Via Portal Submission

September 20, 2019
MGEX Submission No. 19-23

Mr. Christopher J. Kirkpatrick
Secretary of the Commission
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street NW
Washington, DC 20581

RE: Listing New Product for Trading by Certification Pursuant to CFTC Regulation 40.2

Dear Mr. Kirkpatrick:

Pursuant to Section 5c(c) of the Commodity Exchange Act ("CEAct") and Commodity Futures Trading Commission ("CFTC") Regulation 40.2(a), the Minneapolis Grain Exchange, Inc. ("MGEX" or the "Exchange") hereby certifies that the following attached Rules containing the terms and conditions and governing the trading of futures on the SPIKES™ Index, as well as the product itself, comply with the CEAct and the CFTC regulations promulgated thereunder. MGEX further certifies that notice of pending product certification with the CFTC and a copy of this submission (other than those exhibits for which confidential treatment has been requested) have been posted on the MGEX website at the following link: http://www.mgex.com/regulation.html.

Attached as exhibits to this submission are the following:

1. New Chapter 83 Rules, which the MGEX Board of Directors unanimously approved the adoption of on September 16, 2019 pursuant to the authority set forth in Bylaw 210.01. (see Exhibit A). These product Rules include all Rules related to the terms and conditions of the contract. There were no substantive opposing views expressed by the Board, nor is MGEX aware of any substantive opposing views with respect to this filing.

2. A concise explanation and analysis of the product and its compliance with applicable core principles and CFTC regulations (see Exhibit B).

3. Information about the contract and its development, a detailed cash

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market description, an analysis of the economic need and justification for the contract, and other information demonstrating that the contract is not readily susceptible to manipulation, as required by Appendix C to Part 38 of CFTC regulations (see Exhibit C).

4. A description and evidence of why the SPIKES Index should be classified as a broad-based security index (see Exhibit D).

MGEX is requesting confidential treatment of Exhibits C and D in accordance with Regulations 40.8 and 145.9. An additional redacted version of this submission is included as required by Regulation 40.8(c)(3).

In an effort to receive public and market participant feedback regarding the contract, the Exchange published the proposed product Rules and contract specifications on its website on September 4, 2019 and issued a memo to Clearing Members seeking feedback. As of the time of this submission, no material concerns have been received.

MGEX intends to list the SPIKES futures contract for trading on the CME Globex® platform commencing on the November 18, 2019 trade date. Should the Exchange change this date, it will post notice on its website of the new launch date when known.

If there are any questions regarding this submission, please contact me at (612) 321-7143 or lhopkins@mgex.com. Thank you for your attention to this matter.

Sincerely,

Lindsay Hopkins

Lindsay Hopkins
Clearing House Counsel

Enclosures

EXHIBIT A

The Exchange is amending its Rules by adding the following chapter to the MGEX Rules.

CHAPTER 83
SPIKES VOLATILITY INDEX FUTURES

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SPIKES VOLATILITY INDEX FUTURES

83.1. AUTHORITY.

Trading in SPIKES Volatility Index Futures (base symbol ‘SPK’) may be conducted under such terms and conditions as the Board of Directors and/or the Exchange will determine, subject to the Commodity Exchange Act, as amended, and CFTC regulations promulgated thereunder.

83.2. SCOPE OF CHAPTER.

This Chapter is limited in its application to Futures trading of the SPIKES Volatility Index. Electronic trading, clearing, daily settlement, delivery of cash settlement, and any other matters not specifically covered in this Chapter will be governed by the MGEX Rules, or otherwise delegated to the Exchange to establish policies and procedures that implement the MGEX Rules. In the event the provisions of this Chapter conflict with any other MGEX Rules, those listed within this Chapter and as applicable to the SPK Futures Contract supersede such MGEX Rules outside of this Chapter.

83.3. SPIKES VOLATILITY INDEX: DEFINITION.

The SPIKES Volatility Index (“SPIKES”) is a real-time market index that measures the expected 30-day forward looking volatility in the SPDR S&P 500 ETF Trust (“SPY”). SPIKES is calculated using SPY option prices and interpolates between two expirations’ computed variances to determine the 30-day expected volatility.

83.4. CONTRACT TRADING UNIT.

The unit of trading will be the value of the SPK Futures Contract multiplied by one thousand U.S. dollars ($1,000). For example, if the SPIKES value was 13.5, one SPK Futures Contract would equal $13,500 (13.5 x $1,000.00.)

83.5. MINIMUM PRICE INCREMENT.

Except as provided in this Rule, the minimum price increment in the SPK Futures Contract will be 0.05 index points, which has a value of $50.00. All prices are quoted in U.S. dollars.

For spread trades, the individual legs and net prices in the SPK Futures Contract may be in increments of 0.01 index points, which has a value of $10.00.

83.6. TRADING MONTHS.

The months available for trading in SPK Futures Contracts and the number of months available for trade at one time will be determined by the Board of Directors.

83.7. TRADING DAYS AND HOURS.

A trading day is a Business Day on which trading of SPK Futures Contracts is permitted. Trading days are determined by the Exchange. The Hours of Trading for SPK Futures Contracts during extended and regular Hours of Trading will constitute a single trading session for a

Business Day. All times noted below are in Central Time.

Unless otherwise specified by the Exchange in relation to Exchange holidays, the Hours of Trading for SPK Futures will be the following:

Regular Trading Hours:

8:30 a.m. - 3:15 p.m. Monday – Friday

Extended Trading Hours:

5:00 p.m. - 8:30 a.m. Sunday – Friday*

3:30 p.m. - 4:00 p.m. Monday – Friday

For the avoidance of doubt, the start of each new trading day begins with the start of trading at 5:00 p.m. Central Time.

* The extended trading hours for Friday trade dates begin at 5:00 p.m. on Thursday and end at 8:30 a.m. Central Time on Friday.

83.8. LAST TRADING DAY.

The last trading day is at 8:00 a.m. (Central Time) on the settlement day, generally the Wednesday thirty (30) calendar days preceding the third Friday of the following calendar month. In the event Wednesday is a scheduled holiday, the settlement date will be moved one day prior to Tuesday. In the event Wednesday is an unscheduled holiday, the settlement date will be moved one day later to Thursday. Should the third Friday of the following calendar month be a holiday, the settlement date will be moved one day prior to Tuesday.

83.9. DAILY PRICE LIMITS.

For the purpose of this Rule, Price Limits and the following provisions are applied only to extended Hours of Trading as defined in MGEX Rule 83.7.:

A. Each SPK Futures Contract will have a price limit that is seventy percent (70%) above the daily settlement price for that SPK Futures Contract for the prior Business Day ("Upper Price Limit") and a price limit that is thirty percent (30%) below the daily reference price for that SPK Futures Contract for the prior Business Day ("Lower Price Limit"). An Upper Price Limit and a Lower Price Limit may jointly be referred to as a "Price Limit."

B. Price Limits will be applicable with respect to the execution of single leg SPK orders. Price Limits will apply to SPK spread orders with respect to the individual legs and may not be executed at a price that is above the Upper Price Limit, or below the Lower Price Limit, for a respective single leg SPK Futures Contract.

C. Price Limits are in effect during the opening process for a SPK Futures Contract.

D. In calculating a Price Limit, if the calculation results in a Price Limit that falls between two minimum price increment sizes for the SPK Futures Contract, the

Upper Price Limit will always be rounded down and the Lower Price Limit will always be rounded up.

E. The daily settlement price that will be utilized to calculate the Price Limits for a newly listed SPK Futures Contract will be the daily settlement price of the SPK Futures Contract with the nearest expiration date, in calendar days, to the expiration date of the newly listed SPK Futures Contract. If there is an equal amount of calendar days between a SPK Futures Contract with an earlier expiration date and a SPK Futures Contract with a later expiration date, the daily settlement price of the SPK Futures Contract with the earlier expiration date will be utilized.

F. Notwithstanding any provisions of this Rule, the Exchange may, in its absolute and sole discretion, take any action it determines necessary or advisable to protect market integrity, including but not limited to, modifying or eliminating the Price Limit parameters established above.

