX Rulebook has been amended to provide additional clarification to the definition of "Implied Order." The new language makes clear that Implied Out Orders are governed by Order Price Limits, such that Implied Out Orders may be re-priced or even fail to generate in the event that the potential implied out price falls outside Order Price Limits. For example, an Implied Out Order will never price greater than the Order Price Limit in the case of a buy Order, or lower than the Order Price Limit in the case of a sell Order.

Chapter IV, Trading System

Combination and Implied Orders

Section 4 of Chapter IV has been amended to clarify which Orders may be used when entering Combination Orders. NFX recently discovered that certain Combination Order types could not be executed within the Trading System. The amendment now clarifies that Combination Orders may only be comprised of Futures Orders or Options Orders, but not both. The amendments also remove from the list of Combination Orders those Orders which included a Futures Order and an Options Order.

Section 4 of Chapter IV is also being amended to clarify the functionality of Implied Orders. The amendment specifies that Implied Out Orders will not be generated for inter-commodity spreads or Combination Orders where the ratio of any one leg to another leg is not equal to one. This limitation is necessary as an Implied Out Order with an unequal leg ratio may not properly represent respective leg liquidity to facilitate execution in its entirety of the market participants trading strategy. The amendments also clarify that Implied Out Orders will not generate for any Combination Order originated by an Authorized Participant or Authorized Customer of NFX.

Chapter IV, Execution of Orders

Time-Priority

Section 5 of Chapter IV is being amended to clarify the Trading System's functionality with respect to modification of Orders after their initial submission into the system. The amendments make clear that for all Orders, a reduction in the volume of contracts contained in the Order will have no impact on time-priority in the order queue. In the case of Stop Orders and Stop Limit Orders, the time-priority of the Order will not be impacted in any way regardless of any changes for an Order after submission to the Trading System. The amendment also makes clear that changes made to the time-in-force condition of an Order held in the order book will not impact time-priority in the queue.

TradeGuard PTRM Reference Guide

Order Rate Risk Check

Due to customer demand, the Exchange is amending its Pre-Trade Risk Management ("PTRM") system to provide market participants with greater flexibility and control in managing their risk exposure. The Trading System changes will allow NFX participants, grouped by an account or multiple accounts linked to a Trade User ID (also known as a Pre-Trade Limits Group "PTLG") level, to monitor exposures and adjust risk limits by selecting a maximum number of Orders that may be processed by the Trading System in a defined period of time. The Order Rate Risk Check will require PTLGs to select a maximum number of Orders which may be processed by the Trading System within a time interval ranging from 0.1 second to 5.0 seconds, configurable in 0.1 second increments by the PTLG. In the event the Order rate limit is met or exceeded, all newly generated Orders from a PTLG will be blocked. Further, the Exchange makes clear that it may unblock the Order Rate Risk Check once the root cause has been identified and resolved.

General Reference Guide

The changes to the General Reference Guide are being adopted to harmonize the document with the new rulebook amendments discussed above. The General Reference Guide is also being amended to change the contracts used in certain examples throughout the Guide to aid understanding of the Trading System.

Tailor Made Combinations Reference Guide

The Tailor Made Combination Orders Reference Guide is being amended to harmonize the document with the amendments made to the rulebook Combination Orders as discussed above. The Reference Guide now makes clear that all Combination Orders, whether Tailor Made or listed by NFX, may only be comprised of Futures Orders or Options Orders, but not both Futures and Options Orders. The reference guide is being amended to note that Combination Orders consisting solely of Call or Put Options of the same underlying and expiry (with different strike prices) must include at least one buy and sell leg. The failure to include a buy and sell leg in such a trade will result in the Order being rejected by the Trading System. Finally, the amendments note that Orders and Mass Quotes are now permitted in the Combination Order Book.

There were no opposing views among the Exchange's Board of Directors, members or market participants. The Exchange hereby certifies that the amendments to Chapters I and IV and the General, TradeGuard and Tailor Made Combination Orders 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 business.nasdaq.com/futures. A Futures Trader Alert, informing NFX's Futures Participants of the pending changes and the need to select a time interval for the Order Rate Risk Check is attached to this certification as Exhibit C.

If you require any additional information regarding the submission, please contact Aravind Menon at +1-301-978-8416 or via e-mail at aravind.menon@nasdaq.com. Please reference SR-NFX-2016-106 in any related correspondence.

