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Rule Self-Certification

July 2, 2018

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

Re: **Product Certification and Rule Certification for Four U.S. DV01 Treasury Futures Contracts**
Reference File: SR-NFX-2018-18

Dear Mr. Kirkpatrick:

Pursuant to Section 5c(c)(1) of the Commodity Exchange Act, as amended ("Act"), and Sections 40.2 and 40.6 of the Commission's regulations thereunder, NASDAQ Futures, Inc. ("NFX" or "Exchange") hereby submits rules, terms and conditions for four new financially settled U.S. DV01 Treasury futures contracts (together, the "New Contracts"). The four New Contracts are:

- U.S. 2-YR DV01 Treasury Futures
- U.S. 5-YR DV01 Treasury Futures
- U.S. 10-YR DV01 Treasury Futures
- U.S. 30-YR DV01 Treasury Futures

The Exchange anticipates listing U.S. 10-YR DV01 Treasury Futures beginning July 18, 2018, for trade date July 19, 2018. The remaining New Contracts will be rolled out on a schedule to be determined by the Exchange and announced in a Futures Trader Alert. The rule amendments proposed in this submission shall be effective on the listing date of the U.S. 10-YR DV01 Treasury Futures.

The new rules and terms and conditions describing the New Contracts are attached to this letter as Exhibits 1 and 2, which together amend (1) Rulebook Appendix A, Listed Contracts, by adding chapters 2002, 2005, 2010 and 2030[1] and (2) Rulebook Appendix B, Table of Position Limits, Position Accountability Levels and Large Trader Reporting Levels (attached under separate cover).[2] A cash market description and deliverable supply analysis for U.S. Treasuries is included as Exhibit 3. The contract specifications sheet is attached as Exhibit 4. Exhibit 5 is an illustration of a final settlement price calculation provided in Excel format. Finally, a Futures Trader Alert announcing the upcoming listing of the initial DV01 Treasury Futures contract is attached as Exhibit 6.

Contract Description

The New Contracts are cash settled On-The-Run U.S. Treasury futures contracts expressed as 100 minus the yield of the corresponding U.S. Treasury security. The underlying interest is the dollar value ("DV01"), assigned by the Exchange at the time of listing for each contract month, of a one basis point change in yield of the current On-The-Run U.S. Treasury security with a face value of one million dollars having fixed semi-annual coupon payments available for trading on the Nasdaq Fixed Income ("NFI") Alternative Trading System Order Book (the "NFI Order Book"). In the event the On-The-Run U.S. Treasury security corresponding to a particular contract month is redeemed or is unavailable for trading, all previously issued fixed principal U.S. Treasury securities having fixed semi-annual coupon payments may be referenced for determination of yield for that contract month. The multiplier is 100 times the DV01 for the contract month. All contract months having the same DV01 will be assigned the same trading symbol.

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[1] The Exchange is also adding the new contracts to the "Table of Listed Contracts" in the Introduction Section of Rulebook Appendix A, as set forth in Exhibit 1 to this submission. Exhibit 1 reflects the addition of Dry Freight contracts to the "Table of Listed Contracts" pursuant to SR-NFX-2018-31 which will become effective on July 5, 2018.

[2] The Exchange is separately filing SR-NFX-2018-19, also to be effective upon listing of the New Contracts, which adopts provisions for each New Contract relating to block trading minimum quantities and reporting times, order type exceptions, nonreviewable ranges, trading hours and daily settlement prices in the new Appendix A chapters governing the New Contracts. Language appearing in the new Appendix A chapters which is not underlined in Exhibit 1 hereto is being separately proposed in SR-NFX-2018-19 pursuant to Commission Rule 40.6

Listing Schedule

The Exchange will list for trading up to 12 consecutive or non-consecutive monthly contracts, beginning with the nearest available contract month. Each listing date for a contract month will be specified in a Futures Trader Alert, which will also identify the base trading symbol and DV01 for that contract month.

Prices and Minimum Increments

Prices will be quoted in Yield-Derived Price, which is 100 minus the yield on the corresponding U.S. Treasury security expressed as a percentage. (For example, a yield of 2.065 percent shall be expressed as a Yield-Derived Price of 97.935.) The minimum trading increment for the U.S. 2-YR DV01 Treasury Futures is two tenths of a basis point (.002), which is equivalent to two tenths of the contract month DV01. The other New Contracts will have a minimum trading increment of one tenth of a basis point (.001), which is equivalent to one tenth of the contract month DV01.

Final Settlement Calculation

Trading in an expiring contract month will terminate at 3:00 PM EPT on the last day of the contract month which is both an NFX trading day and an NFI trading day (the "Last Trading Day"). The final settlement price will be the Closing Quality Weighted Average Price ("Closing QWAP"), determined by reference to the yield of best bids, best offers (together, the "BBO"), and executed transactions on the corresponding On The Run U.S. Treasury security for the contract month occurring on NFI, exclusive of block trades or any trades not visible on the NFI Order Book, during the closing settlement period for the contract (the "Closing Settlement Period") on the Last Trading Day. The Closing Settlement Period for the contract will be 2:59 – 3:00 PM EPT, provided, however, that in the event of an early close of trading on NFI, the Closing Settlement Period will be a one minute period during the NFI trading day announced in advance by NFX in a Futures Trader Alert. Only the yield associated with displayed orders on the NFI Order Book and executed transactions associated with those displayed orders will be included in calculation of the final settlement price.

As discussed below, the final settlement price formula incorporates both NFI BBO quotes and trades, with the trades allocated twice the weight of the quotes. Regarding the BBO quotes, the formula employs a size-weighted midpoint rather than a simple midpoint. Thus, any time the BBO changes during the Closing Settlement Period—either price or size—the midpoint changes. Additionally, the formula employs a time-weighted average of duration-weighted BBO midpoints over the course of the Closing Settlement Period, and the executed trades are volume-weighted. The final settlement process is robust and creates a benchmark that would be very difficult to manipulate.

The Closing QWAP will be 100 minus the Reference Amount. The Reference Amount is defined as the Initial Sum divided by three and common rounded to the nearest .001 (or, in the case of U.S. 2-YR DV01 Treasury Futures, common rounded to the nearest .002), where the Initial Sum is the sum of (1) two times the volume weighted average yield of executed transactions occurring during the Closing Settlement Period, and (2) the Continuous Time

Average of the Weighted Midpoint of the best bid yield and the best offer yield observed on NFI during the Closing Settlement Period.[3] However, if no executed transactions occur during the Settlement Period, the QWAP will be the Continuous Time Average of the Weighted Midpoint of the best bid yield and the best offer yield observed on NFI during the Closing Settlement Period, common rounded to the nearest .001 (or, in the case of U.S. 2-YR DV01 Treasury Futures, common rounded to the nearest .002). For purposes of making the Closing QWAP calculation, the Weighted Midpoint of each best bid yield and the best offer yield observed on NFI during the Closing Settlement Period, will be (1) the size of the best offer multiplied by the yield of the best bid plus the size of the best bid multiplied by the yield of the best offer, divided by (2) the sum of the sizes of that best bid and that best offer. Finally, the Continuous Time Average of the Weighted Midpoint will be the pro rata average of all observed Weighted Midpoints based on the period of time, as a percentage of the Closing Settlement Period, that each Weighted Midpoint remains unchanged. If during any portion of the Closing Settlement Period there is an absence of bids or offers, that portion of time will not be included for purposes of calculating the Continuous Time Average of the Weighted Midpoint.

To illustrate a final settlement calculation, assume that at 2:59:00, which is the beginning of the Settlement Period, the NFI Order Book reflected a bid size of 200 at a bid yield of 2.75, and an offer size of 400 at an offer yield of 2.745. The Weighted Midpoint between the best bid and the best offer is 2.74833, obtained by multiplying the bid size by the offer yield (200 x 2.745 = 549) and the bid yield by the offer size (2.75 x 400 = 1,100), adding the two products (549 + 1,100 = 1,649) and dividing that sum by sum of offer size plus the bid size (1,649 divided by [400 plus 200] = 2.74833. The calculation is repeated each time there is a change in any of the components of the formula (i.e., the best bid yield, the size of the best bid yield, the best offer yield, and the size of the best offer yield). For example, if at 2:59:05 a new best bid yield of 2.748 with a bid size of 100 is posted, applying the formula discussed above yields a Weighted Midpoint of 2.7474. If at 2:59:15 an existing seller aggresses to sell 100, the market becomes best bid yield 2.75 with a bid size of 200, best offer yield of 2.745 with an offer size of 300, resulting in a Weighted Midpoint of 2.748. Assume that at 2:59:35 an additional buyer enters the market resulting in an increase in the bid size from 200 to 300. The Weighted Midpoint accordingly changes to 2.7475. If at 2:59:45 a new seller of 400 at an offer yield of 2.746 enters the market, the Weighted Midpoint becomes 2.74829. Finally, if at 3:00:00, the end of the Settlement Period, a new buyer aggresses to buy 350, the offer size of the best offer yield decreases from 400 to 50 and the Weighted Midpoint becomes 2.74657.

The pro rata average of the six observed weighted midpoints based on the period of time, as a percentage of the Closing Settlement Period, is calculated to determine the Continuous Time Average of the Weighted Midpoint. To make this calculation, the first observed Weighted Midpoint (2.74833) is multiplied by 5 (the number of seconds the Weighted Midpoint remains in effect from 2:59:00 to 2:59:05) to yield a product of 13.74167. The same calculation is made for the remaining five observed Weighted Midpoints: 2.7474 x 10 seconds (2:59:05 to 2:59:15) = 27.474; 2.748 x 20 seconds (2:59:15 to 2:59:35) = 54.96; 2.7475 x 10 seconds (2:59:35 to

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[3] Prices and yields are both displayed in the NFI feed. Bond prices are mapped to yields using Yield to Maturity, U. S. Street Convention. The futures final settlement price will be an average of yields, rather than the yield of an average of prices.

2:59:45) = 27.475; and 2.74829 x 15 seconds (2:59:45 to the end of the Closing Settlement Period at 3:00:00) = 41.22429. The six resulting figures are added together for a total of 164.87495, and divided by 60 seconds (the total number of seconds in the Closing Settlement Period) to arrive at a Continuous Time Average of the Weighted Midpoint of 2.74792.

At the end of the Settlement Period, the volume weighted average yield of the two executions occurring during the Closing Settlement Period is also calculated. The trade of 100 occurring at 2:59:15 is multiplied by its yield of 2.748 (274.8), and the trade of 350 occurring at 3:00:00 is multiplied by its yield of 2.746 (961.1). The total of 274.8 and 961.1 (1235.9) is then divided by the total of the trade sizes (100 + 350 = 450) to determine the volume weighted average yield of executed transactions occurring during the Closing Settlement Period of 2.74644.

Finally, to calculate the final settlement price, volume weighted average yield of executed transactions occurring during the Closing Settlement Period of 2.74644 is doubled, yielding a figure of 5.49288. This figure is added to the 2.74792 Continuous Time Average of the Weighted Midpoint, for a total of 8.2408 which is then divided by three to arrive at 2.7469333 which is rounded to the nearest .001 for a Reference Amount of 2.747. This Reference Amount is subtracted from 100 to yield a Closing QWAP of 97.253.[4]

Trading Rules

The NFX trading system will execute orders pursuant to the price-time priority execution algorithm. Pursuant to Chapter IV, Section 8 of the Rulebook, the Order Price Limits shall be four basis points (for the U.S. 2-YR DV01 Treasury Futures), eight basis points (for the U.S. 5-YR DV01 Treasury Futures) or ten basis points (for the U.S. 10-YR DV01 Treasury Futures and U.S. 30-YR DV01 Treasury Futures), above and below the Reference Price as defined in Chapter IV, Section 8.

Core Principle Compliance

Core Principle 2 - Compliance with Rules:

The terms and conditions of the New Contracts will be set forth in Rulebook Appendix A. In addition, trading of these contracts will be subject to all relevant Exchange rules which are enforced by Exchange regulatory staff.

Core Principle 3 -Contracts not Readily Subject to Manipulation:

As discussed above, final settlement of the New Contracts will be determined by reference to displayed bids, offers and completed transactions occurring on NFI. The New

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[4] This illustration of a final settlement price calculation is also provided in Excel format as Exhibit 5 to this submission.

Contracts will be financially settled in U.S. dollars, and do not involve the physical delivery of U.S. Treasuries.

