

SECURITIES AND EXCHANGE COMMISSION
(Release No. 34-82887; File No. 4-631)

March 15, 2018

Joint Industry Plan; Notice of Filing and Immediate Effectiveness of the Sixteenth Amendment to the National Market System Plan to Address Extraordinary Market Volatility by Cboe BZX Exchange, Inc., Cboe BYX Exchange, Inc., Cboe EDGA Exchange, Inc., Cboe EDGX Exchange, Inc., Chicago Stock Exchange, Inc., Financial Industry Regulatory Authority, Inc., Investors Exchange LLC, NASDAQ BX, Inc., NASDAQ PHLX LLC, The Nasdaq Stock Market LLC, NYSE National, Inc., New York Stock Exchange LLC, NYSE American LLC, and NYSE Arca, Inc.

I. Introduction

On February 14, 2018, Cboe Global Markets, Inc., on behalf of Cboe BZX Exchange, Inc. (“BZX”), Cboe BYX Exchange, Inc. (“BYX”), Cboe EDGA Exchange, Inc. (“EDGA”), and Cboe EDGX Exchange, Inc. (“EDGX”), and the following parties to the Plan to Address Extraordinary Market Volatility Pursuant to Rule 608 of Regulation NMS under the Securities Exchange Act of 1934 (“Plan”):¹ Chicago Stock Exchange, Inc., the Financial Industry

¹ On May 31, 2012, the Commission approved the Plan, as modified by Amendment No. 1. See Securities Exchange Act Release No. 67091, 77 FR 33498 (June 6, 2012) (File No. 4- 631). On February 20, 2013, the Commission noticed for immediate effectiveness the Second Amendment to the Plan. See Securities Exchange Act Release No. 68953, 78 FR 13113 (February 26, 2013). On April 3, 2013, the Commission approved the Third Amendment to the Plan. See Securities Exchange Act Release No. 69287, 78 FR 21483 (April 10, 2013). On August 27, 2013, the Commission noticed for immediate effectiveness the Fourth Amendment to the Plan. See Securities Exchange Act Release No. 70273, 78 FR 54321 (September 3, 2013). On September 26, 2013, the Commission approved the Fifth Amendment to the Plan. See Securities Exchange Act Release No. 70530, 78 FR 60937 (October 2, 2013). On January 7, 2014, the Commission noticed for immediate effectiveness the Sixth Amendment to the Plan. See Securities Exchange Act Release No. 71247, 79 FR 2204 (January 13, 2014). On April 3, 2014, the Commission approved the Seventh Amendment to the Plan. See Securities Exchange Act Release No. 71851, 79 FR 19687 (April 9, 2014). On February 19, 2015, the Commission approved the Eight Amendment to the Plan. See Securities Exchange Act Release No. 74323, 80 FR 10169 (February 25, 2015). On October 22, 2015, the Commission approved the Ninth Amendment to the Plan. See Securities Exchange Act Release No. 76244, 80 FR 66099 (October 28, 2015). On April 21, 2016, the Commission approved the Tenth

Regulatory Authority, Inc., Investors Exchange LLC (“IEX”), NASDAQ BX, Inc., NASDAQ PHLX LLC, The NASDAQ Stock Market LLC, the New York Stock Exchange LLC (“NYSE”), NYSE Arca, Inc. (“NYSE Arca”), NYSE American LLC (“NYSE American”), and NYSE National, Inc. (“NYSE National”) (collectively with BYX, BZX, EDGA, and EDGX, the “Participants”), filed with the Securities and Exchange Commission (“Commission”) pursuant to Section 11A(a)(3) of the Securities Exchange Act of 1934 (“Exchange Act”)² and Rule 608 thereunder,³ a proposal to amend the Plan (“Sixteenth Amendment”).⁴ The Sixteenth Amendment proposes a non-substantive amendment to the Plan to reflect the name change of Bats BYX Exchange, Inc. to Cboe BYX Exchange, Inc., Bats BZX Exchange, Inc. to Cboe BZX Exchange, Inc., Bats EDGA Exchange, Inc. to Cboe EDGA Exchange, Inc., and Bats EDGX Exchange, Inc. to Cboe EDGX Exchange, Inc.⁵ The amendment also changes the addresses for Bats BYX Exchange, Inc., Bats BZX Exchange, Inc., Bats EDGA Exchange, Inc., and Bats