Regards,

Daniel R Carrigan

Daniel R. Carrigan
President

cc: National Futures Association

Exhibit A to SR-NFX-2016-106

New language is underlined; deleted language is ~~stricken~~.

NASDAQ Futures Rules

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Chapter I Definitions and Governance of the Exchange

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Implied Order. The term "Implied Order" means a derived Limit Order that is 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, as long as the best price is within the Order Price Limits. An "Implied In Order" derives it price and quantity from the net differential from the best prices as between two contract months for a Contract. If an Implied Out Order is automatically generated by the Trading System which seeks to establish a derived Limit Order more aggressive than the Order Price Limits, the derived Limit Order will re-price at prices at pre-set standard limits "price limit bands" pursuant to the Rules in Chapter IV, Section 8. If a potential Implied Out Order attempts to establish a derived Limit Order inferior to the price limit bands, the derived Limit Order will not be generated. Implied Out Orders do not impact derivation of the Order Price Limit Protection reference price. Implied Out Orders are not generated for Inter-Commodity Spreads or Combination Orders whereby the ratio of any one leg to another is not equal to one. Implied Out Orders will not generate for any Combination Order that is originated by a Futures Participant or its Authorized Traders or Authorized Customers. An Implied Order cannot be an FOK or IOC.

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Chapter IV Trading System

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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:

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(viii) Combination Orders.

(i) Combination Orders or "Combination Strategies" will be traded in a separate Order Book pursuant to the Rules in Chapter IV, Section 5. The Combination Order Book will accept mass Quotes. ~~Combination Orders may~~ Combination Orders may combine Futures Orders or Options Orders, but may not combine Futures and Options into one Combination Order. A Combination Order will be originated by ~~(~~adding Expiries, Contracts and trading symbols~~)~~, by either: (i) the Exchange; or (ii) a Futures Participant or its Authorized Traders or Authorized Customers. Combination Orders will first execute against respective legs of Orders before executing against other Combination Orders within the Combination Order Book. Combination Orders accepted by the Trading System may not exceed four (4) legs. Combination Orders consisting solely of Call or Put Options of the same underlying and Expiry but with different strikes must include at least one buy and one sell leg. 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. The following order types may be Combination Orders: Market Orders, Limit Orders and Market-to-Limit Orders, Iceberg Orders and TAS Orders.

(ii) Types of Combination Orders accepted by the Trading System~~, which may not exceed four (4) legs,~~ are as follows:

~~(a) Buy and Write Orders, also known as Covered Call Combination Orders, are Orders to buy a Future and write a call Option.~~

~~(b)~~ (a) Call or Put Spread Orders are Orders to buy and sell two call (put) Options of the same underlying and Expiry but with different strikes.

~~(c)~~ (b) Calendar (Horizontal) Spreads are buying and selling two call (put) Options of the same underlying and strike, but with different Expiries.

~~(d)~~ (c) Time Spreads are buying and selling two Futures of the same underlying, but with different expirations

~~(e)~~ (d) Straddles are buying a call Option and a put Option of the same underlying, expiration and strike.

~~(f)~~ (e) Strangles are buying a call Option which is out of the money and a put Option which is out of the money of the same underlying and expiration, but with different strikes.

~~(g) Conversions are selling a call Option and buying a put Option of the same underlying, expiration and strike at the same time as buying the underlying, or an underlying future.~~

~~(h) Reversals are buying a call Option and selling a put Option of the same underlying, expiration and strike at the same time as selling the underlying short, or selling an underlying future.~~

~~(i)~~ (f) Butterfly Spreads are a Contract strategy consisting of three legs.

(a) Butterfly Option Spreads consist of three put (call) Contracts with a minimum Lot Size of: one put (call) contract of the lower Contract strike price, two put (call) contracts of the middle Contract strike price, and one put (call) contract of the higher Contract strike price.

(b) Butterfly Futures Spreads consist of three Contracts with a minimum Lot Size of: one near term Contract, two mid-term Contracts, and one further term Contract.

~~(j)~~ (g) Condor and Iron Condor Spreads are a Contract strategy consisting of four legs.

(a) Condor Options Spreads consist of four Contracts (all put or all call Contracts) with a minimum Lot Size of: one contract of the lower Contract strike price, one contract of a higher strike price, one contract of a higher strike, and one contract of a higher strike price.

(b) Condor Futures Spreads consist of four Contracts with a minimum Lot Size of: one near term Contract, one further term Contract, one further term contract, and one further term contract.