83.10. OFFICIAL CLOSING PERIOD.

The official closing period of the SPK Futures Contract will be from 3:14:00 p.m. to 3:14:59 p.m. Central Time.

Notwithstanding the foregoing, for an expiring SPK Futures Contract month, the expiring contract month’s closing period will be from 7:59:00 a.m. to 7:59:59 a.m.

83.11. DAILY SETTLEMENT PRICE.

The Exchange will calculate the daily settlement price for each SPK Futures Contract in the following manner for each Business Day. The settlement price will be consistent with the minimum fluctuations of the contract.

A. The settlement price for the lead month will be determined by the volume-weighted average of outright trades and applicable bids and offers made in the closing period on the Electronic Trading System. For purposes of this Rule, the lead month will be determined by the Exchange and is generally the most active month. The lead month will change at the time when the daily volume and open interest in the contract month following the current lead month is greater than the daily volume and open interest in the lead month for two (2) consecutive business days. If there is no volume-weighted average of the outright, then the last trade price is compared to the current bid/ask. If the last trade price is outside of the bid/ask spread, then the contract settles to the nearest bid/ask price. If the last trade price is within the bid/ask spread or if a bid/ask is not available, then the contract settles to the last trade price. If there is no last trade price available, then the prior settlement is compared to the current bid/ask. If the prior settlement is outside of the bid/ask spread, then the contract settles to the nearest bid/ask price. If the prior settlement is within the bid/ask spread or if a bid/ask is not available, then the contract settles to the prior settlement price.

B. All non-lead months are deferred contract months and settle based upon the volume-weighted average of calendar spread transactions made in the closing period on the Electronic Trading System. If there are no relevant calendar spreads, bids and offers in those calendar spreads will be used in conjunction with settlements from any months where a settlement price has been determined to form an implied market in the contract to be settled. These implied markets, along with the outright bid/ask market for the contract, will be used to derive the best possible bid and best possible ask, and the contract will settle at the midpoint of the bid/ask spread.

C. Notwithstanding the above, if such settlement price is not consistent with the settlements in other months or with market information, or if the settlement was inaccurately determined, a new settlement price may be established at a level consistent with such other settlement prices or market information and a written record setting forth the basis for any modification of such settlement price will be prepared.

D. The Exchange may in its sole discretion modify the settlement price prior to the start of the day's final clearing process if the settlement price arose from data entry errors made by or on behalf of the Exchange, and modification of the settlement price is necessary to prevent market distortion. A written record will be prepared setting forth the basis for any modification. In addition, the Exchange reserves the right to change which contract month is the lead month when, in its discretion, doing so is in the best interest of the marketplace. If any such change to the lead month is made pursuant to this Rule, the Exchange shall provide notification to the public via the MGEX website or other means it deems effective

83.12. TRADING HALTS.

The Exchange will take into consideration any trading halt in the SPY and/or the SPIKES Options contract in determining whether to halt trading in the SPK Futures Contract.

Additional trading halts can be triggered by volatility in the underlying S&P 500 Index, including the following market declines:

A. Level 1: 15-minute trading halt following a seven percent (7%) decline in the S&P 500 Index (unless decline occurs after 2:25 p.m. Central Time or 11:25 a.m. Central Time in the case of early close).

B. Level 2: 15-minute trading halt following a thirteen percent (13%) decline in S&P 500 Index (unless decline occurs after 2:25 p.m. Central Time or 11:25 a.m. Central Time in the case of early close).

C. Level 3: Trading halt for the remainder of the trading session following a twenty percent (20%) decline in the S&P 500 Index, effective during all regular Hours of Trading.

Additional trading halts in the SPK Futures Contract can be triggered from a correlated trading halt in the E-mini S&P Futures Contract traded on CME; however, these halts are limited to the trading times of (i) 3:00 p.m. to 3:15 p.m. Central Time during regular Hours of Trading, or (ii) during extended Hours of Trading.

83.13. CASH SETTLEMENT.

Settlement of SPK Futures Contracts will result in the delivery of a cash settled amount on the Business Day immediately following the settlement date. The final cash index settlement price of the expiring SPK Futures Contract is determined by the opening prices of the SPY options market as traded on the Miami International Securities Exchange LLC ("MIAX"). The final settlement price of the SPK Futures Contract will be rounded to the nearest $0.01. If the settlement price is not available or the normal settlement procedure cannot be utilized due to a trading disruption or other unusual circumstance, the settlement price will be determined in accordance with Exchange Procedures.

MIAX and the Exchange make no warranty, express or implied, as to the results of the final cash index settlement price. Information included in, or used in the calculation of, such index is obtained from sources believed to be reliable, but neither MIAX nor the Exchange guarantee its accuracy or completeness and will have no liability for any damages, claims, losses (including any indirect or consequential losses), expenses, or delays, whether direct or indirect, foreseen or unforeseen, suffered by any person arising out of any circumstance or occurrence relating to the index or its calculation, or arising out of any errors or delays in calculating or disseminating such index.

83.14. OFFSETS AND TRANSFER TRADES.

Positions reported as offsets and/or position change data must be reported to the Clearing House each day by the established deadlines and in a manner that meets the provisions of MGEX Resolution 2101.00.C. Positions that have been offset at the Exchange may not subsequently be re-opened at the Exchange.

Except by same day trade activity, existing SPK Futures positions in an expiring SPK Futures Contract month may not be offset during the period beginning two (2) Business Days prior to the first Business Day of the expiring month and continuing through the end of the settlement date of the expiring SPK Futures Contract ("Prohibition Period"). Clearing Members will be responsible for compliance with this requirement by their omnibus accounts. This prohibition also applies to transfer trades where no change in ownership is involved when the date of execution or exercise of the position being transferred is not the same as the transfer date. Such positions are required to be offset by trading. If such positions are carried on the books of different Clearing Members, the receiving Clearing Member is responsible for compliance with this Rule.

At its sole discretion, the Department of Audits and Investigations may permit an offset during the Prohibition Period via netting, transfer, or position adjustment. Such adjustments are permissible to correct a bona fide clerical or operational error for an amount less than five percent (5.0%) of the published open interest reported the same morning for which the offset will be reported by the Clearing Member's morning position reporting deadline. Moreover, such adjustments are only permissible if the Department of Audits and Investigations reasonably believes the offset will not adversely impact the market. Such permission does not prohibit the Department of Audits and Investigations from investigating or taking disciplinary action for any alleged violation of the Rulebook.

83.15. TRADE AT SETTLEMENT.

A Trade at Settlement ("TAS") is a transaction at a price equal to the daily settlement price, or at a specified differential above or below the daily settlement price. The TAS transaction price will be determined following execution and based upon the daily settlement price of the respective SPK Futures Contract month.

TAS transactions are permitted in the SPK Futures Contract as outright or spread transactions. TAS transactions are available for trading only during the regular Hours of Trading of 8:30 a.m. - 3:13 p.m. Central Time. However, TAS transactions in an expiring SPK Futures Contract are not permitted during the Business Day of its final settlement date.

The permissible price range for permitted TAS transactions is from 0.50 index points below the daily settlement price to 0.50 index points above the daily settlement price. The permissible minimum increment for a TAS transaction is 0.01 index points.

83.16. EXCHANGE OF CONTRACT FOR RELATION POSITION.

A. If and to the extent permitted by the Rules, a bonafide Exchange of Contract for Related Position ("ECRP") may be entered into off of the Exchange with respect to a contract at a price mutually agreed upon by the parties to such transaction. Any SPIKES Futures legs of an ECRP transaction must be priced in increments of 0.01 index points. Each ECRP must contain the following three essential elements:

   i. a transaction in a contract that is listed on the Exchange and a transaction in a related position or an option on the related position (known as the "Related Position");

   ii. an exchange of contract for the Related Position that involves an actual transfer of ownership, which must include (1) an ability to perform the ECRP and (2) a transfer of title of the Contract and Related Position upon consummation of the exchange; and

   iii. separate parties, such that the accounts involved on each side of the ECRP have different beneficial ownership or are under separate control, provided that separate profit centers of a Futures Commission Merchant operating under separate control are deemed to be separate parties for purposes of this Rule.