Amendment to the Plan. See Securities Exchange Act Release No. 77679, 81 FR 24908 (April 27, 2016). On August 26, 2016, the Commission noticed for immediate effectiveness the Eleventh Amendment to the Plan. See Securities Exchange Act Release No. 78703, 81 FR 60397 (September 1, 2016). On January 19, 2017, the Commission approved the Twelfth Amendment to the Plan. See Securities Exchange Act Release No. 79845, 82 FR 8551 (January 26, 2017). On April 13, 2017, the Commission approved the Thirteenth Amendment to the Plan. See Securities Exchange Act Release No. 80455, 82 FR 18519 (April 19, 2017). On April 28, 2017, the Commission noticed for immediate effectiveness the Fourteenth Amendment to the Plan. See Securities Exchange Act Release No. 80549, 82 FR 20928 (May 4, 2017). On September 26, 2017, the Commission noticed for immediate effectiveness the Fifteenth Amendment to Plan. See Securities Exchange Act Release No. 81720, 82 FR 45922 (October 2, 2017).

² 15 U.S.C 78k-1(a)(3).

³ 17 CFR 242.608.

⁴ See Letter from Joanne Moffic-Silver, General Counsel, Cboe Global Markets, Inc., to Brent Fields, Secretary, Commission, dated February 13, 2018 (“Transmittal Letter”).

⁵ See Securities Exchange Act. Release Nos. 81952 (October 26, 2018), 82 FR 50725 (November 1, 2017), 81962 (October 26, 2017), 82 FR 50711 (November 1, 2017), 81957 (October 26, 2017), 82 FR 50716 (November 1, 2016), and 81963 (October 26, 2017), 82 FR 50697 (November 1, 2017).

EDGX Exchange, Inc. The Participants are filing this change for immediate effectiveness pursuant to Rule 608(b)(3)(iii) of Regulation NMS (“Rule 608”) under the Securities Exchange Act of 1934 (“Exchange Act”).⁶

The Commission is publishing this notice to solicit comments from interested persons.⁷

II. Description of the Plan

Set forth in this Section II is the statement of the purpose and summary of the Sixteenth Amendment, along with the information required by Rule 608(a)(4) and (5) under the Exchange Act,⁸ prepared and submitted by the Participants to the Commission.⁹

A. Statement of Purpose and Summary of the Plan Amendment

The Participants submit this amendment to propose a non-substantive amendment to the Plan to reflect the name change of Bats BYX Exchange, Inc. to Cboe BYX Exchange, Inc., Bats BZX Exchange, Inc. to Cboe BZX Exchange, Inc., Bats EDGA Exchange, Inc. to Cboe EDGA Exchange, Inc., and Bats EDGX Exchange, Inc. to Cboe EDGX Exchange, Inc.¹⁰ This non-substantive amendment to the Plan also changes the addresses for Bats BYX Exchange, Inc., Bats BZX Exchange, Inc., Bats EDGA Exchange, Inc., and Bats EDGX Exchange, Inc. On October 17, 2017, BYX, BZX, EDGA, and EDGX filed proposed rule changes with the Commission for immediate effectiveness to amend, among other things, their rules to reflect a

⁶ 17 CFR 242.608.

⁷ 17 CFR 242.608(b)(1).

⁸ See 17 CFR 242.608(a)(4) and (a)(5).

⁹ See Transmittal Letter, supra note 4.

¹⁰ See supra note 5.

non-substantive corporate rebranding which included changing each exchange's name as described herein.¹¹

B. Governing or Constituent Documents

Not applicable.

C. Implementation of Amendment

Because the amendments involve solely ministerial matters, the Participants are filing this change for immediate effectiveness pursuant to Rule 608(b)(3)(iii) of Regulation NMS under the Exchange Act.¹²

D. Development and Implementation Phases

Not applicable

E. Analysis of Impact on Competition

The amendments do not impose any burden on competition because they simply effectuate a change in the names and addresses of certain Participants. For the same reasons, the Participants do not believe that the amendments introduce terms that are unreasonably discriminatory for purposes of Section 11A(c)(1)(D) of the Exchange Act.