NFI is a fully electronic central limit order book which facilitates matching of client orders in U.S. Treasury securities and is operated by Execution Access, LLC ("EA"), a subsidiary of Nasdaq, Inc.[5] EA is registered with the U.S. Securities and Exchange Commission (the "SEC") as a broker-dealer pursuant to Section 15 of the Securities Exchange Act of 1934 and is a member organization of the Financial Industry Regulatory Authority ("FINRA"). Clients ("Subscribers") to NFI are institutional entities, primarily banks, broker-dealers and proprietary trading firms. Orders entered by Subscribers may interact with other Subscriber orders. EA does not trade in a principal capacity, with the exception of offsetting a bona fide error position through its error account.

In the NFI Trading Manual EA acknowledges its regulatory obligation to ensure that Subscribers' and their authorized traders' ("Users'") activities on NFI are conducted in compliance with federal, state and self-regulatory organization laws, rules and regulations. In accordance with these objectives, EA states that it will seek to maintain at all times a fair and orderly market to ensure that NFI is not used for any improper purpose, including but not limited to fraud, manipulation and disruptive or deceptive practices. EA has implemented both operational and compliance best practices including those as advised by industry groups, such as the Treasury Market Practices Group, to promote and maintain the integrity and efficiency of NFI and the overall U.S. Treasury market as well as a robust internal-control environment. The Trading Manual makes clear that, as a registered securities broker-dealer, EA has responsibilities under SEC and FINRA rules to surveil for market manipulation, fraud, and disruptive and deceptive activities on NFI, including giving the false impression of market price, depth or liquidity (e.g., layering or spoofing, painting the tape, and improper self-matching); inhibiting the provision of liquidity by others causing undue latency or delays in other Subscribers executions (e.g. throttling); deliberately acting to cause error trades; and causing or exacerbating settlement failures.

NFX believes that NFI is the second largest dealer to dealer institutional trading venue for U.S. Treasury securities, with market share approximating 20%. The six on the run U.S. Treasury securities are among the highest in volume and the most liquid financial instruments in the world. Price communication between NFI and its competitor venues is very rapid. The marketplace is also extremely efficient - there are over a dozen multi-billion dollar principal trading firms whose core strategy is to transfer liquidity between U.S. Treasury trading venues at ultra-high speeds.

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[5] NFI, at the time known as eSpeed, was acquired by Nasdaq in 2013 from BGC Partners.

NFI Average Daily Volumes for January, February and March 2018 are set forth below:

	2y	5y	10y	30Y
Jan 18	11,434	25,774	19,866	3,882
Feb 18	14,343	35,938	26,712	4,533
Mar 18	10,446	25,284	20,846	3,271

Intermarket linkages and liquidity in U.S. Treasuries are discussed at greater length in Exhibit 3. Based on the size and liquidity of the cash market as discussed above, NFX believes that the DV01 futures settlement prices will be reflective of the underlying cash market, will not readily subject to manipulation or distortion, and will based on a cash price series that is reliable, acceptable, publicly available and timely, all in compliance with Core Principle 3.

In order to ensure the usefulness of the New Contracts, NFX has consulted with market users to obtain their views and opinions during the contract design process to ensure that the New Contracts' terms and conditions reflect the underlying cash market, and that the futures contracts will perform their intended risk management and/or price discovery functions.

As with all contracts listed for trading on the Exchange, activity in the New Contracts will be subject to extensive monitoring and surveillance by the Exchange's regulatory staff in conjunction with the National Futures Association ("NFA") pursuant to the provisions of a Regulatory Services Agreement. Additionally, the Exchange has the authority to exercise its investigative and enforcement power where potential rule violations are identified. The Exchange's disciplinary rules are contained in Chapter V of the Rulebook, which permits the Exchange to discipline, suspend or expel Futures Participants or market participants that violate the rules.

Core Principle 4 - Prevention of Market Disruption:

Trading in the New Contracts will be subject to Chapter III, Section 24 of the Exchange Rulebook which prohibits manipulative or disruptive trading practices prohibited by the Act. Section 1(c) of Chapter III requires Authorized Traders to make available to the Exchange, upon request, information and their books and records regarding their activities in another market if the Exchange's contracts, such as the New Contracts, are settled by reference to the price of a contract or commodity traded in that reference market. The Exchange will monitor reference prices in venues that its contracts settle against.

Trading in the new contracts will be subject to monitoring and surveillance by Exchange staff. NFX Regulation, which will handle real-time surveillance, will monitor 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. NFX Regulation, in conjunction with NFA 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 the ability to reconstruct all orders transacted on the trading system.

Core Principle 5 - Position Limitations or Accountability:

The Exchange's rules at Chapter V, Section 13 set forth the Exchange's policies for monitoring of positions that are owned, controlled or held by any person. The New Contracts' reporting levels, accountability levels and position limits are set forth in amendments to Rulebook Appendix B – Table of Reporting Levels, Position Accountability Levels and Position Limits. Based on the analysis set forth in the Cash Market Description and Deliverable Supply Analysis attached as Exhibit 3, the Exchange is setting its spot month position limit and accountability levels commensurate with those established by the Chicago Board of Trade ("CBOT") for Treasury Futures, adjusted for contract size.

Core Principle 7 - Availability of General Information:

The Exchange will post general information, including its contract specifications, Exchange fees, and the NFX Rulebook, on its website: business.nasdaq.com/futures.

Core Principle 8 - Daily Publication of Trading Information:

The Exchange will publish daily information on settlement prices, volume, open interest and opening and closing ranges for actively traded New Contracts on its website as required by Commission regulations. The Exchange will also publish the total quantity of block trades that are included in trading volume for each trading day.

Core Principle 9 - Execution of Transactions:

The New Contracts will be listed for trading on the Exchange's electronic trading system as well as by submission as block trades and Exchange for Related Position transactions pursuant to Exchange rules. The Exchange's trading system provides a transparent, open and efficient mechanism to electronically execute trades.

Core Principle 10 - Trade Information:

The Exchange's trading system will capture and maintain all information with respect to orders placed into the trading system. The information will include orders that were executed and those that were not executed as well as all other information relating to the trade environment that determines the matching and clearing of trades such as information related to

clearing and number and types of contracts. Orders entered into the trading system can be tracked from the time they are entered into the trading system until the time they are matched, canceled or otherwise removed.

Core Principle 11 - Financial Integrity of Contracts:

All contracts traded on the Exchange's trading system will be cleared by The Options Clearing Corporation ("OCC"), which is a derivatives clearing organization registered with the Commission and subject to Part 39 of the Commission's regulations. Transactions in the New Contracts will be subject to the Exchange's Rulebook provisions for submission to clearing. Pursuant to Commission regulations OCC will set the speculative customer initial margin requirement on the New Contracts as it does on existing NFX contracts. CFTC regulations require OCC to set the customer initial margin requirement at an amount that is higher than OCC's clearing member margin requirement. OCC has advised NFX that the customer initial margin requirement for NFX contracts will be set to a dollar amount that equals 110% of the greater of Value-at-Risk (VaR) level calculated using a 99% confidence interval for the daily price returns using a 2-year and 5-year look-back period (on a per contract basis). In addition, for products having an economically equivalent contract listed on another market center, OCC will not allow its rates to fall below that of the primary listing exchange. OCC has advised NFX that customer initial margin requirements are reset approximately every 90 calendar days and monitored daily, with rates being re-set should a one-day change in settlement price exceed the prevailing rate at the time. In addition, OCC has authority to update customer initial margin requirements at any time, if deemed warranted, and as dictated by market conditions. NFX has determined to adopt the result of OCC's VaR calculation as described above as the customer maintenance margin requirement. NFX is also adopting the result of OCC's VaR calculation as described above as the initial and maintenance margin requirement for hedge customers and Futures Participants. NFX margin rates will be available on the OCC website.

Core Principle 12 - Protection of Market Participants:

Chapter III of the Exchange's rules protect the market and market participants from abusive, disruptive, fraudulent, noncompetitive and unfair conduct and trade practices. These rules will apply to all transactions in the Exchange's listed contracts, including the New Contracts.

Core Principle 13 - Disciplinary Procedures:

The Exchange's rules at Chapter VI describe disciplinary procedures and authorize the Exchange to discipline, suspend, expel or otherwise sanction market participants for violations of the Exchange's rules.

Core Principle 14 - Dispute Resolution:

Chapter V of the Exchange Rulebook establishes rules concerning alternative dispute resolution, which provide for the resolution of disputes through the NFA arbitration program.

There were no opposing views among the NFX's Board of Directors, members or market participants. The Exchange hereby certifies that the New Contracts and rule amendments comply with the Act and the Commission's regulations thereunder. The Exchange also certifies that notice of pending certification and a copy of this submission have been concurrently posted on the Exchange's website at business.nasdaq.com/futures.

If you require any additional information regarding the submission, please contact Carla Behnfeldt at (215) 496-5208 or carla.behnfeldt@nasdaq.com. Please refer to SR-NFX-2018-18 in any related correspondence.

Regards,

Daniel R. Carrigan
President

Attachments:

Exhibit 1: Amendments to Rulebook Appendix A - Listed Contracts

Exhibit 2: Amendments to Rulebook Appendix B - Table of Position Limits, Position Accountability Levels and Large Trader Reporting Levels (under separate cover).

Exhibit 3: Cash Market Description and Deliverable Supply Analysis

Exhibit 4: Contract Specifications Sheet

Exhibit 5: Excel Final Settlement Example

Exhibit 6: Futures Trader Alert

Exhibit 1 to SR-NFX-2018-18

New language is underlined.

Rulebook Appendix A - Listed Contracts

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Table of Listed Contracts

CHAPTER	PRODUCT NAME AND SYMBOL
	OIL AND REFINED PRODUCTS – No Change
	NATURAL GAS PRODUCTS – No Change
	POWER CONTRACTS – No Change
	PETROCHEMICALS PRODUCTS – No Change.
	FERROUS METALS – No Change.
	TANKER FREIGHT – No Change
	DRY FREIGHT – No Change.
	TREASURY FUTURES
2002	U.S. 2-YR DV01 Treasury Futures
2005	U.S. 5-YR DV01 Treasury Futures
2010	U.S. 10-YR DV01 Treasury Futures
2030	U.S. 30-YR DV01 Treasury Futures

Chapter 101 - 1300 No change.

Chapter 2002 U.S. 2-YR DV01 Treasury Futures

2002.01 Underlying Interest

The underlying interest is the dollar value (DV01), assigned by the Exchange at the time of listing for each contract month, of a one basis point change in yield of the current On The Run 2-year U.S. Treasury note with a face value of one million dollars having fixed semi-annual coupon payments. All contracts having the same DV01 will be assigned the same base symbol. The contract is a cash settled On The Run U.S. Treasury futures contract expressed as 100 minus the yield of the corresponding 2-year U.S. Treasury note. In the event the On The Run U.S. Treasury note corresponding to a particular contract month is redeemed or is unavailable for trading, all previously issued 2-year fixed principal U.S. Treasury notes having fixed semi-annual coupon payments may be referenced for determination of yield for that contract month. The multiplier is 100 times the DV01 for the contract month.

2002.02 Contract Months

The Exchange may list for trading up to 12 consecutive or non-consecutive monthly contracts, beginning with the nearest available contract month. Each listing date for a contract month will be specified in a Futures Trader Alert, which will also identify the base trading symbol and DV01 for that contract month.

2002.03 Prices and Minimum Increments

Prices are quoted in Yield-Derived Price, which is 100 minus the yield on the corresponding 2-year U.S. Treasury note expressed as a percentage. (For example, a yield of 2.065 percent shall be expressed as a Yield-Derived Price of 97.935.) The minimum increment is two tenths of a basis point (.002). The minimum increment is equivalent to two tenths of the contract month DV01.

2002.04 Last Trading Day

Trading in an expiring contract month terminates on the last day of the contract month which is both an NFX trading day and an NFI trading day. Trading ceases at 3:00 PM EPT on the Last Trading Day.

2002.05 Final Settlement Date

The final settlement date for any contract month shall be the next business day on which the Clearing Corporation is open for settlement following the Last Trading Day for that contract month. On the final settlement date the Clearing Corporation shall effect the final variation payment to be made on each contract.

2002.06 Final and Daily Settlement and Settlement Prices

(a) Final settlement for contracts held to their maturity date is by cash settlement in U.S. dollars.