B. For purposes of this Rule, the term "Related Position" will include SPIKES options and SPY options, or a group or basket of any of the foregoing. The Related Position being exchanged may not be a contract traded on or subject to the Rules of the Exchange.

C. In every ECRP transaction, one party must be the buyer of (or the holder of the long market exposure associated with) the Related Position and the seller of the corresponding contract and the other party must be the seller of (or the holder of the short market exposure associated with) the Related Position and the buyer of the corresponding contract. Further, the quantity of the Related Position traded in an ECRP must correlate to the quantity represented by the contract portion of the transaction.

D. The execution of an ECRP transaction may not be contingent upon the execution of another ECRP or related position transaction between the parties where the transactions result in the offset of the related position without the incurrence of market risk that is material in the context of the related position transactions.

E. The timing of an ECRP transaction must satisfy the following requirements:

i. The agreement to an ECRP transaction may only occur during the Hours of Trading for the Futures Contract that comprises the contract leg of the transaction, when that Futures Contract is not halted or suspended ("Permissible Agreement Period"). For such purposes, an agreement to an ECRP transaction includes, without limitation, agreement to the quantity and actual price or premium of the Futures Contract leg of the transaction. ECRP transactions are not permitted during extended trading hours;

ii. An ECRP transaction must be fully reported to the Exchange without delay and by no later than thirty minutes after the transaction is agreed upon ("Reporting Deadline"). The Reporting Deadline is measured from the time the transaction is agreed upon to the time that the full report of the transaction is received by the Exchange.

iii. All ECRP transactions will be submitted for clearing on the Business Day during which the transaction is fully reported to the Exchange.

Accordingly, in order to satisfy the requirements of this paragraph E, the time periods in which an ECRP transaction may occur are limited to those time periods in which: (i) the transaction is agreed to within a Permissible Agreement Period; and (ii) the transaction is able to be fully reported to the Exchange within a Permissible Reporting Period by no later than the Reporting Deadline.

F. Each party to an ECRP transaction will comply with all applicable MGEX Rules and must be registered with the Exchange as an Authorized Participant (an "Authorized Participant"). All Authorized Participants will be assigned an Authorized Participant ID. Authorized Participants that execute ECRP transactions on behalf of other Authorized Participants are responsible for ensuring that such other Authorized Participants that engage in such transactions in contracts traded on the Exchange are fully informed regarding Exchange requirements relating to ECRP transactions. To the extent required by applicable law, an Authorized Participant must be registered or otherwise permitted by the appropriate regulatory body or bodies to act in the capacity of an Authorized Participant and to conduct related activities.

G. Each Authorized Participant is required to maintain the information set forth in this Section G or have an agreement with a Broker (who is an Authorized Participant or Authorized Reporter) that will maintain such information. Each Authorized Participant or Broker will record the following details with respect to the contract leg of the ECRP on its order ticket: (i) all component legs of the transaction; (ii) the number of contracts traded and whether the relevant contract leg of the transaction is a buy or sell; (iii) the price of execution or premium; (iv) the time of execution to the nearest minute (i.e., the time at which the parties agreed to the ECRP); (v) the arrangement time, if any (i.e., the time at which the parties agreed to enter into the transaction at a later time); (vi) the counterparty's Authorized Participant ID and Authorized Participant ID of the individual executing the transaction; (vii) that the transaction is an ECRP; (viii) origin code; (ix) Customer Type indicator code; (x) the account number of the Authorized Participant for which the ECRP was executed; (xi) the identity, quantity and price or premium of the Related Position(s) (including the expiration, strike price, type of option (put or call) and delta in the case of an option); and (xii) any other information that may be required. Every Authorized Participant handling, executing, clearing or carrying ECRP transactions or positions will identify and mark as such by appropriate symbol or designation all ECRP transactions or positions and all orders, records and memoranda pertaining thereto. Records will also include, without limitation, documentation relating to the Related Position portion of the ECRP transaction, including those documents customarily generated in accordance with Related Position market practices that demonstrate the existence and nature of the Related Position portion of the transaction. Upon request by the Exchange and within the time frame designated by the Exchange, any such Authorized Participant or Broker will produce satisfactory evidence that an ECRP transaction meets the requirements set forth in this Rule.

A Clearing Member or an Authorized Reporter of a carrying FCM that authorizes an Authorized Participant accepts responsibility for all such ECRP transactions executed on behalf of the Authorized Participant.

H. Each Authorized Participant executing an ECRP transaction must have at least one designated individual that is pre-authorized by MGEX to report ECRP transactions in accordance with paragraph I below on their behalf (the "Authorized Reporter") in accordance with the requirements and deadlines set forth in this Rule. To the extent required by applicable law, an Authorized Reporter or Authorized Participant involved with the execution of an ECRP transaction must be registered or otherwise permitted by the appropriate regulatory body or bodies to act in the capacity of an Authorized Reporter or Authorized Participant and to conduct related activities. Only an Authorized Reporter will be allowed to report an ECRP transaction on behalf of an Authorized Participant.

Any Authorized Reporter that is an Authorized Participant must have an Authorized Participant ID. When applicable, an Authorized Reporter who accepts an ECRP transaction for their Authorized Participant must report the ECRP transaction and all required information to the Exchange and the Authorized Reporter at the Clearing Member or their carrying FCM. Authorized Reporters at carrying FCMs that are not MGEX Clearing Members must report the ECRP transaction and all required information to the Authorized Reporter at the MGEX Clearing Member. An Authorized Reporter that is the initiator of a notification of an ECRP transaction may not cancel or revise the notification after it has been entered into the MGEX clearing system while it awaits acceptance by the Authorized Reporter for the contra side of the transaction.

A Clearing Member or an Authorized Reporter of a carrying FCM that authorizes an Authorized Reporter to report ECRP transactions accepts responsibility for all such transactions reported to the Exchange by that Authorized Reporter on behalf of the Authorized Participant. Any designation of an Authorized Reporter or revocation of a previous designation of an Authorized Reporter, including any termination of the guarantee provided for in the preceding sentence, must be made in a form and manner prescribed by the Exchange and will become effective as soon as the Exchange is able to process the designation or revocation. Both the parties to and Authorized Reporters for an ECRP transaction are obligated to comply with the requirements set forth in this Rule, and any of these parties or Authorized Reporters may be held responsible by the Exchange for noncompliance with those requirements.

I. Authorized Reporters shall report the following to the Exchange: (i) all component legs of the transaction (ii) the contract identifier (or product and contract expiration for a future or product, expiration, strike price and type of option (put or call) in the case of an option), price (or premium for an option) and quantity of the relevant contract leg of the transaction and whether the relevant contract leg is buy or sell; (iii) the time of execution to the nearest minute (i.e., the time at which the parties agreed to the transaction); (iv) the arrangement time, if any (i.e., the time at which the parties agreed to enter into the transaction at a later time); (v) Authorized Participant ID of Authorized Participant executing the transaction; (vi) counterparty's Authorized Participant ID; (vii) account of the Authorized Participant; (viii) origin code; (ix) Customer Type Indicator code; (x) the identity, quantity and price or premium of the Related Position (including the expiration, strike price, type of option (put or call) and delta in the case of an option); and (xi) any other information required by the Exchange. An ECRP transaction may not be changed or canceled after it has been fully reported to the Exchange.

J. Each Clearing Member carrying a customer account for which an ECRP transaction is executed will be responsible for obtaining and submitting to the Exchange in a timely and complete manner the records of its customers regarding the ECRP transaction.

K. For timing purposes in connection with measuring adherence to Permissible Reporting Periods and the Reporting Deadline, an ECRP transaction will be deemed to have been fully reported to the Exchange when both sides of the transaction have been matched within the MGEX clearing system.