F. Written Understanding or Agreements relating to Interpretation of, or Participation in, Plan

Not applicable

G. Approval of Amendment of the Plan

Each of the Plan's Participants has executed a written amended Plan.

H. Terms and Conditions of Access

¹¹ Id.

¹² 17 CFR 242.608.

Section II(C) of the Plan provides that any entity registered as a national securities exchange or national securities association under the Exchange Act may become a Participant by: (1) becoming a participant in the applicable Market Data Plans, as defined in Section I(F) of the Plan; (2) executing a copy of the Plan, as then in effect; (3) providing each then-current Participant with a copy of such executed Plan; and (4) effecting an amendment to the Plan as specified in Section III(B) of the Plan.

I. Method of Determination and Imposition, and Amount of, Fees and Charges

Not applicable.

J. Method and Frequency of Processor Evaluation

Not applicable.

K. Dispute Resolution

Section III(C) of the Plan provides that each Participant shall designate an individual to represent the Participant as a member of an Operating Committee. No later than the initial date of the Plan, the Operating Committee shall designate one member of the Operating Committee to act as the Chair of the Operating Committee. Any recommendation for an amendment to the Plan from the Operating Committee that receives an affirmative vote of at least two-thirds of the Participants, but is less than unanimous, shall be submitted to the Commission as a request for an amendment to the Plan initiated by the Commission under Rule 608.

III. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing, including whether the amendment is consistent with the Exchange Act and the rules thereunder. Comments may be submitted by any of the following methods:

Electronic Comments:

- Use the Commission's Internet comment form <http://www.sec.gov/rules/sro.shtml>); or
- Send an e-mail to rule-comments@sec.gov. Please include File Number 4-631 on the subject line.

Paper Comments:

- Send paper comments in triplicate to Brent J. Fields, Secretary, Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549-1090.

All submissions should refer to File Number 4-631. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet website (<http://www.sec.gov/rules/sro.shtml>). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed plan amendment that are filed with the Commission, and all written communications relating to the amendment between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, 100 F Street, NE, Washington, DC 20549, on official business days between the hours of 10:00 am and 3:00 pm. Copies of such filing also will be available for inspection and copying at the Participants' offices. All comments received

will be posted without change. Persons submitting comments are cautioned that we do not redact or edit personal identifying information from comment submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number 4-631 and should be submitted on or before [insert date 21 days from publication in the Federal Register].

By the Commission.

Brent J. Fields
Secretary

EXHIBIT A

Proposed new language is italicized; proposed deletions are in [brackets].

PLAN TO ADDRESS EXTRAORDINARY MARKET VOLATILITY

SUBMITTED TO

THE SECURITIES AND EXCHANGE COMMISSION

PURSUANT TO RULE 608 OF REGULATION NMS

UNDER THE

SECURITIES EXCHANGE ACT OF 1934

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Preamble

The Participants submit to the SEC this Plan establishing procedures to address extraordinary volatility in NMS Stocks. The procedures provide for market-wide limit up-limit down requirements that prevent trades in individual NMS Stocks from occurring outside of the specified Price Bands. These limit up-limit down requirements are coupled with Trading Pauses to accommodate more fundamental price moves. The Plan procedures are designed, among other things, to protect investors and promote fair and orderly markets. The Participants developed this Plan pursuant to Rule 608(a)(3) of Regulation NMS under the Exchange Act, which authorizes the Participants to act jointly in preparing, filing, and implementing national market system plans.

I. Definitions

(A) “Eligible Reported Transactions” shall have the meaning prescribed by the Operating Committee and shall generally mean transactions that are eligible to update the last sale price of an NMS Stock.

(B) “Exchange Act” means the Securities Exchange Act of 1934, as amended.

(C) “Limit State” shall have the meaning provided in Section VI of the Plan.

(D) “Limit State Quotation” shall have the meaning provided in Section VI of the Plan.