(b) (i) **QWAP.** Pursuant to Chapter V, Section III, the daily settlement price shall be the Quality Weighted Average Price ("QWAP"), which shall be determined by reference to the Yield-Derived Price of best bids, best offers and executed transactions in the

corresponding U.S. DV01 Treasury Note futures on the Nasdaq Futures, Inc. (NFX) trading system order book during the settlement period for the contract (the "Settlement Period") every day except the Last Trading Day for the contract month. For the avoidance of doubt, only the Yield-Derived Price associated with displayed orders on the NFX Order Book and executed transactions associated with those displayed orders shall be included in calculation of the final settlement price. If the QWAP cannot be calculated due to the absence of bids, offers and executed transactions required to complete that calculation, the daily settlement price shall be determined in accordance with subsection (d) below.

(ii) **Calculation of QWAP**. The QWAP shall be the Initial Sum divided by three and common rounded to the nearest .002, where the Initial Sum is the sum of (1) two times the volume weighted average Yield-Derived Price of executed transactions occurring during the Settlement Period, and (2) the Continuous Time Average of the Weighted Midpoint of the best bid Yield-Derived Price and the best offer Yield-Derived Price observed on NFX during the Settlement Period; provided, however, that if no executed transactions occur during the Settlement Period, the QWAP will equal the amount specified in subsection (b)(ii)(2) above, common rounded to the nearest .002.

(iii) **Calculation of the Weighted Midpoint.** The Weighted Midpoint of each best Yield-Derived Price bid and the best Yield-Derived Price offer observed on NFX during the Settlement Period, shall be (1) the size of the best Yield-Derived Price offer multiplied by the best Yield-Derived Price bid plus the size of the best Yield Derived Price bid multiplied by the best Yield-Derived Price offer, divided by (2) the sum of the sizes of that best Yield-Derived Price bid and that best Yield-Derived Price offer.

(iv) **Calculation of the Continuous Time Average of the Weighted Midpoint.** The Continuous Time Average of the Weighted Midpoint shall be the pro rata average of all observed Weighted Midpoints based on the period of time, as a percentage of the Settlement Period, that each Weighted Midpoint remains unchanged. If during any portion of the Settlement Period there is an absence of bids or offers, that portion of time shall not be included for purposes of calculating the Continuous Time Average of the Weighted Midpoint under this subsection (c)(iv).

(v) **Settlement Period.** The Settlement Period for the contract shall be 2:59 – 3:00 PM EPT every trading day except the Last Trading Day, provided, however, that in the event of an early close of trading on NFI, the Settlement Period shall be a one minute period during the NFI trading day announced in advance by NFX in a Futures Trader Alert.

(c) (i) **Closing QWAP.** Pursuant to Chapter V, Section III, the final settlement price shall be the Closing Quality Weighted Average Price ("Closing QWAP"), which shall be determined by reference to the yield of best bids, best offers, and executed transactions on the corresponding On The Run U.S. Treasury note for the contract month occurring on NFI, exclusive of block trades or any trades not visible on the NFI Order Book, during the closing settlement period for the contract (the "Closing Settlement Period") on the

Last Trading Day for the contract month. The Closing QWAP shall be 100 minus the Reference Amount. For the avoidance of doubt, only the yield associated with displayed orders on the NFI Order Book and executed transactions associated with those displayed orders shall be included in calculation of the final settlement price. If the Reference Amount cannot be calculated due to the absence of bids, offers and executed transactions required to complete that calculation, the final settlement price shall be determined in accordance with subsection (d) below.

(ii) **Calculation of Reference Amount**. The Reference Amount shall be the Initial Sum divided by three and common rounded to the nearest .002, where the Initial Sum is the sum of (1) two times the volume weighted average yield of executed transactions occurring during the Closing Settlement Period, and (2) the Continuous Time Average of the Weighted Midpoint of the best bid yield and the best offer yield observed on NFI during the Closing Settlement Period; provided, however, that if no executed transactions occur during the Closing Settlement Period, the Reference Amount will equal the amount specified in subsection (c)(ii)(2) above, common rounded to the nearest .002.

(iii) **Calculation of the Weighted Midpoint.** The Weighted Midpoint of each best bid yield and the best offer yield observed on NFI during the Closing Settlement Period, shall be (1) the size of the best offer multiplied by the yield of the best bid plus the size of the best bid multiplied by the yield of the best offer, divided by (2) the sum of the sizes of that best bid and that best offer.

(iv) **Calculation of the Continuous Time Average of the Weighted Midpoint.** The Continuous Time Average of the Weighted Midpoint shall be the pro rata average of all observed Weighted Midpoints based on the period of time, as a percentage of the Closing Settlement Period, that each Weighted Midpoint remains unchanged. If during any portion of the Closing Settlement Period there is an absence of bids or offers, that portion of time shall not be included for purposes of calculating the Continuous Time Average of the Weighted Midpoint under this subsection (c)(iv).

(v) **Closing Settlement Period.** The Closing Settlement Period for the contract shall be 2:59 – 3:00 PM EPT, provided, however, that in the event of an early close of trading on NFI, the Closing Settlement Period shall be a one minute period during the NFI trading day announced in advance by NFX in a Futures Trader Alert.

(d) If the daily settlement price described in (b) above or the final settlement price described in (c) above is unavailable, or if the normal settlement procedure cannot be utilized due to a trading disruption or other unusual circumstance, the Exchange may in its sole discretion establish a daily settlement price or final settlement price that it deems to be a fair and reasonable reflection of the market; provided, however, that this procedure shall not apply if the daily settlement price or the final settlement price is determined in accordance with the Rules and By-Laws of the Clearing Corporation.

2002.07 Trading Algorithm

Pursuant to Chapter IV, Section 5, the trading system shall execute orders within the trading system pursuant to the price-time priority execution algorithm.

2002.08 Block Trade Minimum Quantity Threshold and Reporting Window

Pursuant to Chapter IV, Section 10, block trades shall be permitted with a minimum quantity threshold of ten contracts and the Reporting Window shall be fifteen minutes.

2002.09 Order Price Limit Protection

Pursuant to Chapter IV, Section 8, the Order Price Limits shall be from four basis points (.04) above and below the Reference Price as defined in Chapter IV, Section 8.

2002.10 Non-Reviewable Range

For purposes of Chapter V, Section 5, the non-reviewable range shall be from four basis points (.04) above and below the true market price for the Contract as set forth in the Exchange's Error Trade Policy.

2002.11 Order Type Exceptions.

The NFX trading system will not accept Tailor Made Combination Orders nor will it generate Implied Orders in U.S. 2-YR DV01 Treasury Futures.

2002.12 Disclaimer

The Exchange uses NFI bids, offers and transaction prices and associated volumes as the basis for settling U.S. 2-YR DV01 Treasury Futures contracts.

NFI has no obligation or liability in connection with the trading of U.S. 2-YR DV01 Treasury Futures and shall not be liable (whether in negligence or otherwise) to any person for any error in the bids, offers and transaction prices and associated volumes provided to the Exchange, and NFI shall not be under any obligation to advise any person of any error therein.

NFI makes no warranty, express or implied, either as to the results to be obtained from the use of the bids, offers and transaction prices and associated volumes it provides to the Exchange, and/or the figures at which that data stands at any particular time on any particular day or otherwise. NFI makes no express or implied warranties of merchantability or fitness for a particular purpose for use with respect to U.S. 2-YR DV01 Treasury Futures contracts.

Chapter 2005 U.S. 5-YR DV01 Treasury Futures

2005.01 Underlying Interest

The underlying interest is the dollar value (DV01), assigned by the Exchange at the time of listing for each contract month, of a one basis point change in yield of the current On The Run 5-

year US Treasury note with a face value of one million dollars having fixed semi-annual coupon payments. All contracts having the same DV01 will be assigned the same base symbol. The contract is a cash settled On The Run U.S. Treasury futures contract expressed as 100 minus the yield of the corresponding 5-year U.S. Treasury note. In the event the On The Run U.S. Treasury note corresponding to a particular contract month is redeemed or is unavailable for trading, all previously issued 5-year fixed principal U.S. Treasury notes having fixed semi-annual coupon payments may be referenced for determination of yield for that contract month. The multiplier is 100 times the DV01 for the contract month.

2005.02 Contract Months

The Exchange may list for trading up to 12 consecutive or non-consecutive monthly contracts, beginning with the nearest available contract month. Each listing date for a contract month will be specified in a Futures Trader Alert, which will also identify the base trading symbol and DV01 for that contract month.

2005.03 Prices and Minimum Increments

Prices are quoted in Yield-Derived Price, which is 100 minus the yield on the corresponding 5-year U.S. Treasury note expressed as a percentage. (For example, a yield of 2.065 percent shall be expressed as a Yield-Derived Price of 97.935.)The minimum increment is one tenth basis point (.001). The minimum increment is equivalent to one tenth of the contract month DV01.

2005.04 Last Trading Day

Trading in an expiring contract month terminates on the last day of the contract month which is both an NFX trading day and an NFI trading day. Trading ceases at 3:00 PM EPT on the Last Trading Day.

2005.05 Final Settlement Date

The final settlement date for any contract month shall be the next business day on which the Clearing Corporation is open for settlement following the Last Trading Day for that contract month. On the final settlement date the Clearing Corporation shall effect the final variation payment to be made on each contract.

2005.06 Final and Daily Settlement and Settlement Prices

(a) Final settlement for contracts held to their maturity date is by cash settlement in U.S. dollars.

(b) (i) **QWAP.** Pursuant to Chapter V, Section III, the daily settlement price shall be the Quality Weighted Average Price ("QWAP"), which shall be determined by reference to the Yield-Derived Price of best bids, best offers and executed transactions in the corresponding U.S. DV01 Treasury Note futures on the Nasdaq Futures, Inc. (NFX) trading system order book during the settlement period for the contract (the "Settlement Period") every day except the Last Trading Day for the contract month. For the

avoidance of doubt, only the Yield-Derived Price associated with displayed orders on the NFX Order Book and executed transactions associated with those displayed orders shall be included in calculation of the final settlement price. If the QWAP cannot be calculated due to the absence of bids, offers and executed transactions required to complete that calculation, the daily settlement price shall be determined in accordance with subsection (d) below.

(ii) **Calculation of QWAP**. The QWAP shall be the Initial Sum divided by three and common rounded to the nearest .001, where the Initial Sum is the sum of (1) two times the volume weighted average Yield-Derived Price of executed transactions occurring during the Settlement Period, and (2) the Continuous Time Average of the Weighted Midpoint of the best bid Yield-Derived Price and the best offer Yield-Derived Price observed on NFX during the Settlement Period; provided, however, that if no executed transactions occur during the Settlement Period, the QWAP will equal the amount specified in subsection (b)(ii)(2) above, common rounded to the nearest .001.

(iii) **Calculation of the Weighted Midpoint.** The Weighted Midpoint of each best Yield-Derived Price bid and the best Yield-Derived Price offer observed on NFX during the Settlement Period, shall be (1) the size of the best Yield-Derived Price offer multiplied by the best Yield-Derived Price bid plus the size of the best Yield Derived Price bid multiplied by the best Yield-Derived Price offer, divided by (2) the sum of the sizes of that best Yield-Derived Price bid and that best Yield-Derived Price offer.

(iv) **Calculation of the Continuous Time Average of the Weighted Midpoint.** The Continuous Time Average of the Weighted Midpoint shall be the pro rata average of all observed Weighted Midpoints based on the period of time, as a percentage of the Settlement Period, that each Weighted Midpoint remains unchanged. If during any portion of the Settlement Period there is an absence of bids or offers, that portion of time shall not be included for purposes of calculating the Continuous Time Average of the Weighted Midpoint under this subsection (c)(iv).

(v) **Settlement Period.** The Settlement Period for the contract shall be 2:59 – 3:00 PM EPT every trading day except the Last Trading Day, provided, however, that in the event of an early close of trading on NFI, the Settlement Period shall be a one minute period during the NFI trading day announced in advance by NFX in a Futures Trader Alert.

(c) (i) **Closing QWAP.** Pursuant to Chapter V, Section III, the final settlement price shall be the Closing Quality Weighted Average Price ("Closing QWAP"), which shall be determined by reference to the yield of best bids, best offers, and executed transactions on the corresponding On The Run U.S. Treasury note for the contract month occurring on NFI, exclusive of block trades or any trades not visible on the NFI Order Book, during the closing settlement period for the contract (the "Closing Settlement Period") on the Last Trading Day for the contract month. The Closing QWAP shall be 100 minus the Reference Amount. For the avoidance of doubt, only the yield associated with displayed orders on the NFI Order Book and executed transactions associated with those displayed orders shall be included in calculation of the final settlement price. If the Reference

Amount cannot be calculated due to the absence of bids, offers and executed transactions required to complete that calculation, the final settlement price shall be determined in accordance with subsection (d) below.