(c) Iron Condor Options Spreads consist of four Contracts (two put and two call Contracts) with a minimum Lot size of: one put (call) Contract of the lower strike price, one put (call) Contract of a higher strike price, one put (call) Contract of a higher strike price, and one put (call) Contract of a higher strike price.

~~(k)~~ (h) Intra-Commodity Spreads (Time Spreads) are a Contract strategy which may be formed by buying and selling two Futures of the same underlying with different expirations. Intra-Commodity Spread Combinations may be formed with two different Future Expiries. 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.

~~(l)~~ (i) Inter-Commodity Spreads are a Contract strategy consisting of combinations which may be formed of two or three different underlying Futures Contracts. 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. The minimum price interval for a respective leg price shall be one hundredth of a cent ($0.0001) versus its outright leg trading tick which may be 0.01.

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(ix) Implied Orders.

(i) Implied Orders will be traded in the Trading System pursuant to the Rules in Chapter IV, Section 5. Implied Orders will only be generated if those Limit Orders are at or improve the BBO of the respective legs at the minimum increment of the respective Contract. The Exchange will disseminate Implied Out Orders through ITCH and FIX protocols, except for Inter-Commodity Spreads. Implied In Orders will not be disseminated. ~~Implied Out Orders are not accepted for Inter-Commodity Combination Orders.~~ Implied Out Orders are not generated for Inter-Commodity Spreads or Combination Orders whereby the ratio of any one leg to another is not equal to one.

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Section 5 Execution of Orders

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(c) Cancel Replace Orders. Any Order that has been entered into the Exchange's Trading System may be modified while on the Order Book. ~~Only if the volume is reduced for an Order held in the Order Book will it retain its position in the time-priority queue, otherwise an Order is treated as a new Order for purposes of the time-priority queue.~~

(i) For all Order types a reduction in volume for an Order held in the Order Book will have no impact on the Order's position in the time-priority queue;

(ii) With respect to Stop Orders or Stop Limit Orders, any changes made to the initial Order prior to the price designated on the Order ("Stop Price") being triggered will have no impact on the Order's time-priority queue; and

(iii) Changes been made to Time in Force Conditions to an Order held in the Order Book will not impact the Order's position in the time-priority queue.

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Exhibit B to SR-NFX-2016-106

New language is underlined; deleted language is ~~stricken~~.

NASDAQ Futures, Inc. (NFX)
General Reference Guide

Version 1.0~~4~~5 | 201~~5~~6-~~06~~12-~~22~~12

NASDAQ FUTURES (NFX) GENERAL REFERENCE GUIDE **DECEMBER 12, 2016** ~~**JUNE 22, 2016**~~

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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 partcipants 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 NFX Rules at 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-nine bids and offers may be contained in ~~one~~ a Mass Quote packet). Mass Quotes are accepted in the Combination Order Book as long as the one or two-sided Quote is limited to one (1) Instrument.

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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 Combination 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, but not Futures and Options combinations for trading, and users may create custom Combinations Orders ("Tailor-Made Combination" or "TMC") for Futures ~~and/~~or Options which are not already defined in the Order Book. User-defined TMCs may be initiated intraday, but some are not immediately available for trading (implementation is generally by the conclusion of the following Open Session). Market participants can place working ~~GTD~~ Combination Orders that, if matched, simultaneously trade the referenced single leg Instruments according to the specified strategy without execution risk. Once implemented ~~created intra-day~~, a TMC Order Book is visible to the entire market for the remainder ~~of the trading day~~ of its defined lifetime from one to ten days (or less, if a single leg expires).

Standard Combinations which will be pre-defined in the Trading System for Futures ~~and/~~or Options will be comprised of the most liquid Intra-Commodity (e.g., NFX WTI Crude Oil Penultimate Financial Futures: March versus June contract) and Inter-Commodity combinations (e.g., NFX WTI Crude Oil Penultimate Financial Futures versus NFX RBOB Gasoline Penultimate Financial Futures versus NFX Heating Oil Penultimate Financial Futures "Crack Spread"). See Section 3.10 of this Reference Guide for further discussion on Combination 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. See also the Combination and Implied Orders Technical Reference Document.

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- **Instrument Class** – A Futures or Option product is an Instrument class. For example, the NFX Crude Oil Futures product (NFX WTI Crude Oil Penultimate Financial Futures (~~CL~~TQ)) 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 (~~L~~TOQ)) includes all outright contracts representing different expiration months and different strike prices and combination Instruments representing the buying and selling of Combination Orders of expiration months and different strike prices.