L. The Exchange may modify a Permissible Agreement Period, Reporting Deadline, Permissible Reporting Period, and/or permissible manner of notification to the Exchange of an ECRP transaction in the event of unusual circumstances. The acceptance by the Exchange of the submission of an ECRP transaction does not constitute a determination by the Exchange that the transaction was effected or reported in conformity with the requirements of this Rule. An ECRP transaction that is accepted and not busted or rejected by the MIAX System will be processed and given effect but will be subject to appropriate disciplinary action in accordance with the MGEX Rules if it was not effected or reported in conformity with the requirements of this Rule.

M. Any ECRP transaction in violation of the requirements of this Rule will constitute conduct which is inconsistent with just and equitable principles of trade.

N. ECRP transactions will not trigger conditional orders or otherwise affect orders in the underlying SPK Futures Contract traded on the Electronic Trading System.

O. MGEX will not, under any circumstances, be responsible or liable for any losses, damages, or other costs arising out of any error, omission, or inaccuracy that may occur in an ECRP transaction.

83.17. BLOCK TRADES

For the purpose of this Rule, Block Trades are defined as large transactions that are privately negotiated off the Exchange's Electronic Trading System and can only be entered into by Eligible Contract Participants, as defined in Section 1a(18) of the Commodity Exchange Act.

Block Trades are permitted to be executed in the SPK Futures Contract, provided they are in accordance with the following provisions:

A. A Block Trade must be for a quantity that is at or in excess of the applicable minimum threshold. Orders for different accounts may not be aggregated in order to achieve the minimum transaction size. The Block Trade minimum threshold in the SPK Futures Contract is 200 contracts.

B. A Party shall not execute any order as a Block Trade for a customer unless such customer has specified that the order be executed as a Block Trade.

C. The Block Trade is executed competitively at a price that is fair and reasonable with consideration to the prevailing market price of either the SPK Futures Contract. The minimum price increment for a Block Trade in the SPK Futures Contract is 0.01 index points.

D. Block Trades will not trigger conditional orders or otherwise affect orders in the underlying SPK Futures Contract traded on the Electronic Trading System.

E. Clearing Members must ensure that each side of the Block Trade is reported to the Exchange within fifteen (15) minutes (but in no case later than 4:15 p.m. Central Time) and in the manner specified by the Exchange. The reporting of each side of the Block Trade must include the: contract, contract month, price, quantity of the transaction including quantities for each leg, buy/sell side, CTI and Regular (House) or Segregated (Customer) indicators, account number, the respective Clearing Members, the time of execution, and any other information required in accordance with MGEX Rules.

F. Each counterparty to a Block Trade must have a separate and independent bona-fide legal or business purpose for entering into the Block Trade.

G. Parties involved in the solicitation or negotiation of a Block Trade may not disclose the details of such communication to any other party for any purpose other than to facilitate the execution of the Block Trade.

83.18. POSITION ACCOUNTABILITY.

The position accountability levels for SPK Futures Contracts are as follows:

A. Ownership or control at any time of more than 50,000 contracts net long or net short in all SPK Futures Contracts combined;

B. Ownership or control of more than 30,000 contracts net long or net short in the expiring SPK Futures Contract, effective at the start of Hours of Trading for the Friday prior to the final settlement date of the expiring SPK Futures; or

C. Ownership or control of more than 10,000 contracts net long or net short in the expiring SPK Futures Contract, effective at the start of the Hours of Trading for the Business Day immediately preceding the final settlement date of the expiring SPK Futures.

For the purpose of this Rule, each new trading day commences with the start of trading at 5:00 p.m. Central Time.

83.19. AGGREGATION OF POSITIONS.

In determining whether any person has exceeded the position accountability levels, all positions in accounts for which such person by power of attorney or otherwise directly or indirectly holds positions or controls trading must be included with the positions held by such person. Such positions accountability levels will apply to positions held by two (2) or more persons acting pursuant to an expressed or implied agreement or understanding, the same as if the positions were held by a single person. The Exchange will follow the CFTC definition of aggregation and the procedures for aggregating positions as described in CFTC regulations as applicable.

83.20. REPORTABLE POSITION AND TRADING VOLUME.

A. Pursuant to CFTC Regulation 15.03 and Part 17, any open position level in the SPK Futures Contract at the close of trading on any trading day equal to, or in excess of, 200 contracts on either side of the market is required to be reported to the CFTC. All such positions will be reported in a manner and form as designated by the CFTC or the Exchange.

B. Pursuant to CFTC Regulation 15.04 and Part 17, a volume threshold account that has trading volume in the SPK Futures Contract during a single trading day equal to, or in excess of, 50 contracts is required to be reported to the CFTC. All such positions must be reported in a manner and form as designated by the CFTC or the Exchange.

83.21. CONTRACT MODIFICATIONS.

Specifications are fixed for the duration of the contract month upon the first trade in that contract month. However, a change in any Federal law, regulation, ruling, directive, or order that conflicts with these Rules or specifications will become effective upon notice by the Exchange. Additionally, the Board of Directors and/or the Exchange are granted the authority to change contract specifications as it deems appropriate or necessary, or to conform to any other applicable law, rule, or regulation that conflicts with these Rules or specifications, for any unopened contract month, as well as change contract specifications for any contract month with open interest upon approval by the CFTC.

To maintain the purpose and viability of the Futures Contract, the Board of Directors and/or the Exchange are granted the authority to change the MGEX Rules not directly affecting contract specifications at any time and implement such change as may be determined.

83.22. EMERGENCIES.

In the event of an emergency, as determined by the Exchange, the Board of Directors will have the authority and power to follow the procedures described in MGEX **Bylaw 210.02.** The Board of Directors may delegate such powers as it deems necessary to the Executive Committee, Exchange Officer(s), or other Exchange employees.

An emergency may include, but is not limited to, events of Force Majeure, interference, interruptions, breakage of communication, accident, or any event or occurrence that is causing or may cause disruption in the marketplace.

Additionally, in the event of an emergency, the Board of Directors or its delegate(s) will have the authority and power to utilize such sources, means, or methods that it determines to be in the best interest of the Exchange and the market.

The decision of the Board of Directors, Executive Committee, Exchange Officer(s), or other Exchange employees as delegated, will be final and binding upon all parties. The Exchange will not be liable to any party because of actions and decisions taken in good faith.

EXHIBIT B

<u>Brief Overview of the Product</u>

MGEX proposes to list and trade futures on the SPIKES™ Index ("SPIKES" or the "Index"), which is an index that measures expected 30-day volatility of the SPDR S&P 500 ETF Trust (commonly known and referred to by its ticker symbol, "SPY"). The Index is calculated using published real-time prices and bid/ask quotes of SPY options and represents the market's expectation of price movements in SPY over the next 30 days.

Futures on SPIKES will be cash-settled. Like all of the Exchange's current products, the SPIKES futures contract will trade on the CME Globex® trading platform and be cleared by the MGEX Clearing House. Additionally, MGEX will monitor and conduct regulatory oversight, surveillance, and enforcement as it does now for all MGEX contracts.

A thorough description of the SPIKES Index and the futures contract, as well as its design, are included in Exhibit C.

<u>Concise Explanation and Analysis of the Product's Compliance with DCM Core Principles</u>

MGEX believes the SPIKES contract meets the requirements of the CEAct and the CFTC regulations promulgated thereunder. Among other terms and conditions, MGEX Rules govern and provide for position limits, reportable positions, minimum price increments, trading months and hours, daily price limits, and a transparent settlement process.

The Exchange has reviewed the core principles for designated contract markets ("DCM Core Principles") and has determined that the product Rules comply with the requirements of such principles. Applicable DCM Core Principles include:

- *Core Principle 2 – Compliance with Rules*. MGEX is submitting Chapter 83 which sets forth contract terms and conditions and governs the trading of SPIKES futures. This chapter, as well as current MGEX Rules, will serve to prohibit various forms of abusive trading practices or misconduct. The MGEX Department of Audits and Investigations will have full authority and the ability to monitor the market and investigate and enforce the MGEX Rules.