(ii) **Calculation of Reference Amount**. The Reference Amount shall be the Initial Sum divided by three and common rounded to the nearest .001, where the Initial Sum is the sum of (1) two times the volume weighted average yield of executed transactions occurring during the Closing Settlement Period, and (2) the Continuous Time Average of the Weighted Midpoint of the best bid yield and the best offer yield observed on NFI during the Closing Settlement Period; provided, however, that if no executed transactions occur during the Closing Settlement Period, the Reference Amount will equal the amount specified in subsection (c)(ii)(2) above, common rounded to the nearest .002.

(iii) **Calculation of the Weighted Midpoint.** The Weighted Midpoint of each best bid yield and the best offer yield observed on NFI during the Closing Settlement Period, shall be (1) the size of the best offer multiplied by the yield of the best bid plus the size of the best bid multiplied by the yield of the best offer, divided by (2) the sum of the sizes of that best bid and that best offer.

(iv) **Calculation of the Continuous Time Average of the Weighted Midpoint.** The Continuous Time Average of the Weighted Midpoint shall be the pro rata average of all observed Weighted Midpoints based on the period of time, as a percentage of the Closing Settlement Period, that each Weighted Midpoint remains unchanged. If during any portion of the Closing Settlement Period there is an absence of bids or offers, that portion of time shall not be included for purposes of calculating the Continuous Time Average of the Weighted Midpoint under this subsection (c)(iv).

(v) **Closing Settlement Period.** The Closing Settlement Period for the contract shall be 2:59 – 3:00 PM EPT, provided, however, that in the event of an early close of trading on NFI, the Closing Settlement Period shall be a one minute period during the NFI trading day announced in advance by NFX in a Futures Trader Alert.

(d) If the daily settlement price described in (b) above or the final settlement price described in (c) above is unavailable, or if the normal settlement procedure cannot be utilized due to a trading disruption or other unusual circumstance, the Exchange may in its sole discretion establish a daily settlement price or final settlement price that it deems to be a fair and reasonable reflection of the market; provided, however, that this procedure shall not apply if the daily settlement price or the final settlement price is determined in accordance with the Rules and By-Laws of the Clearing Corporation.

2005.07 Trading Algorithm

Pursuant to Chapter IV, Section 5, the trading system shall execute orders within the trading system pursuant to the price-time priority execution algorithm.

2005.08 Block Trade Minimum Quantity Threshold and Reporting Window

Pursuant to Chapter IV, Section 10, block trades shall be permitted with a minimum quantity threshold of ten contracts and the Reporting Window shall be fifteen minutes.

2005.09 Order Price Limit Protection

Pursuant to Chapter IV, Section 8, the Order Price Limits shall be from eight basis points (.08) above and below the Reference Price as defined in Chapter IV, Section 8.

2005.10 Non-Reviewable Range

For purposes of Chapter V, Section 5, the non-reviewable range shall be from eight basis points (.08) above and below the true market price for the Contract as set forth in the Exchange's Error Trade Policy.

2005.11 Order Type Exceptions.

The NFX trading system will not accept Tailor Made Combination Orders nor will it generate Implied Orders in U.S. 5-YR DV01 Treasury Futures.

2005.12 Disclaimer

The Exchange uses NFI bids, offers and transaction prices and associated volumes as the basis for settling U.S. 5-YR DV01 Treasury Futures contracts.

NFI has no obligation or liability in connection with the trading of U.S. 5-YR DV01 Treasury Futures and shall not be liable (whether in negligence or otherwise) to any person for any error in the bids, offers and transaction prices and associated volumes provided to the Exchange, and NFI shall not be under any obligation to advise any person of any error therein.

NFI makes no warranty, express or implied, either as to the results to be obtained from the use of the bids, offers and transaction prices and associated volumes it provides to the Exchange, and/or the figures at which that data stands at any particular time on any particular day or otherwise. NFI makes no express or implied warranties of merchantability or fitness for a particular purpose for use with respect to U.S. 5-YR DV01 Treasury Futures contracts.

Chapter 2010 U.S. 10-YR DV01 Treasury Futures

2010.01 Underlying Interest

The underlying interest is the dollar value (DV01), assigned by the Exchange at the time of listing for each contract month, of a one basis point change in yield of the current On The Run 10-year US Treasury note with a face value of one million dollars having fixed semi-annual coupon payments. All contracts having the same DV01 will be assigned the same base symbol. The contract is a cash settled On The Run U.S. Treasury futures contract expressed as 100 minus the yield of the corresponding 10-year U.S. Treasury note. In the event the On The Run U.S. Treasury note corresponding to a particular contract month is redeemed or is unavailable for

trading, all previously issued 10-year fixed principal US Treasury notes having fixed semi-annual coupon payments may be referenced for determination of yield for that contract month. The multiplier is 100 times the DV01 for the contract month.

2010.02 Contract Months

The Exchange may list for trading up to 12 consecutive or non-consecutive monthly contracts, beginning with the nearest available contract month. Each listing date for a contract month will be specified in a Futures Trader Alert, which will also identify the base trading symbol and DV01 for that contract month.

2010.03 Prices and Minimum Increments

Prices are quoted in Yield-Derived Price, which is 100 minus the yield on the corresponding 10-year U.S. Treasury note expressed as a percentage. (For example, a yield of 2.065 percent shall be expressed as a Yield-Derived Price of 97.935.) The minimum increment is one tenth basis point (.001). The minimum increment is equivalent to one-tenth of the contract month DV01.

2010.04 Last Trading Day

Trading in an expiring contract month terminates on the 15th day of the contract month or, if the 15th day of the contract month is not an NFX trading day and an NFI trading day, on the previous day which is an NFX trading day and an NFI trading day. Trading ceases at 3:00 PM EPT on the Last Trading Day.

2010.05 Final Settlement Date

The final settlement date for any contract month shall be the next business day on which the Clearing Corporation is open for settlement following the Last Trading Day for that contract month. On the final settlement date the Clearing Corporation shall effect the final variation payment to be made on each contract.

2010.06 Final and Daily Settlement and Settlement Prices

(a) Final settlement for contracts held to their maturity date is by cash settlement in U.S. dollars.

(b) (i) **QWAP.** Pursuant to Chapter V, Section III, the daily settlement price shall be the Quality Weighted Average Price ("QWAP"), which shall be determined by reference to the Yield-Derived Price of best bids, best offers and executed transactions in the corresponding U.S. DV01 Treasury Note futures on the Nasdaq Futures, Inc. (NFX) trading system order book during the settlement period for the contract (the "Settlement Period") every day except the Last Trading Day for the contract month. For the avoidance of doubt, only the Yield-Derived Price associated with displayed orders on the NFX Order Book and executed transactions associated with those displayed orders shall be included in calculation of the final settlement price. If the QWAP cannot be calculated due to the absence of bids, offers and executed transactions required to

complete that calculation, the daily settlement price shall be determined in accordance with subsection (d) below.

(ii) **Calculation of QWAP**. The QWAP shall be the Initial Sum divided by three and common rounded to the nearest .001, where the Initial Sum is the sum of (1) two times the volume weighted average Yield-Derived Price of executed transactions occurring during the Settlement Period, and (2) the Continuous Time Average of the Weighted Midpoint of the best bid Yield-Derived Price and the best offer Yield-Derived Price observed on NFX during the Settlement Period; provided, however, that if no executed transactions occur during the Settlement Period, the QWAP will equal the amount specified in subsection (b)(ii)(2) above, common rounded to the nearest .001.

(iii) **Calculation of the Weighted Midpoint.** The Weighted Midpoint of each best Yield-Derived Price bid and the best Yield-Derived Price offer observed on NFX during the Settlement Period, shall be (1) the size of the best Yield-Derived Price offer multiplied by the best Yield-Derived Price bid plus the size of the best Yield Derived Price bid multiplied by the best Yield-Derived Price offer, divided by (2) the sum of the sizes of that best Yield-Derived Price bid and that best Yield-Derived Price offer.

(iv) **Calculation of the Continuous Time Average of the Weighted Midpoint.** The Continuous Time Average of the Weighted Midpoint shall be the pro rata average of all observed Weighted Midpoints based on the period of time, as a percentage of the Settlement Period, that each Weighted Midpoint remains unchanged. If during any portion of the Settlement Period there is an absence of bids or offers, that portion of time shall not be included for purposes of calculating the Continuous Time Average of the Weighted Midpoint under this subsection (c)(iv).

(v) **Settlement Period.** The Settlement Period for the contract shall be 2:59 – 3:00 PM EPT every trading day except the Last Trading Day, provided, however, that in the event of an early close of trading on NFI, the Settlement Period shall be a one minute period during the NFI trading day announced in advance by NFX in a Futures Trader Alert.

(c) (i) **Closing QWAP.** Pursuant to Chapter V, Section III, the final settlement price shall be the Closing Quality Weighted Average Price ("Closing QWAP"), which shall be determined by reference to the yield of best bids, best offers, and executed transactions on the corresponding On The Run U.S. Treasury note for the contract month occurring on NFI, exclusive of block trades or any trades not visible on the NFI Order Book, during the closing settlement period for the contract (the "Closing Settlement Period") on the Last Trading Day for the contract month. The Closing QWAP shall be 100 minus the Reference Amount. For the avoidance of doubt, only the yield associated with displayed orders on the NFI Order Book and executed transactions associated with those displayed orders shall be included in calculation of the final settlement price. If the Reference Amount cannot be calculated due to the absence of bids, offers and executed transactions required to complete that calculation, the final settlement price shall be determined in accordance with subsection (d) below.

(ii) **Calculation of Reference Amount**. The Reference Amount shall be the Initial Sum divided by three and common rounded to the nearest .001, where the Initial Sum is the sum of (1) two times the volume weighted average yield of executed transactions occurring during the Closing Settlement Period, and (2) the Continuous Time Average of the Weighted Midpoint of the best bid yield and the best offer yield observed on NFI during the Closing Settlement Period; provided, however, that if no executed transactions occur during the Closing Settlement Period, the Reference Amount will equal the amount specified in subsection (c)(ii)(2) above, common rounded to the nearest .002.

(iii) **Calculation of the Weighted Midpoint.** The Weighted Midpoint of each best bid yield and the best offer yield observed on NFI during the Closing Settlement Period, shall be (1) the size of the best offer multiplied by the yield of the best bid plus the size of the best bid multiplied by the yield of the best offer, divided by (2) the sum of the sizes of that best bid and that best offer.

(iv) **Calculation of the Continuous Time Average of the Weighted Midpoint.** The Continuous Time Average of the Weighted Midpoint shall be the pro rata average of all observed Weighted Midpoints based on the period of time, as a percentage of the Closing Settlement Period, that each Weighted Midpoint remains unchanged. If during any portion of the Closing Settlement Period there is an absence of bids or offers, that portion of time shall not be included for purposes of calculating the Continuous Time Average of the Weighted Midpoint under this subsection (c)(iv).

(v) **Closing Settlement Period.** The Closing Settlement Period for the contract shall be 2:59 – 3:00 PM EPT, provided, however, that in the event of an early close of trading on NFI, the Closing Settlement Period shall be a one minute period during the NFI trading day announced in advance by NFX in a Futures Trader Alert.

(d) If the daily settlement price described in (b) above or the final settlement price described in (c) above is unavailable, or if the normal settlement procedure cannot be utilized due to a trading disruption or other unusual circumstance, the Exchange may in its sole discretion establish a daily settlement price or final settlement price that it deems to be a fair and reasonable reflection of the market; provided, however, that this procedure shall not apply if the daily settlement price or the final settlement price is determined in accordance with the Rules and By-Laws of the Clearing Corporation.

2010.07 Trading Algorithm

Pursuant to Chapter IV, Section 5, the trading system shall execute orders within the trading system pursuant to the price-time priority execution algorithm.

2010.08 Block Trade Minimum Quantity Threshold and Reporting Window

Pursuant to Chapter IV, Section 10, block trades shall be permitted with a minimum quantity threshold of ten contracts and the Reporting Window shall be fifteen minutes.

2010.09 Order Price Limit Protection

Pursuant to Chapter IV, Section 8, the Order Price Limits shall be from ten basis points (.10) above and below the Reference Price as defined in Chapter IV, Section 8.

2010.10 Non-Reviewable Range

For purposes of Chapter V, Section 5, the non-reviewable range shall be from ten basis (.10) points above and below the true market price for the Contract as set forth in the Exchange's Error Trade Policy.