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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 account or a group of accounts. A PTLG may only be connected to one Participant 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 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 Options product will have its own set of risk limits (e.g., NFX WTI Crude Oil Penultimate Financial Futures (~~CL~~TQ) 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 Order controls may be applied:

1. Order Rate Risk Checks per PTLG;
2. PTLG defined Trading Restrictions (per symbol);
3. Manual blocking of Order flow per PTLG;
4. Mass Cancellation of open Orders per PTLG;
5. Automatic blocking of Order 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, Users and e-mail alerts, view risk checks consumption, mass cancel Orders and block Order flow.

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

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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-nine Instruments may be contained in ~~one~~ a Mass Quote packet). Mass Quotes are accepted in the Combination Order Book as long as the one or two-sided Quote is limited to one (1) Instrument.
- Quotes may only be submitted into Single Order Books.
- Quotes may ~~not~~ be submitted into Combination Order Books.
- The Trading System will replace a Quote submitted by an Authorized Trader with any new Quote that is subsequently submitted by that same Authorized Trader.

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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, but not Futures and 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. Combination Orders consisting solely of Call or Put Options of the same underlying and Expiry but with different strikes must include at least one buy and one sell leg. 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 implemented ~~created intraday~~, a TMC Order Book is visible to the entire market and lives throughout ~~the trading day~~ its defined lifetime from one to ten days (or less, if a single leg expires). Quotes and Orders 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 <u>Penultimate</u> 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 <u>Penultimate</u> Financial Futures versus NFX RBOB Gasoline Financial Futures versus NFX Heating Oil <u>Penultimate</u> 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.

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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 <u>derived</u> Limit Orders generated by the Trading System for the purpose of trading various combinations~~, except for Inter-Commodity Spreads.~~ <u>If an Implied Out Order is automatically generated by the Trading System which seeks to establish a derived Limit Order more aggressive than the Order Price Limits, the derived Limit Order will re-price at prices at pre-set standard limits "price limit bands" pursuant to the Rules in Chapter IV, Section 8. If a potential Implied Out Order attempts to establish a derived Limit Order inferior to the price limit bands, the derived Limit Order will not be generated. Implied Out Orders do not impact derivation of the Order Price Limit Protection reference price. Implied Out Orders are not generated for Inter-Commodity Spreads or Combination Orders whereby the ratio of any one leg to another is not equal to one.</u> <u>Implied Out Orders will not generate for any Combination Order that is originated by a Futures Participant or its Authorized Traders or Authorized Customers.</u> An Implied Order cannot be an FOK or IOC.

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3.14 Order Price Limit Protection

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(3) in the event the prior Daily Settlement Price is not reflective of the current market for either the Contract or the Reference Contract, a price determined by the Exchange to be a fair and reasonable reflection of the current market (“Reference Price”).

Thereafter, the Reference Price shall be the most recent bid or offer (other than a FOK or IOC bid or offer) in the Contract, provided that the bid (offer) is higher (lower) than the current Reference Price, unless such bid (offer) resulted in an execution, in which case the new Reference Price shall be the last execution price. <u>Implied Out Orders do not impact derivation of the Order Price Limit Protection reference price.</u>

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Version 1.0~~2~~3 |201~~5~~6-~~6~~12-~~29~~12

~~2015~~ NASDAQ FUTURES (NFX) TRADEGUARD PTRM REFERENCE GUIDE DECEMBER 12, 2016

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4.3 Order Rate Risk Check

The maximum Order rate/sec limit is defined as new Orders/second-time-interval and is set per PTLG and is measured as the combined Order flow sent to the Trading System 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~~ 0.1 second to 5.0 second-time-interval (configurable at a minimum increment of 0.1 second by the user). ~~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 PTLG group is blocked on all Contracts. For example, with a time interval setting at 2.0 seconds and a corresponding Order rate limit set at 50 Orders, TradeGuard will accept a maximum number of 49 Orders every 2.0 seconds.

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 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 or the Exchange, 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.