- *Core Principle 3 – Contracts not Readily Subject to Manipulation*. The underlying cash market for SPIKES is large and MGEX can monitor trade activity. The SPIKES futures contract is not readily susceptible to manipulation, as discussed at length in Exhibit C.

- *Core Principle 4 – Prevention of Market Disruption*. MGEX has the capacity and ability to monitor and prevent manipulation, price distortion, and disruptions of the cash-settlement process through market and trade practice surveillance and enforcement practices and procedures. MGEX can create and maintain comprehensive and accurate trade reconstructions.

- *Core Principle 5 – Position Limitations*. While the Exchange does not believe the product is readily susceptible to manipulation, MGEX has nonetheless adopted position limits. These positions limits are codified in Rule 83.18.

- *Core Principle 7 – Availability of General Information & Core Principle 8 – Daily Publication of Trading Information*. The SPIKES futures contract terms and conditions, as well as trade volume and price information, will be disseminated to the public and posted on the MGEX website pursuant to DCM Core Principles 7 and 8.

- *Core Principle 9 – Execution of Transactions*. As noted earlier, SPIKES futures will be listed on the CME Globex® platform, and MGEX will clear all transactions.

- *Core Principle 10 – Trade Information*. In accordance with Exchange procedures, MGEX will record and save all trade information as part of an audit trail which will be fully accessible to the Department of Audits and Investigations for surveillance and enforcement purposes.

- *Core Principle 11 – Financial Integrity of Transactions*. MGEX will continue to comply with monitoring the financial integrity of clearing members and futures commission merchants, as well as ensuring the protection of customer funds.

- *Core Principle 12 – Protection of Markets and Market Participants*. Current MGEX Rules contain general and specific prohibitions against the abuse of the markets and market participants that will also apply to the trading of the SPIKES contract. MGEX can enforce its Rules and take disciplinary action against those harming the market or market participants.

As a result, MGEX believes the product and the proposed Rules are consistent with the CEAct and CFTC regulations, including DCM Core Principles. In addition, when relevant, all Exchange Rules that currently apply to market participants and the trading of other MGEX contracts will also apply to the trading of SPIKES futures. The full MGEX Rulebook is available at http://www.mgex.com/documents/Rulebook_051.pdf.

The SPIKES™ Volatility Index

Methodology Guide

Introduction

The SPIKES™ Volatility Index (SPIKES™) is a measure of expected 30-day volatility in the SPDR S&P 500 ETF (SPY), the largest exchange-traded fund in the world that tracks the most widely-followed stock index in the United States. With over $32.5 billion in daily notional value traded per day as of early 2018, SPY is the world's most actively traded security.

A by-product of SPY's popularity is a highly liquid market for its associated options, accounting for nearly half of the $110 billion in notional value traded per day across all US equity options.[1] Therein, the SPIKES™ Volatility Index is calculated using live prices on options linked to SPY and represents the market's expectation of price movements in SPY over the next 30 days.

To best align to the way the trading community models risk and hedges exposure, SPIKES™ is constructed using the well-known variance swap methodology using live options prices to calculate volatility. SPIKES™ can be physically replicated with a strip of options, and can easily be incorporated into the existing ecosystem of volatility-based products, which include options, futures, and ETPs.

In addition, SPIKES™ incorporates material enhancements in its calculation to help improve index stability - namely its proprietary "price dragging" technique, which is designed to reduce erratic movements in the index during periods of high volatility and/or low liquidity in the broader market. Options are often quoted in bulk by market makers, which in some cases cause a divergence from orthodox supply-demand dynamics as quotes are constantly updated across a series of strikes throughout the day. As a result, there can be more notable movements within the bid/ask spread that impact the calculation of an index based on mid-point prices. SPIKES' proprietary price dragging technique has been designed to mitigate this effect, producing a more stable index value.

Moreover, to calculate the index, SPIKES™ uses highly-active, electronically-traded multi-listed SPY options over singly-listed S&P 500 index options. This better reflects the nature of today's high-velocity, and principally electronic, options market.

[1] "That Giant Sucking Sound You Hear Is the ETF Options Markets", Bloomberg Business, January 8th, 2016, http://tinyurl.com/jfwppwh

The SPIKES™ Formula

Like most indices, SPIKES™ has a defined rules-based approach to selecting components—a series of options on SPY—and weighting them to derive a single price for the index.

The formula for expected T-term variance is as follows:

$$\sigma^2 = \frac{1}{T}\left[2e^{RT}\Sigma i \frac{\Delta K_i p_i}{K_i^2} - \left(\frac{e^{RT}(p^c{}_{ATM} - p^p{}_{ATM})}{K_{ATM}}\right)^2\right]$$

$p^c{}_{ATM}$ Price of the at-the-money (ATM) SPY call option

$p^p{}_{ATM}$ Price of the ATM SPY put option

K_{ATM} Strike closest to the point where linearly interpolated SPY call and put prices intersect

T Time to options expiration (in years, with 1-second precision)

K_i, p_i A list of unique SPY options strikes, ordered from lowest to highest, and corresponding SPY options prices; of a call if $K_i > K_{ATM}$; and of a put if $K_i < K_{ATM}$; if $K_i = K_{ATM}$ then an average between the ATM SPY put and call prices

ΔK_i Half the difference between the strikes on either side of K_i;

$$\Delta K_i = \frac{(K_{i+1} - K_{i-1})}{2}$$

For the last (highest and lowest) selected strikes, ΔK_i is simply the absolute difference between K_i and the nearest selected option's strike

R Risk-free interest rate to option's expiration

Calculation Methodology

SPIKES™ is calculated using only standard options on SPY that expire on the third Friday of each calendar month. Although weekly options on SPY are available, these are **not** used in the calculation of the SPIKES™ Index.

The calculation linearly interpolates between the variances of two monthly expirations—near-term (the closest expiration more than two full days into the future) and next-term (the monthly expiration following the near-term). This expiration selection method is used to avoid using highly irregular option prices close to the options settlement date.

The 30-day point is typically in between these two expirations and the index value is interpolated between the volatilities of these two terms. When the closest expiration is too close to expiry (less than two full days), rolling to the third-closest expiration occurs. This rolling rule serves to reduce spurious variability in the index by means of minimizing the period of "extrapolation" between the two expirations. The switch from closest to third-closest expiry rarely has any noticeable impact on the index value, as the weight of the switched term is close to zero.

After the SPY options expirations used in the calculation have been selected, the calculation proceeds as follows:

1. Determine Option Prices

SPIKES™ uses a proprietary "price dragging" technique to capture live options prices as inputs for the index calculation. The option price inputs that result from price dragging are called Cash Reference Prices (CRPs), and determined as follows:

- Set all CRPs to 0 at SPY options market opening;
- For trades, only consider standard simple trades (conditions "space", I, or J.)
- For quotes, only consider NBBO eligible bids and offers from all eligible exchanges (quote conditions A, B, C, O or "space")
- Block trades, out of sequence prints, as well as trades resulting from complex transactions and stopped orders are ignored.
- On the opening quote, the opening **bid** is used as the CRP;
- When there is a trade, the CRP is set to trade price;
- For newly-placed ask (bid) quotes, if the ask (bid) is lower (higher) than current CRP, the CRP is set to ask (bid).

This method should materially reduce erratic movements of the index value as quotations on out-of-the-money (OTM) options are rapidly altered during times of low liquidity and or high volatility.

2. Select the Options Used in the Calculation

For each of the expirations, the options to be used in the calculation are then selected by removing in-the-money (ITM) and far OTM options:

- To determine the at-the-money (ATM) strike, only use strikes for which both the call and put prices are available. For each strike, find the absolute value of the call CRP minus the put CRP, and select the strike where that value is closest to zero. In the case of a tie, select the lower strike.
- Stepping away from the ATM, (for puts going to the next lower strike, and for calls the next higher strike) when two consecutive options with CRPs of 5 cents or less are reached exclude all options further away from the money.