(E) “Lower Price Band” shall have the meaning provided in Section V of the Plan.

(F) “Market Data Plans” shall mean the effective national market system plans through which the Participants act jointly to disseminate consolidated information in compliance with Rule 603(b) of Regulation NMS under the Exchange Act.

(G) “National Best Bid” and “National Best Offer” shall have the meaning provided in Rule 600(b)(42) of Regulation NMS under the Exchange Act.

(H) “NMS Stock” shall have the meaning provided in Rule 600(b)(47) of Regulation NMS under the Exchange Act.

(I) “Opening Price” shall mean the price of a transaction that opens trading on the Primary Listing Exchange. If the Primary Listing Exchange opens with quotations, the “Opening Price” shall mean the closing price of the NMS Stock on the Primary Listing Exchange on the previous trading day, or if no such closing price exists, the last sale on the Primary Listing Exchange.

(J) “Operating Committee” shall have the meaning provided in Section III(C) of the Plan.

(K) “Participant” means a party to the Plan.

(L) “Plan” means the plan set forth in this instrument, as amended from time to time in accordance with its provisions.

(M) “Percentage Parameter” shall mean the percentages for each tier of NMS Stocks set forth in Appendix A of the Plan.

(N) “Price Bands” shall have the meaning provided in Section V of the Plan.

(O) “Primary Listing Exchange” shall mean the Participant on which an NMS Stock is listed. If an NMS Stock is listed on more than one Participant, the Participant on which the NMS Stock has been listed the longest shall be the Primary Listing Exchange.

(P) “Processor” shall mean the single plan processor responsible for the consolidation of information for an NMS Stock pursuant to Rule 603(b) of Regulation NMS under the Exchange Act.

(Q) “Pro-Forma Reference Price” shall have the meaning provided in Section V(A)(2) of the Plan.

(R) “Reference Price” shall have the meaning provided in Section V of the Plan.

(S) “Regular Trading Hours” shall have the meaning provided in Rule 600(b)(64) of Regulation NMS under the Exchange Act. For purposes of the Plan, Regular Trading Hours can end earlier than 4:00 p.m. ET in the case of an early scheduled close.

(T) “Regulatory Halt” shall have the meaning specified in the Market Data Plans.

(U) “Reopening Price” shall mean the price of a transaction that reopens trading on the Primary Listing Exchange following a Trading Pause or a Regulatory Halt, or, if the Primary Listing Exchange reopens with quotations, the midpoint of those quotations.

(V) “SEC” shall mean the United States Securities and Exchange Commission.

(W) “Straddle State” shall have the meaning provided in Section VII(A)(2) of the Plan.

(X) “Trading center” shall have the meaning provided in Rule 600(b)(78) of Regulation NMS under the Exchange Act.

(Y) “Trading Pause” shall have the meaning provided in Section VII of the Plan.

(Z) “Upper Price Band” shall have the meaning provided in Section V of the Plan.

II. Parties

(A) List of Parties

The parties to the Plan are as follows:

- (1) [Bats]Cboe BZX Exchange, Inc.
[8050 Marshall Drive
Lenexa, Kansas 66214]
400 South LaSalle Street
Chicago, Illinois 60605
- (2) [Bats]Cboe BYX Exchange, Inc.
[8050 Marshall Drive
Lenexa, Kansas 66214]
400 South LaSalle Street
Chicago, Illinois 60605
- (3) [Bats]Cboe EDGA Exchange, Inc.
[8050 Marshall Drive
Lenexa, Kansas 66214]
400 South LaSalle Street
Chicago, Illinois 60605
- (4) [Bats]Cboe EDGX Exchange, Inc.
[8050 Marshall Drive
Lenexa, Kansas 66214]
400 South LaSalle Street
Chicago, Illinois 60605
- (5) Chicago Stock Exchange, Inc.
440 South LaSalle Street
Chicago, Illinois 60605
- (6) Financial Industry Regulatory Authority, Inc.
1735 K Street, NW
Washington, DC 20006
- (7) Investors Exchange LLC
4 World Trade Center, 44th Floor
New York, New York 10007
- (8) NASDAQ BX, Inc.
One Liberty Plaza