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Tailor Made Combinations

Reference Guide

Version 1.0~~0~~1 | 201~~5~~6-~~05~~12~~-0~~12

NASDAQ FUTURES (NFX) TAILOR MADE COMBINATIONS REFERENCE GUIDE DECEMBER 12, 2016 ~~MAY 01, 2015~~

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1INTRODUCTION

The Trading System supports the trading of Strategies also referred to as Combination Orders, which will trade in a separate Combination Order Book. The Exchange may list ~~Futures and/or Options~~ pre-populated, standardized Combination Orders. ~~combinations for trading, and u~~Users may create their own custom or tailor made combination (TMC) for ~~Futures and/or Options~~ combinations not already defined in the Trading System. User-defined TMCs may be initiated intraday, but some are not immediately available for trading (implementation is generally by the conclusion of the following Open Session). For both Combination Orders and Tailor Made Combination Orders, the Orders may only consist of a combination of Futures or Options. A Combination Order may not consist of a Futures and an Options contract. Combination Orders consisting solely of Call or Put Options of the same underlying and Expiry but with different strikes must include at least one buy and one sell leg. Market participants may submit ~~Day Order~~ Combination Orders that, if matched, will simultaneously trade the referenced single leg Instruments according to the specified strategy without execution risk. Once implemented ~~created intraday~~, the TMC Orders will be visible in the Combination Order Book to the entire market and lives throughout ~~the trading day~~ its defined lifetime from one to ten days (or less than the originally defined period if a single leg expires). Orders and Mass Quotes are ~~not~~ permitted in Combination Order Books~~, only Orders are permitted~~. Mass Quotes will be accepted in the Combination Order Book as long as the one or two-sided Quote is limited to one (1) Instrument.

1.1 FACTS

Instruments	A TMC Order may be comprised of a minimum of two Futures or Options, but not Futures and Options, but not exceed four Instruments within the same or from different underlying Instruments. It is possible to have a relative ratio of up to 4:1 between the included Instruments. Inter-Commodity Spreads may be formed with a minimum of two Instruments but may not exceed four Instruments.
No Execution	Strategies that are TMC or pre-defined Combination Orders; all Instruments will be simultaneously executed at a net price

	without execution risk, for each Instrument respectively including underlying legs.
*****	
Implied-Out Orders	~~Implied-out Orders are automatically generated by the Trading System. When a TMC Order is entered into the Trading System, it will match against existing Orders for that combination as well as against the respective leg Order Book. For each respective leg Order Book, where possible, the Trading System utilized the market prices of all other included instruments to calculate the TMC Order with a theoretical price needed to trade at in order to execute the entire Combination Order at the net price. This TMC Order will be placed into the Order Book as an Implied-Out Order. If the Implied-Out Order is traded, the Trading System will simultaneously trade against Orders in all other instruments., Implied-out Orders are calculated by the Trading System, but will only be published for Instruments where the ratio is 1 (excluding Inter-Commodity Spreads).~~ Implied-Out Orders are not generated by the Trading System.

* * * * *

2CREATING A TMC

The creation of a TMC Order Book is initiated by the Authorized Trader (User) who submits a request with the Expiry, Contract and Instrument. The Order must also specify the ratios relative to the Combination Order quantity and, for each leg, its relative side to the Combination Order (as defined or opposite). A TMC Order Book is allowed to have up to four legs and each leg is allowed a ratio relative to the order quantity, which may be from one to four. It is possible to combine different Contract Instruments (which may have different underlying contract specifications) as long as the Orders meet the former criteria. An example of a TMC Order would be an Order to buy ~~Options on~~ June NFX WTI Crude Oil Penultimate Financial Futures (~~CL~~TQ), sell ~~Options on~~ June NFX Brent Crude Financial Futures (BFQ).

* * * * *

2.2.1 Examples

Example 1 – Order Book created as defined using NFX Options on WTI Crude Oil Penultimate Futures – ~~CLQ~~TOQ

User requests a new TMC Order Book (Options call spread) to be created.

1. ~~CLQ~~TOQ December 201~~5~~7 80 calls – ratio 1, side as defined
2. ~~CLQ~~TOQ December 201~~5~~7 85 calls – ratio 1, opposite side

The Trading System accepts the requests, creates the TMC Order Book accordingly and communicates the new Order Book and leg details.