3. Weight the Options and Estimate Volatility

For each term, the volatility is estimated using the variance swap formula, with the selected options' CRPs weighted according to the SPIKES™ formula:

$$\boldsymbol{\sigma^2} = \frac{1}{\boldsymbol{T}}\left[2e^{RT}\Sigma i\,\frac{\Delta K_i p_i}{K_i^2} - \left(\frac{e^{RT}(p^c{}_{ATM} - p^p{}_{ATM})}{K_{ATM}}\right)^2\right]$$

The risk-free interest rate is the yield (mid-point of bid-ask) for the United States Treasury Bill which matures on the date closest to the monthly SPY expiration--generally the day prior to the monthly expiration date. In the event of two T-Bills maturing equidistant from the monthly options expiration, use the shortest dated maturity.

4. Calculate the Index

Compute the 30-day weighted average of the near- and next-term variances, take the square root, and multiply by 100, as follows:

$$\boldsymbol{SPIKES} = 100 \text{ x } \sqrt{\left(\frac{t_1}{t_M}\frac{t_2 - t_M}{t_2 - t_1}\sigma_1^2 + \frac{t_2}{t_M}\frac{t_M - t_1}{t_2 - t_1}\sigma_2^2\right)}$$

t_1	Time (in seconds) to near-term expiration
σ_1	Estimated volatility computed by variance swap formula, near-term
t_2	Time (in seconds) to next-term expiration
σ_2	Estimated volatility computed by variance swap formula, next-term
t_M	Number of seconds in 30 days (30 x 86,400 = 2,592,000)

Sample Calculation

Some examples of "price dragging" and options selection using real prices are included below to help illustrate how SPIKES™ is calculated. Since the full calculation is very repetitive, only a select sample of the full calculation method is included.

A fully worked up example of the full calculation with formulas in Excel is available upon request.

Price Dragging

Here "price dragging" is used for one option to determine the Cash Reference Price.

Time	Update	Cash Reference Price Update	Comment
9:30:00	Market Open	0	Initially set at zero
9:31:12	2.35 bid	Set to 2.35	Opening CRP is the bid
9:33:01	2.31 bid	Unchanged	Bid updates but is not above current CRP
9:33:48	2.37 ask	Unchanged	Ask is not below the last eligible CRP of 2.35
9:36:41	Trade at 2.37	Set to 2.37	Trade triggers CRP update to 2.37
9:38:34	2.38 ask	Unchanged	Ask is updated but is not below the last CRP
9:39:00	2.36 ask	Set to 2.36	Ask moves below the latest CRP, becomes the new CRP

Options Selection

The following calculations use historical SPY option prices (determined by using the price dragging technique) sampled on February 13th, 2015. Based on the SPIKES™ rules, the two closest eligible expirations are February 20th, 2015 and March 20th, 2015. Both are more than two days away from the current date of February 13th so are selected as near- and next-term.

The intersections of put and call prices are observed in between the yellow highlighted strikes. For the near-term, the absolute difference between the 209.50 strike call and put price is 28 cents, whereas for 210 it is 20 cents. Since the intersection of the price curves is closer to 210, the ATM strike is 210. Using the same logic, the next-term ATM strike would be 209.

Once the ATM strike is determined, the series is truncated after two consecutive CRPs are 5 cents or less. For the near-term, all strikes at 199 and below and 217 and above are removed as the puts encounter two consecutive CRPs below or equal to 5 cents at 200 and 199.50 and the calls at 215 and 216. Similarly, for the next-term expiration, strikes at 148 and below and 240 and above are truncated.

Near-Term (February 20th)

Strike	Call Price	Put Price
197	12.82	0.04
197.5	12.32	0.03
198	11.83	0.04
198.5	10.62	0.03
199	10.86	0.05
199.5	10.35	0.04
200	9.87	0.05
200.5	9.36	0.06
201	8.85	0.06
201.5	8.36	0.07
202	7.86	0.08
202.5	7.42	0.09
203	6.91	0.10
203.5	6.44	0.11
204	5.96	0.13
204.5	5.48	0.15
205	5.01	0.19
205.5	4.54	0.23
206	4.11	0.28
206.5	3.64	0.33

Strike	Call Price	Put Price
207	3.22	0.41
207.5	2.80	0.50
208	2.41	0.60
208.5	2.04	0.71
209	1.68	0.88
209.5	1.35	1.07
210	**1.09**	**1.29**
210.5	0.82	1.53
211	0.60	1.80
212	0.30	2.51
212.5	0.21	2.92
213	0.15	3.32
214	0.07	4.24
215	0.04	5.82
216	0.03	6.21
217	0.02	6.74
217.5	0.02	6.90
218	0.01	8.22
219	0.01	8.76
220	0.01	10.19
221	0.01	11.20

Next-Term (March 20th)

Strike	Call CRP	Put CRP
144	65.85	0.03
145	64.87	0.04
146	63.85	0.03
147	62.87	0.04
148	61.87	0.04
149	60.57	0.04
150	59.84	0.04
151	58.88	0.06
152	57.88	0.06
153	56.58	0.06
154	55.86	0.06
155	54.70	0.07
156	53.59	0.06
157	52.90	0.07
158	51.87	0.06
159	50.86	0.06
160	49.60	0.07
161	48.93	0.07
162	47.92	0.08
163	46.92	0.08
164	45.62	0.08
165	44.95	0.09
166	43.94	0.09
167	42.63	0.10
168	41.64	0.11
169	40.95	0.11
170	39.65	0.12
171	38.98	0.12

Strike	Call Price	Put Price
172	37.83	0.13
173	36.66	0.13
174	35.97	0.14
175	34.68	0.16
176	33.69	0.17
177	32.70	0.18
178	31.72	0.19
179	31.18	0.20
180	30.07	0.22
181	29.47	0.23
182	28.04	0.26
183	27.08	0.27
184	26.04	0.30
185	24.97	0.32
186	24.12	0.33
187	23.02	0.36
188	22.61	0.39
189	21.20	0.43
190	20.22	0.46
191	19.26	0.51
192	18.29	0.55
193	16.59	0.60
194	15.76	0.67
195	15.44	0.73
196	14.51	0.82
197	13.56	0.90
198	12.67	1.00
199	11.76	1.11
200	10.83	1.25
201	9.99	1.38
202	9.11	1.54
203	8.27	1.71
204	7.42	1.92
205	6.67	2.14
206	5.82	2.39
207	5.09	2.68
208	4.38	3.00
209	**3.70**	**3.37**
210	3.09	3.80
211	2.53	4.26
212	1.98	4.79
213	1.53	5.38
214	1.18	6.03
215	0.88	6.77
216	0.60	7.56
217	0.42	8.41
218	0.30	9.32
219	0.22	10.27
220	0.17	11.21
221	0.13	12.34
222	0.10	13.16

Strike	Call Price	Put Price
223	0.09	13.85
224	0.08	15.15
225	0.06	16.14
230	0.04	21.12
235	0.03	25.81
240	0.02	31.11
245	0.01	36.09
250	0.01	41.08
255	0.01	46.08
260	0.01	51.08

Index Dissemination

SPIKES™ is calculated by MIAX and disseminated every 100 milliseconds via OPRA and the MIAX Product Feed (MPF.) A sample of data vendors and the symbol for SPIKES™ from each data vendor are below:

Data Vendor	Symbol
Bloomberg	SPIKE
Thomson Reuters	.SPIKE
LiveVol	^SPIKE
Yahoo Finance	^SPIKE

Disclaimer

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T3 Index

spikes™

Settlement Process for SPIKES™ Derivatives

This document outlines the procedure used for the final settlement calculation for SPIKES™ derivatives at expiration. The final settlement value is calculated from actual opening prices of SPY options on MIAX Options through the SPIKES™ Special Settlement Auction and makes use of a new Special Settlement Imbalance Process (SSIP).

MIAX's fully electronic and transparent Opening Process functionality, accessible to all Members of the Exchange for participation, results in a robust Opening Process that presents arbitrage opportunities across multiple exchange venues to drive prices into line and reach equilibrium.