New York, New York 10006

- (9) NASDAQ PHLX LLC
1900 Market Street
Philadelphia, Pennsylvania 19103
- (10) The Nasdaq Stock Market LLC
1 Liberty Plaza
165 Broadway
New York, NY 10006
- (11) NYSE National, Inc.
11 Wall Street
New York, NY 10005
- (12) New York Stock Exchange LLC
11 Wall Street
New York, New York 10005
- (13) NYSE American LLC
11 Wall Street
New York, New York 10005
- (14) NYSE Arca, Inc.
11 Wall Street
New York, New York 10005
- (B) Compliance Undertaking

By subscribing to and submitting the Plan for approval by the SEC, each Participant agrees to comply with and to enforce compliance, as required by Rule 608(c) of Regulation NMS under the Exchange Act, by its members with the provisions of the Plan. To this end, each Participant shall adopt a rule requiring compliance by its members with the provisions of the Plan, and each Participant shall take such actions as are necessary and appropriate as a participant of the Market Data Plans to cause and enable the Processor for each NMS Stock to fulfill the functions set forth in this Plan.

(C) New Participants

The Participants agree that any entity registered as a national securities exchange or national securities association under the Exchange Act may become a Participant by: (1) becoming a

participant in the applicable Market Data Plans; (2) executing a copy of the Plan, as then in effect; (3) providing each then-current Participant with a copy of such executed Plan; and (4) effecting an amendment to the Plan as specified in Section III (B) of the Plan.

(D) Advisory Committee

(1) Formation. Notwithstanding other provisions of this Plan, an Advisory Committee to the Plan shall be formed and shall function in accordance with the provisions set forth in this section.

(2) Composition. Members of the Advisory Committee shall be selected for two-year terms as follows:

(A) Advisory Committee Selections. By affirmative vote of a majority of the Participants, the Participants shall select at least one representatives from each of the following categories to be members of the Advisory Committee: (1) a broker-dealer with a substantial retail investor customer base; (2) a broker-dealer with a substantial institutional investor customer base; (3) an alternative trading system; (4) a broker-dealer that primarily engages in trading for its own account; and (5) an investor.

(3) Function. Members of the Advisory Committee shall have the right to submit their views to the Operating Committee on Plan matters, prior to a decision by the Operating Committee on such matters. Such matters shall include, but not be limited to, proposed material amendments to the Plan.

(4) Meetings and Information. Members of the Advisory Committee shall have the right to attend meetings of the Operating Committee and to receive any information concerning Plan matters; provided, however, that the Operating Committee may meet in executive session if, by affirmative vote of a majority of the Participants, the Operating Committee determines that an item of Plan business requires confidential treatment.

III. Amendments to Plan

(A) General Amendments

Except with respect to the addition of new Participants to the Plan, any proposed change in, addition to, or deletion from the Plan shall be effected by means of a written amendment to the Plan that: (1) sets forth the change, addition, or deletion; (2) is executed on behalf of each Participant; and, (3) is approved by the SEC pursuant to Rule 608 of Regulation NMS under the Exchange Act, or otherwise becomes effective under Rule 608 of Regulation NMS under the Exchange Act.

(B) New Participants

With respect to new Participants, an amendment to the Plan may be effected by the new national securities exchange or national securities association executing a copy of the Plan, as then in effect (with the only changes being the addition of the new Participant's name in Section II(A) of the Plan) and submitting such executed Plan to the SEC for approval. The amendment shall be effective when it is approved by the SEC in accordance with Rule 608 of Regulation NMS under the Exchange Act or otherwise becomes effective pursuant to Rule 608 of Regulation NMS under the Exchange Act.

(C) Operating Committee

(1) Each Participant shall select from its staff one individual to represent the Participant as a member of an Operating Committee, together with a substitute for such individual. The substitute may participate in deliberations of the Operating Committee and shall be considered a voting member thereof only in the absence of the primary representative. Each Participant shall have one vote on all matters considered by the Operating Committee. No later than the initial date of Plan operations, the Operating Committee shall designate one member of the Operating Committee to act as the Chair of the Operating Committee.