Example 2 – TMC Order Book created with respective legs re-sorted
User requests a new TMC Order Book (Calendar Options Spread) to be created. If buying the combination:

3. ~~CLQ~~TOQ December 201~~5~~7 80 calls – ratio 1, side as defined
4. ~~CLQ~~TOQ March 201~~6~~8 80 calls – ratio 1, opposite side

The Trading System accepts the requests but creates the TMC Order Book according to market standard, and communicates the new TMC Order Book with re-sorted leg details:

5. ~~CLQ~~TOQ March 201~~6~~8 80 calls – ratio 1, side as defined
6. ~~CLQ~~TOQ December 201~~5~~7 80 calls – ratio 1, opposite side

Example 3 – TMC Order Book created reversed and with legs re-sorted
User requests a new TMC Order Book (Butterfly Options Spread) to be created.

7. ~~CLQ~~TOQ December 201~~5~~7 80 calls – ratio 1, opposite side
8. ~~CLQ~~TOQ December 201~~5~~7 90 calls – ratio 1, opposite side
9. ~~CLQ~~TOQ December 201~~5~~7 85 calls – ratio 2, side as defined

The Trading System accepts the requests but creates the TMC Order Book according to market standard and reverses the Orders such that the Combination Order will buy the first leg. The Trading System communicates the new reversed TMC Order Book with re-sorted leg details:

10. ~~CLQ~~TOQ December 201~~5~~7 80 calls – ratio 1, side as defined
11. ~~CLQ~~TOQ December 201~~5~~7 85 calls – ratio 2, opposite side
12. ~~CLQ~~TOQ December 201~~5~~7 90 calls – ratio 1, side as defined

Example 4 – TMC Order Book requested and rejected
User requests a new TMC Order Book (Futures Time Spread) to be created.

13. ~~CLQ~~TQ December 201~~5~~7 futures – ratio 1, side as defined
14. ~~CLQ~~TQ November 201~~5~~7 futures – ratio 1, opposite side

The Trading System accepts the requests but does not create the Order Book; instead it communicates the identical pre-defined Futures Time Spread Order Book.

3.3 RANKING & MATCHING

Existing Day TMC Orders are ranked and matched pursuant to the Price-Time execution algorithm in the TMC Order Book, unless otherwise stated. ~~The Trading System will create Implied-Out Orders in the Order Books for the respective leg and rank the Orders together with outright Orders according to price and then time in the respective leg Order Books. Implied-Out Orders are published for legs with a ratio of one, but the Trading System also supports Implied-Out matching of legs with ratios larger than one, and Implied-In matching, although no Implied Orders are published.~~ Implied-In matching will be prioritized before matching within the TMC Order Book if the Implied-In best bid, best offer (BBO) equals the actual.

~~3.3.1 Implied-Out Orders~~

~~The NFX Trading System calculates and ranks Implied-Out Orders resulting from t of TMC Orders s into outright Order Books, if there is outright volume available on the best price level(s) on the relevant side in the other leg(s) to validate it.~~

~~Example 4 – Ranking Implied Out Orders~~

~~Given the TMC Order 'A/B' trading leg 'A' (side as defined) and 'B' (opposite side)~~

~~Combo Bid~~	~~A/B~~	~~Combo Ask~~
~~Buy 1 A~~ ~~Sell 1 B~~	~~Bid 24 @ 6.50~~ ~~Bid 100 @ 6.25~~	~~Sell 1 A~~ ~~Buy 1 B~~

~~A~~	~~B~~
~~Ask 40 @ 12.00~~ ***~~Ask 10 @ 12.00~~*** ~~Ask 50 @ 12.25~~	**~~Ask 24 @ 5.50~~** **~~Ask 26 @ 5.75~~**

~~The existing bid Orders in 'A/B' creates **Implied-Out offers** in 'B' using the best outright offer level of 50 lots in 'A'. Note that since only 50 lots are available on the best level it's only possible to create an Implied-Out offer of 26 lots for the second ranked TMC Order.~~

~~When an Implied-Out Order is matched, the Trading System simultaneously trades the TMC Order against the base volume(s) in the other respective leg(s) and re-calculates the Implied-Out Order (if any volume is left) before accepting new Orders operations from other Users.~~

~~Example 5 – Matching Implied Out Orders~~

~~Given the output of example 4, entering an outright bid of 20 @ 5.50 in 'B' would match in full creating the below trades.~~

~~A/B, 20 @ 6.50~~

~~A, 20 @ 12.00~~

~~B, 20 @ 5.50~~

~~Leaving the resulting Order Books~~

~~**Combo Bid**~~	~~**A/B**~~	~~**Combo Ask**~~
~~Buy 1 A~~ ~~Sell 1 B~~	~~***Bid 4 @ 6.50***~~ ~~Bid 100 @ 6.25~~	~~Sell 1 A~~ ~~Buy 1 B~~