Settlement Value Calculation for SPIKES™ Derivatives Overview

SPIKES™ options and futures are based on the SPIKES™ Volatility Index, a measure of 30-day expected volatility of the SPY ETF. The final settlement value for SPIKES™ options and futures is obtained via a SPIKES™ Special Settlement Auction using opening prices on MIAX Options of constituent SPY options that expire 30 days after the relevant SPIKES™ expiration date. These options are the Settlement Options. For instance, the final settlement value for SPIKES™ derivatives on November 21, 2018 will be derived using SPY options that expire 30 days later on December 21, 2018. If there is an Exchange holiday, the final settlement value shall be calculated on the preceding business day.

The opening prices for the SPY options used to calculate the SPIKES™ settlement value are determined through an automated auction mechanism on MIAX Options that matches locked or crossed buy and sell orders and quotes on the electronic order book at the opening of trading. This auction mechanism utilizes the SSIP, and the trade matching algorithm prioritizes price, then is pro-rata in the case of multiple participants' orders or quotes at the opening price.

Opening Mechanism for SPY Options

MIAX's existing Opening Process runs to completion and precedes the engagement of the new SSIP. The existing Opening Process starts when SPY opens, after 9:30am Eastern Time. The SSIP accounts for situations where there remains an order imbalance that must be filled at the opening price after the existing Opening Process. When there is an imbalance, the Exchange will broadcast a System Imbalance Message to subscribers of the Exchange's data feeds and initiate an imbalance timer. Two data feeds are relevant for SPIKES™ Settlement Auction traders:

1. MIAX Administrative Information Subscriber Feed (AIS) – Includes imbalance messages beginning at 9:15 am ET. It is available to all, and updates every 5 seconds until 9:30 am. Once SPY opens, the imbalance messages are updated in real time.

2. MIAX Order Feed (MOR) – Includes all orders on the book beginning at 7:30 am ET

While the Exchange is conducting its Opening Process, all the other option exchanges will also be conducting their opening process for SPY options. As the Exchange works through its process to resolve imbalances under the existing Opening Process and the SSIP, other Exchanges will be open and will serve as real-time cross-reference prices for the relevant SPY options, enabling market participants to send orders to the Exchange if there are pricing anomalies for these SPY options across venues.

The longer it takes the Exchange to work through the imbalance, the greater the likelihood that other exchanges will have opened their SPY options market and the natural pressures of a competitive market will help to eliminate pricing anomalies and aid in satisfying the imbalance on the Exchange. Further, the Exchange's imbalance process is transparent, as every subscriber to the Exchange's data feeds receives the imbalance messages, and every Member of the Exchange can participate in the imbalance process.

Standard Opening Process

If there are quotes or orders that lock or cross each other, the MIAX Options System (System) will calculate an Expanded Quote Range (EQR, see Appendix), which represents the limits of the range in which transactions may occur during the Opening Process. The EQR is recalculated any time a route timer or Imbalance Timer expires. The System uses the EQR to determine the highest and lowest price of the opening price range.

To calculate the opening price, the System takes into consideration all valid Exchange quotes and orders, together with other exchanges' markets for the option, and identifies the price at which the maximum number of contracts can trade. If that price is at or within the EQR and leaves no imbalance, the Exchange will open at that price, executing marketable trading interest as long as the opening price includes only Exchange interest. If the calculated opening price included interest other than solely Exchange interest, the System will broadcast a system imbalance message and initiate a route timer for routable Customer orders. If, during the route timer, interest is received by the System which would allow all interest to trade on the System (i.e. there is no longer an imbalance) at the opening price without trading at a price inferior to other markets, the System will trade and the route timer will end.

If all marketable interest cannot be completely executed at or within the EQR without trading at a price inferior to the ABBO, or cannot trade at or within the quality opening market range in the absence of a valid width NBBO, the System will automatically institute an imbalance process. The System will broadcast a system imbalance message and begin an Imbalance Timer. Market Makers may enter Opening Only (OPG) eQuotes, Auction or Cancel (AOC) eQuotes, Standard quotes, Opening Orders (OPG Orders), AOC Orders and limit orders during the Imbalance Timer. Other Exchange Members may enter OPG Orders, AOC Orders and other order types. At the conclusion of the timer, a route timer may be initiated if required. The imbalance process may be repeated up to three times. Eligible liquidity that would not fully trade that is priced more aggressively than the Opening price is considered to be "must fill" liquidity. If at any time during the imbalance process if all must fill liquidity can trade, open. After the third imbalance process in the standard opening process, open and cancel all other interest except for that in the Settlement Options. This interest is subject to the SSIP, as discussed on the following page.

The Special Settlement Imbalance Process (SSIP)

On SPIKES™ expiration, a revised process is used. In the SPIKES™ Special Settlement Auction, in addition to any order types that may be regularly accepted by the Exchange, the Exchange will also accept Settlement Auction Only orders (SAO Orders) and Settlement Auction Only eQuotes ('SAO eQuotes').

Strategy Auction Orders (SAO)

All orders for participation in the SPIKES™ Special Settlement Auction that are related to positions in, or a trading strategy involving SPIKES™ Index options ('SPIKES™ strategy orders'): SAOs:

- are only on SPIKES™ settlement days and only in the SPY expiration used for SPIKES™ settlement.
- must be received prior to the applicable SPIKES™ strategy order cut-off time (9:20 a.m. Eastern) for the constituent option series, as determined by the Exchange; and
- may not be cancelled or modified after the applicable SPIKES™ strategy order cut-off time, unless the SPIKES™ strategy order is not executed in the SPIKES™ Special Settlement Auction and is automatically cancelled.

The SPIKES™ strategy order cut-off time exists because trades to liquidate hedges can contribute to an order imbalance during the SPIKES™ Special Settlement Auction in SPY option series on expiration dates. As a result of having a SPIKES™ strategy order cut-off time in place, the Exchange has created a defined window to encourage participation in the SPIKES™ Special Settlement Auction among market participants who may wish to place off-setting orders against imbalances to which SPIKES™ strategy orders may have contributed. Additionally, by precluding the modification or cancellation of SPIKES™ strategy orders from occurring after the cut-off time, the Exchange is ensuring that the order book reflects bona-fide interest for execution. This is a feature designed to prevent manipulation of the final settlement price.

If, after the standard opening process and the three iterations of its imbalance process have been run, a must fill imbalance still exists, the SSIP is initiated. The SSIP is an iterative process that is designed to determine a price at which all must fill imbalance interest can be satisfied.

To begin the SSIP, the System will broadcast a system imbalance message to all subscribers of the Exchange's AIS data feed and begin an SSIP Imbalance Timer, the duration of which is to be determined by the Exchange, not to exceed ten seconds, and communicated via Regulatory Circular. During the SSIP Imbalance Timer, the System accepts all quote and order types supported during the standard Opening Process.

Next, the System will evaluate the must fill imbalance and adjust the EQR by a defined amount (as previously determined by the Exchange and communicated via Regulatory Circular). At each iteration of the SSIP, the allowable EQR will be increased 0.5 times the EQR value. The SSIP will be repeated until a price is reached at which there is no remaining must fill imbalance.

Once there is no remaining must fill imbalance, open. Unfilled SAOs, AOC Orders, AOC eQuotes, OPG Orders, and OPG eQuotes submitted into the SPIKES™ Special Settlement Auction are cancelled. Any unfilled day limit orders and GTC orders that are priced at or inferior to the Opening Price are placed on the Book and managed by the System.

An example of a SPIKES™ Special Settlement Auction (which utilizes the Exchange's standard, existing Opening Process, as modified by the SSIP), for a constituent option is provided to illustrate the process.