2010.11 Order Type Exceptions.

The NFX trading system will not accept Tailor Made Combination Orders nor will it generate Implied Orders in U.S. 10-YR DV01 Treasury Futures.

2010.12 Disclaimer

The Exchange uses NFI bids, offers and transaction prices and associated volumes as the basis for settling U.S. 10-YR DV01 Treasury Futures contracts.

NFI has no obligation or liability in connection with the trading of U.S. 10-YR DV01 Treasury Futures and shall not be liable (whether in negligence or otherwise) to any person for any error in the bids, offers and transaction prices and associated volumes provided to the Exchange, and NFI shall not be under any obligation to advise any person of any error therein.

NFI makes no warranty, express or implied, either as to the results to be obtained from the use of the bids, offers and transaction prices and associated volumes it provides to the Exchange, and/or the figures at which that data stands at any particular time on any particular day or otherwise. NFI makes no express or implied warranties of merchantability or fitness for a particular purpose for use with respect to U.S. 10-YR DV01 Treasury Futures contracts.

Chapter 2030 U.S. 30-YR DV01 Treasury Futures

2030.01 Underlying Interest

The underlying interest is the dollar value (DV01), assigned by the Exchange at the time of listing for each contract month, of a one basis point change in yield of the current On The Run 30-year US Treasury bond with a face value of one million dollars having fixed semi-annual coupon payments. All contracts having the same DV01 will be assigned the same base symbol. The contract is a cash settled On The Run U.S. Treasury futures contract expressed as 100 minus the yield of the corresponding 30-year U.S. Treasury bond. In the event the On The Run U.S. Treasury bond corresponding to a particular contract month is redeemed or is unavailable for trading, all previously issued fixed principal 30-year U.S. Treasury bond having fixed semi-annual coupon payments may be referenced for determination of yield for that contract month. The multiplier is 100 times the DV01 for the contract month.

2030.02 Contract Months

The Exchange may list for trading up to 12 consecutive or non-consecutive monthly contracts, beginning with the nearest available contract month. Each listing date for a contract month will be specified in a Futures Trader Alert, which will also identify the base trading symbol and DV01 for that contract month.

2030.03 Prices and Minimum Increments

Prices are quoted in Yield-Derived Price, which is 100 minus the yield on the corresponding 30-year U.S. Treasury bond expressed as a percentage. (For example, a yield of 2.065 percent shall be expressed as a Yield-Derived Price of 97.935.) The minimum increment is one tenth basis point. (.001). The minimum increment is equivalent to one-tenth of the contract month DVO1.

2030.04 Last Trading Day

Trading in an expiring contract month terminates on the 15th day of the contract month or, if the 15th day of the contract month is not an NFX trading day and an NFI trading day, on the previous day which is an NFX trading day and an NFI trading day. Trading ceases at 3:00 PM EPT on the Last Trading Day.

2030.05 Final Settlement Date

The final settlement date for any contract month shall be the next business day on which the Clearing Corporation is open for settlement following the Last Trading Day for that contract month. On the final settlement date the Clearing Corporation shall effect the final variation payment to be made on each contract.

2030.06 Final and Daily Settlement and Settlement Prices

(a) Final settlement for contracts held to their maturity date is by cash settlement in U.S. dollars.

(b) (i) **QWAP.** Pursuant to Chapter V, Section III, the daily settlement price shall be the Quality Weighted Average Price ("QWAP"), which shall be determined by reference to the Yield-Derived Price of best bids, best offers and executed transactions in the corresponding U.S. DV01 Treasury Note futures on the Nasdaq Futures, Inc. (NFX) trading system order book during the settlement period for the contract (the "Settlement Period") every day except the Last Trading Day for the contract month. For the avoidance of doubt, only the Yield-Derived Price associated with displayed orders on the NFX Order Book and executed transactions associated with those displayed orders shall be included in calculation of the final settlement price. If the QWAP cannot be calculated due to the absence of bids, offers and executed transactions required to complete that calculation, the daily settlement price shall be determined in accordance with subsection (d) below.

(ii) **Calculation of QWAP**. The QWAP shall be the Initial Sum divided by three and common rounded to the nearest .001, where the Initial Sum is the sum of (1) two times the volume weighted average Yield-Derived Price of executed transactions occurring during the Settlement Period, and (2) the Continuous Time Average of the Weighted Midpoint of the best bid Yield-Derived Price and the best offer Yield-Derived Price observed on NFX during the Settlement Period; provided, however, that if no executed transactions occur during the Settlement Period, the QWAP will equal the amount specified in subsection (b)(ii)(2) above, common rounded to the nearest .001.

(iii) **Calculation of the Weighted Midpoint.** The Weighted Midpoint of each best Yield-Derived Price bid and the best Yield-Derived Price offer observed on NFX during the Settlement Period, shall be (1) the size of the best Yield-Derived Price offer multiplied by the best Yield-Derived Price bid plus the size of the best Yield Derived Price bid multiplied by the best Yield-Derived Price offer, divided by (2) the sum of the sizes of that best Yield-Derived Price bid and that best Yield-Derived Price offer.

(iv) **Calculation of the Continuous Time Average of the Weighted Midpoint.** The Continuous Time Average of the Weighted Midpoint shall be the pro rata average of all observed Weighted Midpoints based on the period of time, as a percentage of the Settlement Period, that each Weighted Midpoint remains unchanged. If during any portion of the Settlement Period there is an absence of bids or offers, that portion of time shall not be included for purposes of calculating the Continuous Time Average of the Weighted Midpoint under this subsection (c)(iv).

(v) **Settlement Period.** The Settlement Period for the contract shall be 2:59 – 3:00 PM EPT every trading day except the Last Trading Day, provided, however, that in the event of an early close of trading on NFI, the Settlement Period shall be a one minute period during the NFI trading day announced in advance by NFX in a Futures Trader Alert.

(c) (i) **Closing QWAP.** Pursuant to Chapter V, Section III, the final settlement price shall be the Closing Quality Weighted Average Price ("Closing QWAP"), which shall be determined by reference to the yield of best bids, best offers, and executed transactions on the corresponding On The Run U.S. Treasury note for the contract month occurring on NFI, exclusive of block trades or any trades not visible on the NFI Order Book, during the closing settlement period for the contract (the "Closing Settlement Period") on the Last Trading Day for the contract month. The Closing QWAP shall be 100 minus the Reference Amount. For the avoidance of doubt, only the yield associated with displayed orders on the NFI Order Book and executed transactions associated with those displayed orders shall be included in calculation of the final settlement price. If the Reference Amount cannot be calculated due to the absence of bids, offers and executed transactions required to complete that calculation, the final settlement price shall be determined in accordance with subsection (d) below.

(ii) **Calculation of Reference Amount**. The Reference Amount shall be the Initial Sum divided by three and common rounded to the nearest .001, where the Initial Sum is the sum of (1) two times the volume weighted average yield of executed transactions

occurring during the Closing Settlement Period, and (2) the Continuous Time Average of the Weighted Midpoint of the best bid yield and the best offer yield observed on NFI during the Closing Settlement Period; provided, however, that if no executed transactions occur during the Closing Settlement Period, the Reference Amount will equal the amount specified in subsection (c)(ii)(2) above, common rounded to the nearest .002.

(iii) **Calculation of the Weighted Midpoint.** The Weighted Midpoint of each best bid yield and the best offer yield observed on NFI during the Closing Settlement Period, shall be (1) the size of the best offer multiplied by the yield of the best bid plus the size of the best bid multiplied by the yield of the best offer, divided by (2) the sum of the sizes of that best bid and that best offer.

(iv) **Calculation of the Continuous Time Average of the Weighted Midpoint.** The Continuous Time Average of the Weighted Midpoint shall be the pro rata average of all observed Weighted Midpoints based on the period of time, as a percentage of the Closing Settlement Period, that each Weighted Midpoint remains unchanged. If during any portion of the Closing Settlement Period there is an absence of bids or offers, that portion of time shall not be included for purposes of calculating the Continuous Time Average of the Weighted Midpoint under this subsection (c)(iv).

(v) **Closing Settlement Period.** The Closing Settlement Period for the contract shall be 2:59 – 3:00 PM EPT, provided, however, that in the event of an early close of trading on NFI, the Closing Settlement Period shall be a one minute period during the NFI trading day announced in advance by NFX in a Futures Trader Alert.

(d) If the daily settlement price described in (b) above or the final settlement price described in (c) above is unavailable, or if the normal settlement procedure cannot be utilized due to a trading disruption or other unusual circumstance, the Exchange may in its sole discretion establish a daily settlement price or final settlement price that it deems to be a fair and reasonable reflection of the market; provided, however, that this procedure shall not apply if the daily settlement price or the final settlement price is determined in accordance with the Rules and By-Laws of the Clearing Corporation.

2030.07 Trading Algorithm

Pursuant to Chapter IV, Section 5, the trading system shall execute orders within the trading system pursuant to the price-time priority execution algorithm.

2030.08 Block Trade Minimum Quantity Threshold and Reporting Window

Pursuant to Chapter IV, Section 10, block trades shall be permitted with a minimum quantity threshold of ten contracts and the Reporting Window shall be fifteen minutes.

2030.09 Order Price Limit Protection

Pursuant to Chapter IV, Section 8, the Order Price Limits shall be ten basis points (.10) above and below the Reference Price as defined in Chapter IV, Section 8.

2030.10 Non-Reviewable Range

For purposes of Chapter V, Section 5, the non-reviewable range shall be from ten basis points (.10) above and below the true market price for the Contract as set forth in the Exchange's Error Trade Policy.

2030.11 Order Type Exceptions.

The NFX trading system will not accept Tailor Made Combination Orders nor will it generate Implied Orders in U.S. 30-YR DV01 Treasury Futures.

2030.12 Disclaimer

The Exchange uses NFI bids, offers and transaction prices and associated volumes as the basis for settling U.S. 30-YR DV01 Treasury Futures contracts.

NFI has no obligation or liability in connection with the trading of U.S. 30-YR DV01 Treasury Futures and shall not be liable (whether in negligence or otherwise) to any person for any error in the bids, offers and transaction prices and associated volumes provided to the Exchange, and NFI shall not be under any obligation to advise any person of any error therein.

NFI makes no warranty, express or implied, either as to the results to be obtained from the use of the bids, offers and transaction prices and associated volumes it provides to the Exchange, and/or the figures at which that data stands at any particular time on any particular day or otherwise. NFI makes no express or implied warranties of merchantability or fitness for a particular purpose for use with respect to U.S. 30-YR DV01 Treasury Futures contracts.

Exhibit 2 to SR-NFX-2018-18 -- Rulebook Appendix B: Table of Position Limits, Position Accountability Levels and Large Trader Reporting
RULEBOOK APPENDIX B

										SPOT-MONTH							
NFX Rulebook Appendix A Chapter #	Contract Name	Ticker Symbol	Contract Size	Unit of Trading	Type	Settlement	Group	Diminishing Balance Contract	Exchange Reporting Level	Spot-Month Aggregate Into Futures Equivalent Leg (1)	Spot-Month Aggregate Into Futures Equivalent Leg (2)	Spot-Month Aggregate Into Ratio Leg (1)	Spot-Month Aggregate Into Ratio Leg (2)	Initial-Spot Month Accountability Level (In Net Futures Equivalents)	Initial-Spot Month Limit (In Net Futures Equivalents) Leg (1) / Leg (2)	Initial Spot-Month Limit Effective Date	Single Month Aggregate Into Futures Equivalent Leg (1)
	Interest Rate Products																
2002	Nasdaq U.S. 2-YR DV01 Treasury Futures	TUDV	1,000,000	UST DV01	Futures	Financially Settled Futures	Interest Rate		200	TUDV				750	6,000	Close of trading 10 business days prior to the last day of trading in the expiring contract month	TUDV
2005	Nasdaq U.S. 5-YR DV01 Treasury Futures	FVDV	1,000,000	UST DV01	Futures	Financially Settled Futures	Interest Rate		200	FVDV				750	8,500	Close of trading 10 business days prior to the last day of trading in the expiring contract month	FVDV
2010	Nasdaq U.S. 10-YR DV01 Treasury Futures	TYDX	1,000,000	UST DV01	Futures	Financially Settled Futures	Interest Rate		200	TYDX				750	7,000	Close of trading 10 business days prior to the last day of trading in the expiring contract month	TYDX
2030	Nasdaq U.S. 30-YR DV01 Treasury Futures	USDV	1,000,000	UST DV01	Futures	Financially Settled Futures	Interest Rate		150	USDV				1,000	3,000	Close of trading 10 business days prior to the last day of trading in the expiring contract month	USDV