(2) The Operating Committee shall monitor the procedures established pursuant to this Plan and advise the Participants with respect to any deficiencies, problems, or recommendations as the Operating Committee may deem appropriate. The Operating Committee shall establish specifications and procedures for the implementation and operation of the Plan that are consistent with the provisions of this Plan and the Appendixes thereto. With respect to matters in this paragraph, Operating Committee decisions shall be approved by a simple majority vote.

(3) Any recommendation for an amendment to the Plan from the Operating Committee that receives an affirmative vote of at least two-thirds of the Participants, but is less than unanimous, shall be submitted to the SEC as a request for an amendment to the Plan initiated by the Commission under Rule 608 of Regulation NMS.

IV. Trading Center Policies and Procedures

All trading centers in NMS Stocks, including both those operated by Participants and those operated by members of Participants, shall establish, maintain, and enforce written policies and procedures that are reasonably designed to comply with the limit up - limit down requirements specified in Sections VI of the Plan, and to comply with the Trading Pauses specified in Section VII of the Plan.

V. Price Bands

(A) Calculation and Dissemination of Price Bands

(1) The Processor for each NMS stock shall calculate and disseminate to the public a Lower Price Band and an Upper Price Band during Regular Trading Hours for such NMS Stock. The Price Bands shall be based on a Reference Price for each NMS Stock that equals the arithmetic mean price of Eligible Reported Transactions for the NMS stock over the immediately preceding five-minute period (except for periods following openings and reopenings, which are addressed below). If no

Eligible Reported Transactions for the NMS Stock have occurred over the immediately preceding five-minute period, the previous Reference Price shall remain in effect. The Price Bands for an NMS Stock shall be calculated by applying the Percentage Parameter for such NMS Stock to the Reference Price, with the Lower Price Band being a Percentage Parameter below the Reference Price, and the Upper Price Band being a Percentage Parameter above the Reference Price. The Price Bands shall be calculated during Regular Trading Hours. Between 9:30 a.m. and 9:45 a.m. ET, and 3:35 p.m. and 4:00 p.m. ET, or in the case of an early scheduled close, during the last 25 minutes of trading before the early scheduled close, the Price Bands shall be calculated by applying double the Percentage Parameters set forth in Appendix A. If the Processor has not yet disseminated Price Bands, but a Reference Price is available, a trading center may calculate and apply Price Bands based on the same Reference Price that the Processor would use for calculating such Price Bands until such trading center receives Price Bands from the Processor. If, under Section VII(B)(2), the Primary Listing Exchange notifies the Processor that it is unable to reopen an NMS Stock due to a systems or technology issue and it has not declared a Regulatory Halt, the Processor will calculate and disseminate Price Bands by applying triple the Percentage Parameters set forth in Appendix A for the first 30 seconds such Price Bands are disseminated.

(2) The Processor shall calculate a Pro-Forma Reference Price on a continuous basis during Regular Trading Hours, as specified in Section V(A)(1) of the Plan. If a Pro-Forma Reference Price has not moved by 1% or more from the Reference Price currently in effect, no new Price Bands shall be disseminated, and the current Reference Price shall remain the effective Reference Price. When the Pro-Forma Reference Price has moved by 1% or more from the Reference Price currently in effect, the Pro-Forma Reference Price shall become the Reference Price, and the Processor shall disseminate new

Price Bands based on the new Reference Price; provided, however, that each new Reference Price shall remain in effect for at least 30 seconds.

(B) Openings

(1) Except when a Regulatory Halt is in effect at the start of Regular Trading Hours, the first Reference Price for a trading day shall be the Opening Price on the Primary Listing Exchange in an NMS Stock if such Opening Price occurs less than five minutes after the start of Regular Trading Hours. During the period less than five minutes after the Opening Price, a Pro-Forma Reference Price shall be updated on a continuous basis to be the arithmetic mean price of Eligible Reported Transactions for the NMS Stock during the period following the Opening Price (including the Opening Price), and if it differs from the current Reference Price by 1% or more shall become the new Reference Price, except that a new Reference Price shall remain in effect for at least 30 seconds. Subsequent Reference Prices shall be calculated as specified in Section V(A) of the Plan.