Example

SPY Mar 280 Call – constituent option

The Exchange interest for the constituent option is as follows:

MIAX Participant	Bid Size	Bid Price	Ask Price	Ask Size
PLMM	100	1.01	1.10	100
MM1	50	1.02	1.10	50

The Exchange receives an SAO Order to purchase 500 SPY March 280 contracts at the market price. Accordingly, there are 150 contracts offered at $1.10 and a market order to buy 500 contracts. This results in the following:

Imbalance Quantity	350
Must Fill Imbalance Quantity	350
Matched Quantity	150
Expected Opening Price	1.10

The Exchange's standard Opening Process is used, and because an imbalance exists, the Exchange's Standard Opening Imbalance Process commences. The EQR is expanded by the EQR value of $0.10, becoming $0.92 x $1.20.

After three iterations of the Exchange's Standard Opening Imbalance Process, if the must-fill imbalance quantity has not been satisfied, the new SSIP will be employed. (For purposes of this example, assume that all such three iterations have completed and the must fill imbalance quantity still has not been satisfied.)

The SSIP will begin by using an EQR expanded by 1.0 times the EQR value ($0.10). Therefore, the EQR for the first iteration of SSIP is $0.92 x $1.20. Since no responses have yet been received, a system imbalance message is broadcast to all subscribers of the Exchange's data feeds and the SSIP auction period is started: The following responses are received:

- @ 20 milliseconds BD1 response, AOC Order to sell 200 @ $1.20 arrives

At the end of the SSIP auction period, the System evaluates the orders and responses to determine if the must-fill imbalance quantity can be satisfied at or within the EQR. The Exchange market for the constituent option is as follows:

MIAX Participant	Bid Size	Bid Price	Ask Price	Ask Size
PLMM	100	1.01	1.10	100
MM1	50	1.02	1.10	50
BD1			1.20	200
SAO Order	500	Market		

The offer of 150 contracts at $1.10 remains and there are now an additional 200 contracts offered at $1.20. This results in the following:

Imbalance Quantity	150
Must Fill Imbalance Quantity	150
Matched Quantity	350
Expected Opening Price	1.20

A must fill imbalance quantity of 150 contracts priced through the EQR remains, as there are a total of 350 contracts offered and a buy order for 500 at the market. Because an imbalance still exists, a second iteration of the SSIP will begin by expanding both sides of the EQR opposite the must fill imbalance quantity quote range, from the original EQR value to the quote range plus 1.5 times the original EQR value ($0.10), becoming $1.25 ($1.10 + $0.15).

A new system imbalance message is broadcast to all subscribers of the Exchange's data feeds and a second SSIP auction period is started. The following responses are received:

- @ 500 milliseconds MM2 response, AOC eQuote to sell 1000 @ $1.23 arrives
- @ 700 milliseconds MM3 response, AOC eQuote to sell 500 @ $1.23 arrives

At the end of the SSIP auction period, the System evaluates the orders and responses to see if the must-fill imbalance quantity can be satisfied at or within the EQR. The Exchange market for the constituent option is as follows:

MIAX Participant	Bid Size	Bid Price	Ask Price	Ask Size
PLMM	100	1.01	1.10	100
MM1	50	1.02	1.10	50
BD1			1.20	200
MM2			1.23	1000
SAO	500	Market		
MM3			1.23	500

The offer of 150 contracts at $1.10 remains, as well as the 200 contracts offered at $1.20. In addition, there are now offers to sell 1,500 contracts at $1.23. In this case, the entire must fill imbalance quantity can be satisfied at $1.23. Open at $1.23. The SAO Order to purchase 500 contracts at the market price is filled in the following fashion:

- The SAO Order buys 100 from the PLMM @ $1.23 (must fill)
- The SAO Order buys 50 from MM1 @ $1.23 (must fill)
- The SAO Order buys 200 from BD1 @ $1.23 (must fill)
- The SAO Order buys 100 from MM2 @ $1.23 (pro rata)
- The SAO Order buys 50 from MM3 @ $1.23 (pro rata)

Settlement Calculation for SPIKES™ Derivatives at Expiration

At the conclusion of the SPIKES™ Special Settlement Auction, including the existing Opening Process and the SSIP, MIAX Options arrives at a single-price open, called the Settlement Reference Price (SRP), for each constituent SPY series at the price that allows the most contracts for that series to match within certain price boundaries, and leaving no "must fill" imbalance.

For each constituent SPY series the SRP is determined as follows:

(a) If MIAX Options opens with a trade, the SRP is the trade price

(b) If MIAX Options opens without a trade (no locking or crossing interest):

- (i) Use all liquidity (all valid quotes and orders, including OPG, AOC and SAO orders and eQuotes) in determining the initial Settlement Opening bid and ask
- (ii) Each relevant SPY option with a Settlement Opening bid ask spread equal to or less than the Special Settlement Opening Width (SRPOW, see Appendix II), use the exact midpoint (i.e. no rounding) as the SRP
- (iii) If a SPY option's Settlement Opening bid ask spread is greater than the SRPOW, open the series with the wide market and start a Settlement Reference Price Timer (SRPT):
  - 1) The timer ends and the SRP is set accordingly, if there is a trade on MIAX Options or the option's bid ask spread on MIAX Options narrows to the SRPOW
  - 2) If the SRPT expires without establishing an SRP, compare the MIAX bid and ask to the Cash Reference Price (CRP) used for the SPIKES™ cash index calculation (which uses data from ALL exchanges that trade SPY options) and determine the SRP accordingly:
    - a) If the CRP is inside the MIAX bid ask, use it as the SRP
    - b) If the CRP is higher than the MIAX ask, use MIAX ask as the SRP
    - c) If the CRP is lower than the MIAX bid, use MIAX bid as the SRP
    - d) If the CRP is zero, and one or both adjacent options have a non-zero SRP, exclude the option from the calculation
    - e) If the CRP is zero, and both adjacent options have a SRP of zero:
      - i) Use the midpoint of the NBBO if the NBBO spread width is within the SRPOW
      - ii) If the NBBO spread width is not within the SRPOW, multiply the width in the SRPOW by 2 then
      - iii) If at any point during the process:
        - a) There is a trade on MIAX, use the trade price
        - b) The MIAX bid ask spread narrows to be at or within the SRPOW, use the midpoint
        - c) A CRP is established, use the CRP

(c) If the SPY goes into a trading halt during the SPIKES™ settlement process:

- (i) Keep the SRP for all SPY options which have already opened and have an SRP assigned
- (ii) For those that have not yet opened or established a SRP, use the SRP at the opening process described above once the series re-opens on MIAX

(d) Use each SPY option's SRP for the SPIKES™ settlement value calculation via the SPIKES™ index formula.

[1] Deep in-the-money (ITM) Calls and Puts are not subject to the SRPOW parameters.

SPIKES™ Cash Index Dissemination on All Days Including Expiration

Symbol: SPIKE

Every trading day for SPIKES™ derivatives, MIAX Options will start disseminating the SPIKES™ spot value as normal, as price data from ALL exchanges trading SPY options come in through OPRA.

SPIKES™ Settlement Value Dissemination

Symbol: SPKCS

On expiration days for SPIKES™ derivatives, MIAX Options will disseminate the SPIKES™ settlement value once all Settlement Options are open and have an SRP.

APPENDIX I. Expanded Quote Range (EQR) Table*

Bid Price	EQR
$0.00 - $1.00	$0.05
$1.01 - $3.00	$0.10
$3.01 - $5.00	$0.20
$5.01 - $10.00	$0.30
$10.01 - $20.00	$0.50
$20.01 - $40.00	$0.70
$40.01 or greater	$0.90

APPENDIX II. Settlement Reference Price Opening Width (SRPOW) Table*

Bid Price	Maximum Spread: Near ITM, ATM and OTM Options**
Less than $0.25	$0.06
$0.25 to less than $0.50	$0.10
$0.50 to less than $1.00	$0.15
$1.00 to less than $2.00	$0.20
$2.00 to less than $4.00	$0.25
$4.00 to less than $10.00	$0.40
$10.00 or greater	$0.50

* These tables show current values as at Oct 2018 and are subject to change

** At-the-Money (ATM), In-the-Money (ITM), Out-of-the-Money (OTM)

Disclaimer

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