Exhibit 2 to SR-NFX-2018-18 -- Rulebook Appendix B: Table of Position Limits, Position Accou

RULEBOOK APPENDIX B

			SINGLE-MONTH				ALL MONTH				
NFX Rulebook Appendix A Chapter #	Contract Name	Ticker Symbol	Single Month Aggregate Into Futures Equivalent Leg (2)	Single Month Aggregate Into Ratio Leg (1)	Single Month Aggregate Into Ratio Leg (2)	Single Month Accountability Level Leg (1) / Leg (2)	All Month Aggregate Into Futures Equivalent Leg (1)	All Month Aggregate Into Futures Equivalent Leg (2)	All Month Aggregate Into Ratio Leg (1)	All Month Aggregate Into Ratio Leg (2)	All Month Accountability Level Leg (1) / Leg (2)
	Interest Rate Products										
2002	Nasdaq U.S. 2-YR DV01 Treasury Futures	TUDV				1,500	TUDV				1,500
2005	Nasdaq U.S. 5-YR DV01 Treasury Futures	FVDV				750	FVDV				750
2010	Nasdaq U.S. 10-YR DV01 Treasury Futures	TYDX				750	TYDX				750
2030	Nasdaq U.S. 30-YR DV01 Treasury Futures	USDV				1,000	USDV				1,000

Exhibit 3 to SR-NFX-2018-18

NFX DV01 Futures: Cash Market Description and Deliverable Supply

Contract Description

Nasdaq Futures Exchange (NFX) is proposing to list a novel interest rate contract based on yields of US Treasury (UST) securities. Unlike existing products that involve the physically-settled delivery of Treasury Notes and Bonds, Nasdaq's offering will be cash settled and settlement values will be directly tied to the current yields of UST securities. NFX contemplates listing contracts based on yields of securities with 2-, 5-, 10-, and 30-years to maturity. Each contract will cash settle based on the yield of the on-the-run UST security of that exact time to maturity. Reference prices used to determine final settlement will be derived from trading on the Nasdaq Fixed Income (NFI) UST cash market platform.

The quotation for the contract is based on the yield-to-maturity of a UST security, not the security price itself. Specifically, the contract is quoted as 100 – *Yield*, where the yield is expressed in percentage form to three decimal places. For example a yield of 2.761% corresponds to a quote of 97.239. This convention preserves the usual inverse relationship between the yield and contract value: as yield increases contract value decreases, and vice versa.

The notional size of the contract will be determined by applying a contract multiplier to the quotation. The multiplier will be based on the current sensitivity of the value of the underlying with respect to yield changes. This sensitivity is provided by the "DV01" of the underlying, defined as the change in bond value associated with a one basis point change in yield. The DV01 will be based on a security face value of $1 million. The precise level of the DV01 to be used for a given contract will be determined by NFX at the time of listing, and will remain constant during the life of the contract. The contract multiplier is 100 x DV01. Since a one basis point change in yield is represented as 0.01, the change in the value of a single contract associated with a one basis point change is 100 x DV01 x 0.01 = DV01. Thus, the dollar change in the notional value of the contact associated with a one basis point yield change will be approximately the same as the change in the dollar value of a $1 million security.

The proposed tick size for the 2-year contract is 0.002, and that for the others is 0.001. Since the current DV01 for the 2-year Note is about $190 (per $1 million of face value), the 2-year tick of 0.002 amounts to about $38 per contract. Current DV01's for the 5-, 10- and 30-year securities are about $459, $849, and $1,939, implying contract tick amounts of about $46, $85, and $194.

Both daily and final settlement values will be determined by trading between 2:59 pm and 3:00 pm, ET. This timing is consistent with that of existing futures products offered on UST securities. Daily settlement prices will be drawn from NFX trading of the contracts themselves. Specifically, the settlement price will be the average of the one-minute VWAP of trades and the average one-minute bid/offer midpoint. In computing the overall average, the VWAP will receive twice the weight as the midpoint average. The determination of the final settlement price will follow the same methodology, but will be based on trades and quotes from the NFI cash market.

Issuance of Treasury Securities

The US Treasury, in order to fund the operations of the federal government, issues a wide range of debt securities. Among these are:

- Bills, short-term instruments that trade at a discount to par;
- Notes, instruments with maturities between 2 and 10 years that provide a semi-annual payment based on the Note's fixed coupon rate;
- Bonds, similar to Notes but with maturities of 30 years; and
- Treasury Inflation Protected Securities (TIPS), coupon bearing instruments whose principal (i.e. face) value is indexed to general price inflation as measured by the Consumer Price Index.

The proposed NFX contracts are tied to Notes and Bonds with maturities of 2, 5, 10 and 30 years.

At periodic intervals, the Treasury conducts primary auctions of a set (face) dollar amount of securities. Currently, Notes with maturities of 2 and 5 years are auctioned on a monthly basis, while those of 10 and 30 years are auctioned quarterly. Regarding the latter however, issuances of 10- and 30-year securities are often "reopened," meaning that additional amounts of a pre-existing security are auctioned. Often, quarterly 10- or 30-year auctions are followed by two monthly reopenings of securities placed in the original quarterly auctions.

Auction participants submit yield-based bids to the Treasury. The Treasury then determines the lowest bid that allows for the desired auction volume to be filled and all orders are filled at the single clearing price.

Treasury issuances placed during 2018 to date are indicated in the following table[1]:

Amounts of UST Securities Issued 2018 to Date ($ billions)

Month	2-Yr	5-Yr	10-Yr	30-Yr
Jan	$26	$34	$20*	$12*
Feb	$28	$35	$24	$16
Mar	$30	$35	$21*	$13*
Apr	$32	$35	$21*	$13*

* Reopening

During 2017 the average monthly amount auctioned by the Treasury was as follows:

Avg Monthly UST Issuance in 2017 ($ billions)

2-Yr	5-Yr	10-Yr	30-Yr
$26	$34	$21	$13

[1] Information on US Treasury auctions is available at: https://www.treasurydirect.gov/instit/annceresult/press/press_auctionresults.htm.

The figures show an increasing trend in amounts issued in 2018 over than of 2017. Given recent tax reform, it seems unlikely that the supply of recently-auctioned UST securities will decline in the near future.

Secondary Trading of UST Securities

With the primary auction complete, secondary trading of UST securities begins. By industry convention, the most recently auctioned securities of a given maturity are referred to as "benchmark" or "on-the-run." Once a new tranche is issued, formerly on-the-run securities become "off-the-run." A given tranche of 2- and 5-year Notes therefore have a one month on-the-run period while the 10- and 30-year instruments are on-the-run for a quarter. Trading volume of on-the-run securities tends to be much higher than off-the-run.

The secondary trading of UST securities has evolved into two broad segments: Dealer-to-Customer and Inter-Dealer. The Dealer-to-Customer segment involves institutions, insurance companies, foreign central banks, and other end users trading with sell-side dealers, traditionally large banks. The inter-dealer segment, as the name implies, has traditionally been a market in which the dealers trade with each other to manage inventory, presumably to facilitate their customer-facing business. The inter-dealer segment operates on platforms provided by Inter-Dealer Brokers (IDBs). NFI is an example of such an IDB. Other IDBs trading UST securities include the BrokerTec platform operated by NEX Group, and the Dealerweb platform operated by Tradeweb.

During the last two decades, the IDB trading of on-the-run UST securities has become increasingly all electronic (as opposed to voice brokered). Currently trading of on-the-run issues is virtually entirely carried out on electronic order books. Another important development has been the increasing role played by Principal Trading Firms (PTFs). PTFs are firms that do not hold customer accounts. Rather, they trade entirely for the firm's principal account. PTFs are also characterized by their extensive use of high-speed computerized trading strategies. Since they do not deal with customers, PTF's presence in the IDB markets is not to facilitate customer business. Instead, their trading is motivated by finding opportunities for short-term trading gain from exploiting arbitrage opportunities or acting as market makers on the platforms.

It is difficult to precisely measure the size of the secondary market in UST. Unlike stocks, there is no centralized, public data feed providing real-time prices and volumes. Greater transparency may be forthcoming, however, due to the recent addition of UST securities to FINRA's TRACE program.[2] TRACE data for Treasuries has not been publicly disseminated.

A limited public source of volume levels and trends in UST securities can be obtained from weekly surveys conducted by the New York Fed. The New York Fed surveys its "primary dealers" to learn of their transaction volume in UST. The primary dealers, currently numbering 23 firms, act as counterparties to the New York Fed in its implementation of monetary policy.[3] The following chart shows reported daily average volume (in $ millions), broken down by type of counterparty: Customer vs Inter-Dealer Broker. The chart shows figures from January 2015 through March 2018:[4]

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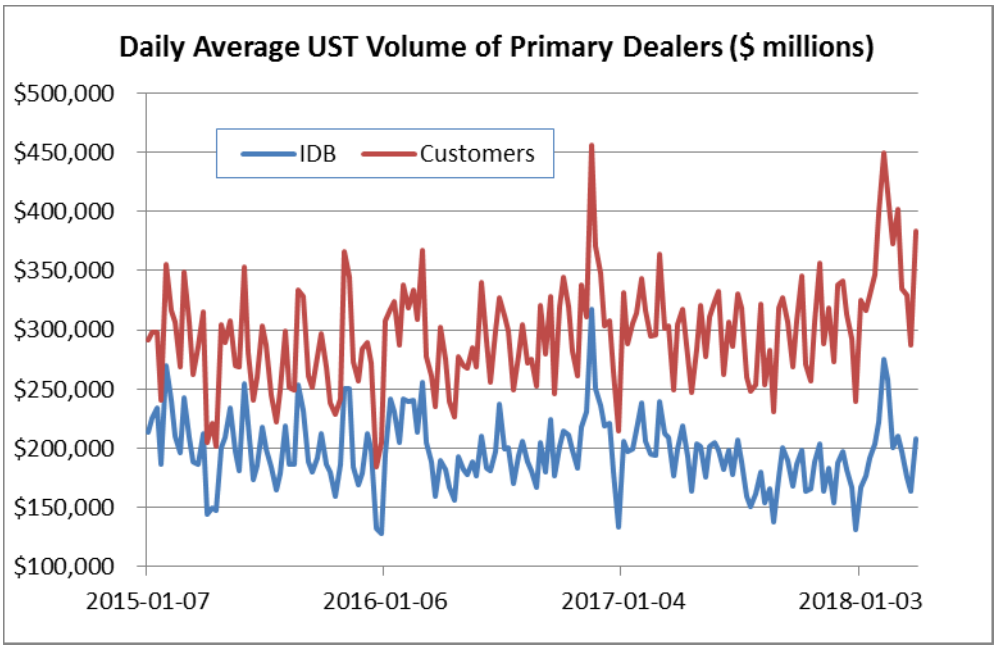
[2] See http://www.finra.org/newsroom/2017/finra-successfully-launches-reporting-treasury-transactions.
[3] See https://www.newyorkfed.org/markets/primarydealers.
[4] Source: https://www.newyorkfed.org/markets/gsds/search.html#.



The chart indicates, roughly, Customer volume of about $300 billion per day, and trading on Inter-Dealer Brokers of about $200 billion per day. During the last year, volume with Customers appears to have increased somewhat, while that with IDBs has declined. There are some important caveats to keep in mind in interpreting the data. First, trades are reported for all UST securities, not just those on-the-run. Second, the IDB figures may include some double counting of volume, because primary dealers often trade with each other on IDB platforms. Third, perhaps most importantly, the survey only covers primary dealers, ignoring smaller banks and Principal Trading Firms. As will be discussed in detail below, PTFs play a very important part of the IDB marketplace.

Background on NFI

The final settlement prices for the proposed NFX contracts will be based on observed prices from Nasdaq's NFI UST platform. NFI, at the time known as eSpeed, was acquired by Nasdaq in 2013 from BGC Partners. Established in 1996 by Cantor Fitzgerald, eSpeed was the industry leader in the adoption of all-electronic trading of UST securities. Cantor Fitzgerald spun off eSpeed as an independent, publicly-traded company in 1999. eSpeed later merged with BGC Partners in 2008.[5]

NFI facilitates matching of subscriber orders in U.S. Treasury securities and is operated by Execution Access, LLC (EA), a subsidiary of Nasdaq, Inc. EA is registered with the U.S. Securities and Exchange Commission as a broker-dealer and is a member organization of the Financial Industry Regulatory Authority (FINRA). Subscribers to NFI are institutional entities, primarily banks, broker-dealers and proprietary trading firms. Orders entered by subscribers may interact with other subscriber orders. EA does not trade in a principal capacity, with the exception of offsetting a bona fide error position through its error account.