~~**A**~~	~~**B**~~
~~***Ask 20 @ 12.00***~~ ~~Ask 10 @ 12.00~~ ~~Ask 50 @ 12.25~~	~~**Ask 4 @ 5.50**~~ ~~**Ask 26 @ 5.75**~~

~~Although not published on market data, the Trading System calculates and ranks non-disclosed Implied-Out Orders for legs with a ratio larger than one. Such Implied-Out Orders have a quantity condition attach to them allowing matching against them only in multiples of two, three or four.~~

~~**Example 6 – Implied-Out Orders with quantity conditions**~~
~~Given the TMC Order ‘A/2B’ trading leg ‘A’ (side as defined) and 2 ‘B’ (opposite side)~~

~~**Combo Bid**~~	~~**A/B**~~	~~**Combo Ask**~~
~~Buy 1 A~~ ~~Sell 2 B~~	~~Bid 24 @ 6.50~~ ~~Bid 100 @ 6.25~~	~~Sell 1 A~~ ~~Buy 2 B~~

~~**A**~~	~~**B**~~
~~***Ask 40 @ 12.00***~~ ~~***Ask 10 @ 12.00***~~ ~~Ask 50 @ 12.25~~	~~**(Ask 48 @ 5.50)**~~ ~~**(Ask 52 @ 5.75)**~~

~~The working bid Orders in ‘A/B’ creates non-disclosed Implied-Out offers in ‘B’ using the best outright offer level of 50 lots in ‘A’.~~

~~Since matching against the Implied-Out offers in ‘B’ can only be done in multiples of two, entering an outright bid of 3 @~~
~~5.50 in ‘B’ would be partially matched of 2, leaving 1 lot resting on the bid.~~

3.3.~~2~~1 Implied-In Orders

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3.3.~~3~~2 Matching Within TMC Order Book

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4.1 MESSAGE REFERENCE

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~~On ITCH, published Implied-Out Orders are identified by having the Order attribute=8192 in add Order messages for the outright Order Books.~~ When a TMC Order is executed, trades are published both for the TMC Order symbol and the leg symbols

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~~With the market data, market-by-level, published Implied-Out Orders are not identified, but are included in the aggregated quantities if the Orders contribute to one of the best five price levels in an outright trading symbol.~~ When a TMC Order is executed, trades are published with the trading ticker message both for the TMC Order symbol and the respective leg symbols.

Exhibit C to SR-NFX-2016-106

Futures Trader Alert #2016 - XX November XX, 2016
TradeGuard PTRM Functionality Change for Trade Date December 12, 2016

Category:
System Impact

Markets Impacted:

Nasdaq Futures

Contact Information:

U.S. Market Operations - Futures at +1 215 496 1571

U.S. Market Sales at +1 800 846 0477

Futures Sales
Futures Regulation

Resources:

Pending all regulatory approvals, effective for the Open Session December 11, 2016 for trade date December 12, 2016, the Exchange will implement new Order Rate Risk Check functionality pursuant to regulatory filing SR-NFX-2016-106.

Under the current NFX Trading System, a Futures Participant may elect for a Pre-Trade Limits Group ("PTLG") to limit the maximum number of Orders sent per one (1) second time-interval into the NFX Trading System.

Under new functionality, a Futures Participant may elect for a PTRM to limit the maximum number of Orders sent per variable time-interval of 0.1 second to 5.0 seconds (configurable at a minimum increment of 0.1 second by the user). TradeGuard will no longer check the Order rate every 1/10 of a second.

If the Order rate equals or exceeds the configured Order rate limit when the TradeGuard check is done, a breach will occur and the PTLG group is blocked on all newly generated Contracts. For example, with a time interval setting at 2.0 seconds and a corresponding Order rate limit set at 50 Orders, TradeGuard will accept a maximum number of 49 Orders every 2.0 seconds.

Under the new rule, Futures Participant utilizing Order Rate Risk Check must elect by Noon EPT, December 9, 2016 to change its Order Rate Risk Check time-interval. If a Futures Participant which has previously elected Order Rate Risk Check fails to notify the Exchange by Noon EPT, December 9, 2016, the Exchange will set Order Rate Risk Check to default 1.0 second.

An explanatory TradeGuard PTRM Reference Guide is posted on the Exchange website.

For additional information, please contact NFX Market Operations nfxops@nasdaq.com.