[5] Sources: http://ir.nasdaq.com/releasedetail.cfm?releaseid=774689; http://www.cantor.com/; http://www.bgcpartners.com/bgc/history/.

The majority of NFI's volume is in the six benchmark on-the-run UST securities, having maturities of 2, 3, 5, 7, 10, and 30 years. NFI can be characterized as an electronic Central Limit Order Book (CLOB). The system accepts non-marketable limit orders which rest on the book. Incoming marketable orders are matched against the resting orders on the basis of price/time priority (i.e., for a given price, the oldest resting order is matched first).

The standard NFI trading lot size is $1 million of face value. Prices are quoted in terms of percentage of par value (e.g. 98, 101) with fractional amounts expressed in 32nds of a point. The current tick size for 2- and 5-year Notes is one-quarter of 1/32nd. In decimal terms, this tick is 0.78125%, or about $78 for a lot of $1 million. For 10-year notes and the 30-year bond, the tick size is one-half of 1/32nd, which in decimals is 1.5625%, or about $156 for a $1 million lot.

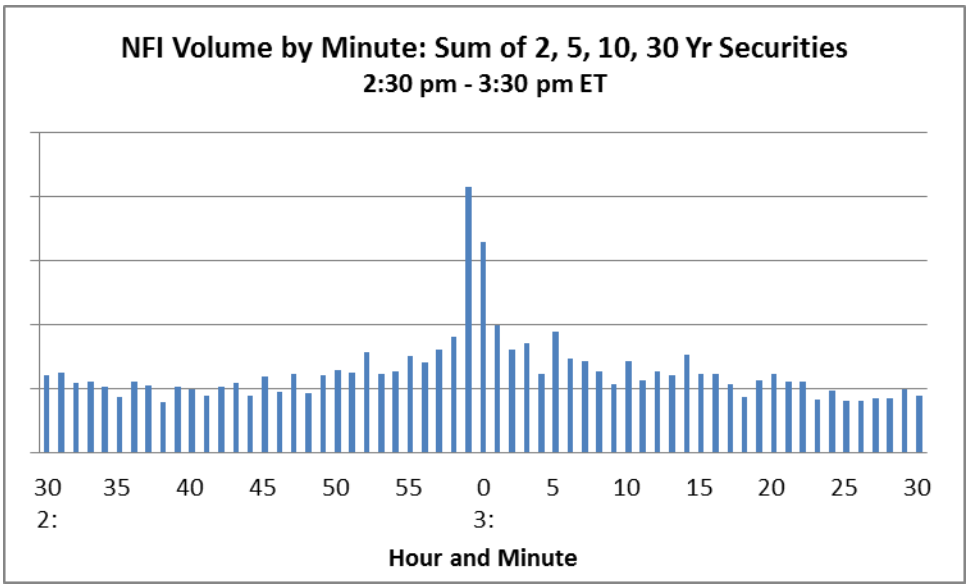
NFI operates 22 hours per day, from 7:30 pm ET through 5:30 pm ET the following day. These hours accommodate the global demand for UST securities. The 22-hour period can be roughly divided into the Asian, European, and North American sessions.

The following table shows average NFI daily volumes (in $millions) for the indicated on-the-run security.

Average Daily NFI Volume ($ millions) by Quarter

Quarter	2-Year	5-Year	10-Year	30-Year
2015.1	9,202	21,292	16,312	2,469
2015.2	9,204	19,948	16,402	2,432
2015.3	9,146	17,976	13,529	2,194
2015.4	6,062	14,321	9,690	1,632
2016.1	6,903	16,713	12,159	1,543
2016.2	6,499	13,384	10,028	1,242
2016.3	6,003	11,351	9,278	1,494
2016.4	6,677	14,378	10,990	1,779
2017.1	5,760	14,328	9,526	1,541
2017.2	6,001	12,173	9,001	1,480
2017.3	3,682	11,378	8,294	1,433
2017.4	4,704	11,127	8,133	1,560
2018.1	5,959	14,341	11,115	1,931

The proposed daily and final settlement procedures call for volume and quotation information from 2:59 pm to 3:00 pm ET, consistent with practices of existing futures contracts. The following chart shows the relative level of NFI volume for the indicated securities from 2:30 pm through 3:30 pm. The chart breaks down volume by minute increment.



There is clearly a volume spike immediately before and after 3:00 pm, indicating the connection between futures settlement and the cash market. Indeed, by industry convention, the 3:00 pm price for a UST security represents something of a "closing" price, even though trading continues after this time. This finding illustrates that liquidity in UST securities is highest at the time designated for determination of settlement prices.

NFI Oversight

As mentioned above, NFI is operated by a registered broker-dealer and FINRA member. In the NFI Trading Manual, EA acknowledges its regulatory obligation to ensure that Subscribers' and their authorized traders' activities on NFI are conducted in compliance with federal, state and self-regulatory organization laws, rules and regulations. In accordance with these objectives, EA states that it will seek to maintain at all times a fair and orderly market to ensure that NFI is not used for any improper purpose, including but not limited to fraud, manipulation and disruptive or deceptive practices. EA has implemented both operational and compliance best practices including those as advised by industry groups, such as the Treasury Market Practices Group, to promote and maintain the integrity and efficiency of NFI and the overall U.S. Treasury market as well as a robust internal-control environment. The Trading Manual makes clear that, as a registered securities broker-dealer, EA has responsibilities under SEC and FINRA rules to surveil for market manipulation, fraud, and disruptive and deceptive activities on NFI, including giving the false impression of market price, depth or liquidity (e.g., layering or spoofing, painting the tape, and improper self-matching); inhibiting the provision of liquidity by others causing undue latency or delays in other Subscribers executions (e.g. throttling); deliberately acting to cause error trades; and causing or exacerbating settlement failures.

Intermarket Linkage.

Unlike the case with equities, there is no publicly-available data feed that consolidates UST trading information from the IDBs or from dealers trading with customers. Thus there is no direct empirical data as to the precise relative sizes of the various markets. Nasdaq believes that NFI is the second-largest IDB

behind BrokerTec, with market share approximating 20%. In assessing the overall liquidity of a given single market, however, it is important to recognize the linkages that exist between markets. These linkages are based on the presence of market participants that simultaneously trade on multiple markets. These linkages work towards amplifying the liquidity on any given market.

Evidence for this point is provided by the Joint Staff Report that was created in response to the unusual volatility in the Treasury market on October 15, 2014.[6] The agencies that created the report obtained participant-level order book information from both BrokerTec and eSpeed (as NFI was then called). Much of the analysis presented in the report is based on the BrokerTec data, though it was determined that the levels of concentration and participation levels were found to be similar across both platforms (page 12, fn 10). The study also used similar participant-level data from the CME, the operator of the Treasury futures markets. The study provides a useful view into the UST cash market as it stood in the fall of 2014.

Among the key findings of the report is the high level of PTF participation in the cash market on both the high volatility period of October 15 as well as in less volatile periods. Across all instruments, PTFs account for roughly half of volume. Further, this volume is highly concentrated among the top 10 PTFs (page 59, tables 3.3 and 3.7). Nasdaq concurs with the study that similar levels of PTF participation exist on NFI. The significance of this finding is as follows. Of all market participants, PTFs are arguably the most inclined and able to observe and exploit cross-market pricing differences. This inclination is tied to their focus on finding short-term profit opportunities. The widespread presence of PTFs ensures that pricing across multiple cash markets is uniform. Temporary dislocations in one market would be quickly be arbitraged away.

The report makes a similar point concerning the linkages between the cash market and the futures market. For instance, it was found that trades by the top 10 PTFs in 10-year futures were frequently followed by trades by the same firms in the 10-year cash market, with roughly a 5 millisecond lag. This lag is just above the theoretical minimum latency between the Chicago-area data center serving futures and the eastern New Jersey data centers serving the cash markets (page 53).

Again, the key point is that the "market" for UST is larger than any single CLOB. Linkages between various cash and futures platforms combine to create virtual pools of liquidity far larger than that observed on any individual pool.

Deliverable Supply Analysis

NFX presents the following deliverable supply analysis using information provided by the US Treasury.[7] Consistent with Core Principle 3 of the Commodity Exchange Act, and Appendix C to Part 38 of the CFTC's rules, NFX bases the definition of deliverable supply as those benchmark UST securities that are currently on-the-run, meaning that they represent the most recently issued tranche of securities for a given

[6] See *Joint Staff Report: The U.S. Treasury Market on October 15, 2014*, prepared by representatives of the U.S. Treasury, Commodities and Futures Trading Commission, Securities and Exchange Commission, Board of Governors of the Federal Reserve, and the New York Fed. Available at: https://www.treasury.gov/press-center/press-releases/Documents/Joint_Staff_Report_Treasury_10-15-2015.pdf.

[7] See https://www.treasurydirect.gov/instit/annceresult/press/press_auctionresults.htm.

maturity, which for purposes of the proposed contracts are 2, 5, 10, and 30 years. Below is guidance provided for in Appendix C to Part 38.

In general, the term "deliverable supply" generally means the quantity of the commodity meeting a derivative contract's delivery specifications that can reasonably be expected to be readily available to short traders and saleable by long traders at its market value in normal cash marketing channels at the derivative contract's delivery points during the specified delivery period, barring abnormal movement in interstate commerce.[8]

The table below shows US Treasury monthly issuance amounts from 2015-2017. As can be immediately seen, the monthly amounts are quite consistent, exhibiting minor occasional shifts. In the case of the 10- and 30-year securities, initial auctions are held quarterly on a Feb/May/Aug/Nov cycle, with slightly smaller re-openings held on the other months.

[8] http://www.cftc.gov/idc/groups/public/@lrfederalregister/documents/file/2012-12746a.pdf

Monthly US Treasury Issuances of Benchmark Securities ($ billions)

	2-yr	5-yr	10-yr	30-Yr
2017				
Jan	$26	$34	$20	$12
Feb	$26	$34	$23	$15
Mar	$26	$34	$20	$12
Apr	$26	$34	$20	$12
May	$26	$34	$23	$15
Jun	$26	$34	$20	$12
Jul	$26	$34	$20	$12
Aug	$26	$34	$23	$15
Sep	$26	$34	$20	$12
Oct	$26	$34	$20	$12
Nov	$26	$34	$23	$15
Dec	$26	$34	$20	$12
2016				
Jan	$26	$35	$21	$13
Feb	$26	$34	$23	$15
Mar	$26	$34	$20	$12
Apr	$26	$34	$20	$12
May	$26	$34	$23	$15
Jun	$26	$34	$20	$12
Jul	$26	$34	$20	$12
Aug	$26	$34	$23	$15
Sep	$26	$34	$20	$12
Oct	$26	$34	$20	$12
Nov	$26	$34	$23	$15
Dec	$26	$34	$20	$12
2015				
Jan	$26	$35	$21	$13
Feb	$26	$35	$24	$16
Mar	$26	$35	$21	$13
Apr	$26	$35	$21	$13
May	$26	$35	$24	$16
Jun	$26	$35	$21	$13
Jul	$26	$35	$21	$13
Aug	$26	$35	$24	$16
Sep	$26	$35	$21	$13
Oct	$26	$35	$21	$13
Nov	$26	$35	$24	$16
Dec	$26	$35	$21	$13

Nasdaq

Exhibit 4 to SR-NFX-2018-18

U.S. DV01 TREASURY FUTURES

NASDAQ FUTURES, INC. (NFX) CONTRACT SPECIFICATIONS

CONTRACT NAME	U.S. 2-YR DV01 Treasury Futures U.S. 5-YR DV01 Treasury Futures U.S. 10-YR DV01 Treasury Futures U.S. 30-YR DV01 Treasury Futures
DESCRIPTION	Cash settled On The Run U.S. Treasury expressed as 100 minus the yield of the corresponding U.S. Treasury Note or bond (UST 2yr yield 1.98%; 100-1.98 = 98.02). The minimum trading tick increment is equivalent to two tenths (2YR) or one tenth (5YR, 10YR, 30YR) of the dollar value of one basis point (DV01) change in yield of the current On The Run U.S. Treasury as defined in contract rules.
UNDERLYING INTEREST	One hundred times the dollar value (DV01) assigned by the Exchange at the time of listing for each contract month, of a one basis point change in yield of the current On The Run U.S. Treasury security with a face value of $1,000,000 having fixed semi-annual coupon payments.
TICKER SYMBOLS	2-YR = TUDV 5-YR = FVDV 10-YR = TYDX 30-YR = USDV | (Base Trading Symbols)
CONTRACT MONTHS	Up to 12 consecutive or non-consecutive monthly contracts, beginning with the nearest available month.
TRADING HOURS	7:00 PM to 6:00 PM Eastern Prevailing Time (EPT) Sunday through Friday.
TRADING PLATFORM	Nasdaq Futures Inc. (NFX)
MINIMUM PRICE INTERVAL DOLLAR VALUE PER TICK	Outright and Spreads: Fractional Basis Point increments: 0.001 → 0.002 → 0.003 1.980% (100-1.980) equals 98.020 1.981% (100-1.981) equals 98.019 1.982% (100-1.982) equals 98.018 1.983% (100- 1.983) equals 98.017 1.984% (100- 1.984) equals 98.016 The increment between ticks equals the dollar value of fractional basis points of the current OTR Treasury, as defined in contract rules.* UST 2yr equals $190 [0.002 = $38.00] UST 5yr equals $460 [0.001 = $46.00] UST 10yr equals $860 [0.001 = $86.00] UST 30yr equals $1940 [0.001 = $194.00] *For clarification, each contract month will be listed with an updated DV01 dollar value corresponding to the respective On The Run U.S. Treasury indicated in an NFX Futures Trader Alert.
DAILY SETTLEMENT PRICE	Quality Weighted Average Price ("QWAP") shall be determined by reference to the Yield-Derived Price of best bids, best offers, and executed transactions in the corresponding U.S. DV01 Treasury futures on the Nasdaq Futures, Inc. (NFX) Trading System Order Book during the settlement period for the contract (the "Settlement Period") as described in the Daily Settlement section of each product rule.
LAST TRADING DAY	2-YR and 5-YR, the last NFX and NFI trading day of the contract month; trading ceases at 3 PM EPT. 10-YR and 30-YR, the 15th day of the contract month if an NFX and NFI trading day, otherwise the preceding NFX and NFI trading day; trading ceases at 3 PM EPT.
FINAL SETTLEMENT	Final settlement for contracts held to expiration is by cash settlement in U.S. dollars.
FINAL SETTLEMENT DATE	Final Settlement Date is the next business day on which the Options Clearing Corporation is open for settlement following the Last Trading Day.
FINAL SETTLEMENT PRICE	Closing Quality Weighted Average Price ("Closing QWAP") shall be determined by reference to the yield of best bids, best offers, and executed transactions in the corresponding U.S. Treasury security on the Nasdaq Fixed Income (NFI) Alternative Trading System Order Book during the settlement period for the contract (the "Closing Settlement Period") as described in the Final Settlement section of each product rule. The Final Settlement Price shall be calculated on the Last Trading Day.
CLEARINGHOUSE	The Options Clearing Corporation

MORE INFORMATION BUSINESS.NASDAQ.COM/FUTURES / FUTURES@NASDAQ.COM

Exhibit 5 to SR-NFX-2018-18

	Time	Bid Size	Bid Yield	Offer Yield	Offer Size	(D*F+E*G)/(D+G) Wtd Mid	Seconds of Mid	I*J	Trade Size	Trade Yield	M*N
initial market state	2:59:00	200	2.75	2.745	400	2.74833	5	13.74167			
new buyer of 100m	2:59:05	100	2.748	2.745	400	2.7474	10	27.474			
		200	2.75								
existing seller agresses to sell all 100m	2:59:15	200	2.75	2.745	300	2.748	20	54.96	100	2.748	274.8
Additional buyer	2:59:35	300	2.75	2.745	300	2.7475	10	27.475			
new seller of 400m	2:59:45	300	2.75	2.746	400	2.748286	15	41.22429			
					300	2.7475					
new buyer aggresses to buy 350m	3:00:00	300	2.75	2.746	50	2.74657	0	0	350	2.746	961.1
						SUM	60	164.87495	450		1235.9

Raw TWAP	2.74792	Raw VWAP	2.74644
		Raw QWAP	2.7469349
		Rounded QWAP	**2.747**

Exhibit 6 to SR-NFX-2018-18

View Online Version

Monday, July 2, 2018

Futures Trader Alert #2018 - 12

Initial Listing & Margin Notice for U.S. DV01 Treasury Futures Contract for Trade Date July 19, 2018 + OCC Sample SPAN File Available

Category:

- System Impact

Markets Impacted:

- Nasdaq Futures, Inc.

Contact Information:

- U.S. Market Operations - Futures & Options at +1 215 496 5409
- U.S. Market Sales at +1 844 236 3191
- Futures Sales
- Futures Regulation
- NFX Market Operations

Pending all regulatory approvals, effective with the Open Session on July 18, 2018 for Trade Date July 19, 2018, the Exchange will list the following Futures Contract:

Rulebook Appendix A Chapter	Name of Energy Futures Contract and Trading Symbol	Number of Contract Months Listed	First and Last Months
2010	U.S. 10-YR DV01 Treasury Futures (Base symbol TYDX)	1	Nov. 2018

Exchange rules provide that the underlying interest in 10-YR DV01 Treasury Futures contracts is the dollar value (DV01) of a one basis point change in yield of the current On-The-Run 10-year U.S. Treasury note with a face value of one million dollars having fixed semi-annual coupon payments, as determined by the Exchange. The Exchange has determined that the DV01 for TYDX is $850.

TYDX prices are quoted in Yield-Derived Price, which is 100 minus the yield on the corresponding 10-year U.S. Treasury note expressed as a percentage. (For example, a yield of 2.065 percent shall be expressed as a Yield-Derived Price of 97.935.) The minimum increment is one tenth basis point (.001), which is equivalent to one-tenth of the contract month DV01. Accordingly, the TYDX minimum increment is $85.00.

When the Exchange lists additional U.S. 10-YR DV01 Treasury Futures contract months, those contract months will be assigned a base trading symbol and a DV01. The DV01 assigned by the Exchange at the time of listing will not change for the life of the contract month. There will never be a contract month with variable DV01 dollar values. Contract months having the same DV01 will be assigned the same base symbol.

The Options Clearing Corporation (OCC) has informed the Exchange that a sample U.S. 10-YR DV01 Treasury Futures SPAN file is available to OCC Member Firms upon request from assigned Member Services Representatives.

For additional information, please contact NFX Market Operations.

Exhibit 6 to SR-NFX-2018-18

How will speculative customer initial margin be determined?
Pursuant to CFTC regulations, The Options Clearing Corporation ("OCC") will set the speculative customer initial margin requirement on NFX futures and options on futures. CFTC regulations require OCC to set the customer initial margin requirement at an amount that is higher than OCC's clearing member margin requirement. OCC has advised NFX that the customer initial margin requirement for NFX contracts will be set to a dollar amount that equals 110% of the greater of Value-at-Risk (VaR) level calculated using a 99% confidence interval for the daily price returns using a 2-year and 5-year look-back period (on a per contract basis). In addition, for products having an economically equivalent contract listed on another market center, OCC will not allow its rates to fall below that of the primary listing exchange. OCC has advised NFX that customer initial margin requirement are reset approximately every 90 calendar days and monitored daily, with rates being re-set should a one-day change in settlement price exceed the prevailing rate at the time. In addition, OCC has authority to update customer initial margin requirements at any time, if deemed warranted, and as dictated by market conditions.

How will customer maintenance margin be determined?
NFX has adopted OCC's VaR calculation as described above as the customer maintenance margin requirement.

How will hedge customer initial margin and futures participant initial margin be determined?
NFX has adopted OCC's VaR calculation as described above as the initial and maintenance margin requirement for hedge customers and Futures Participants.

Where can I find the margin rates?
NFX margin rates will be available on the OCC website at: www.theocc.com.
For additional information, please contact NFX Market Operations or call 215.496.5409.

U.S. COMMODITY FUTURES TRADING COMMISSION

Ensuring the Integrity of the Futures & Swaps Markets

DCM Products

Submitter Information

Organization Name NASDAQ Futures, Inc.	
Organization Type DCM	Organization Acronym NQF
Submitted By ccull	Email Address christopher.cull@nasdaq.com

Cover Sheet

Submission Number 1807-0214-3538-70	Submission Date 7/2/2018 2:35:38 PM
Submission Type 40.2(a) Product Certification	
☐	Request Confidential Treatment
Registered Entity Identifier Code SR-NFX-2018-18	
Intended Listing Date 7/18/2018	
☐	Listing Date Unknown

Product Information

Official Product Name U.S. 2-YR DV01 Treasury Futures	
Product Type Future	Settlement Method Cash Settlement
Product Group Financial Instrument	Product Sub Group Interest Rate
☐	Novel Product Subject to Jurisdictional Determination
Product Publication Website http://business.nasdaq.com/nasdaq-futures/regulation	

Documents

SR-NFX-2018-18 Rule Certification.docx
SR-NFX-2018-18 Exhibit 1.docx
SR-NFX-2018-18 Exhibit 2.pdf
SR-NFX-2018-18 Exhibit 3.docx
SR-NFX-2018-18 Exhibit 4.docx
SR-NFX-2018-18 Exhibit 5.pdf
SR-NFX-2018-18 Exhibit 6.docx

Request For Confidential Treatment - Detailed Written Justification

N/A

U.S. COMMODITY FUTURES TRADING COMMISSION

Ensuring the Integrity of the Futures & Swaps Markets

DCM Products

Submitter Information

Organization Name NASDAQ Futures, Inc.	
Organization Type DCM	Organization Acronym NQF
Submitted By kregan	Email Address kerry.regan@nasdaq.com

Cover Sheet

Submission Number 1807-0214-5156-64	Submission Date 7/2/2018 2:51:56 PM
Submission Type 40.2(a) Product Certification	
☐	Request Confidential Treatment
Registered Entity Identifier Code SR-NFX-2018-18	
Intended Listing Date 7/18/2018	
☐	Listing Date Unknown

Product Information

Official Product Name U.S. 30-YR DV01 Treasury Futures	
Product Type Future	Settlement Method Cash Settlement
Product Group Financial Instrument	Product Sub Group Interest Rate
☐	Novel Product Subject to Jurisdictional Determination
Product Publication Website http://business.nasdaq.com/nasdaq-futures/regulation	

Documents

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SR-NFX-2018-18 Exhibit 3.docx
SR-NFX-2018-18 Exhibit 4.docx
SR-NFX-2018-18 Exhibit 5.pdf
SR-NFX-2018-18 Exhibit 6.docx

Request For Confidential Treatment - Detailed Written Justification

N/A

U.S. COMMODITY FUTURES TRADING COMMISSION

Ensuring the Integrity of the Futures & Swaps Markets

DCM Products

Submitter Information

Organization Name NASDAQ Futures, Inc.	
Organization Type DCM	Organization Acronym NQF
Submitted By ccull	Email Address christopher.cull@nasdaq.com

Cover Sheet

Submission Number 1807-0214-4426-96	Submission Date 7/2/2018 2:44:26 PM
Submission Type 40.2(a) Product Certification	
☐	Request Confidential Treatment
Registered Entity Identifier Code SR-NFX-2018-18	
Intended Listing Date 7/18/2018	
☐	Listing Date Unknown

Product Information

Official Product Name U.S. 5-YR DV01 Treasury Futures	
Product Type Future	Settlement Method Cash Settlement
Product Group Financial Instrument	Product Sub Group Interest Rate
☒	Novel Product Subject to Jurisdictional Determination
Product Publication Website http://business.nasdaq.com/nasdaq-futures/regulation	

Documents

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SR-NFX-2018-18 Exhibit 4.docx
SR-NFX-2018-18 Exhibit 5.pdf
SR-NFX-2018-18 Exhibit 6.docx

Request For Confidential Treatment - Detailed Written Justification

N/A

U.S. COMMODITY FUTURES TRADING COMMISSION

Ensuring the Integrity of the Futures & Swaps Markets

DCM Products

Submitter Information

Organization Name NASDAQ Futures, Inc.	
Organization Type DCM	Organization Acronym NQF
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Cover Sheet

Submission Number 1807-0214-5156-64	Submission Date 7/2/2018 2:51:56 PM
Submission Type 40.2(a) Product Certification	
☐	Request Confidential Treatment
Registered Entity Identifier Code SR-NFX-2018-18	
Intended Listing Date 7/18/2018	
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Product Information

Official Product Name U.S. 30-YR DV01 Treasury Futures	
Product Type Future	Settlement Method Cash Settlement
Product Group Financial Instrument	Product Sub Group Interest Rate
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Request For Confidential Treatment - Detailed Written Justification

N/A