(2) If the Opening Price on the Primary Listing Exchange in an NMS Stock does not occur within five minutes after the start of Regular Trading Hours, the first Reference Price for a trading day shall be the arithmetic mean price of Eligible Reported Transactions for the NMS Stock over the preceding five minute time period, and subsequent Reference Prices shall be calculated as specified in Section V(A) of the Plan.

(C) Reopenings

(1) Following a Trading Pause in an NMS Stock, and if the Primary Listing Exchange has not declared a Regulatory Halt, if the Primary Listing Exchange reopens trading with a transaction or quotation that does not include a zero bid or zero offer, the next Reference Price shall be the Reopening Price on the Primary Listing Exchange. Subsequent Reference Prices shall be determined in the manner prescribed for normal openings, as specified in Section V(B)(1) of the Plan. If the

Primary Listing Exchange notifies the Processor that it is unable to reopen an NMS Stock due to a systems or technology issue, or if the Primary Listing Exchange reopens trading with a quotation that has a zero bid or zero offer, or both, the next Reference Price shall be the last effective Price Band that was in a Limit State before the Trading Pause. Subsequent Reference Prices shall be calculated as specified in Section V(A) of the Plan.

(2) Following a Regulatory Halt, the next Reference Price shall be the Opening or Reopening Price on the Primary Listing Exchange if such Opening or Reopening Price occurs within five minutes after the end of the Regulatory Halt, and subsequent Reference Prices shall be determined in the manner prescribed for normal openings, as specified in Section V(B)(1) of the Plan. If such Opening or Reopening Price has not occurred within five minutes after the end of the Regulatory Halt, the Reference Price shall be equal to the arithmetic mean price of Eligible Reported Transactions for the NMS Stock over the preceding five minute time period, and subsequent Reference Prices shall be calculated as specified in Section V(A) of the Plan.

VI. Limit Up-Limit Down Requirements

(A) Limitations on Trades and Quotations Outside of Price Bands

(1) All trading centers in NMS Stocks, including both those operated by Participants and those operated by members of Participants, shall establish, maintain, and enforce written policies and procedures that are reasonably designed to prevent trades at prices that are below the Lower Price Band or above the Upper Price Band for an NMS Stock. Single-priced opening, reopening, and closing transactions on the Primary Listing Exchange, however, shall be excluded from this limitation. In addition, any transaction that both (i) does not update the last sale price (except if solely because the transaction was reported late or because the transaction was an odd-lot sized transaction), and (ii) is excepted or exempt from Rule 611 under Regulation NMS shall be excluded from this limitation.

(2) When a National Best Bid is below the Lower Price Band or a National Best Offer is above the Upper Price Band for an NMS Stock, the Processor shall disseminate such National Best Bid or National Best Offer with an appropriate flag identifying it as non-executable. When a National Best Offer is equal to the Lower Price Band or a National Best Bid is equal to the Upper Price Band for an NMS Stock, the Processor shall distribute such National Best Bid or National Best Offer with an appropriate flag identifying it as a “Limit State Quotation”.

(3) All trading centers in NMS Stocks, including both those operated by Participants and those operated by members of Participants, shall establish, maintain, and enforce written policies and procedures that are reasonably designed to prevent the display of offers below the Lower Price Band and bids above the Upper Price Band for an NMS Stock. The Processor shall disseminate an offer below the Lower Price Band or bid above the Upper Price Band that may be submitted despite such reasonable policies and procedures, but with an appropriate flag identifying it as non-executable; provided, however, that any such bid or offer shall not be included in National Best Bid or National Best Offer calculations.

(B) Entering and Exiting a Limit State

(1) All trading for an NMS Stock shall immediately enter a Limit State if the National Best Offer equals the Lower Price Band and does not cross the National Best Bid, or the National Best Bid equals the Upper Price Band and does not cross the National Best Offer.

(2) When trading for an NMS Stock enters a Limit State, the Processor shall disseminate this information by identifying the relevant quotation (i.e., a National Best Offer that equals the Lower Price Band or a National Best Bid that equals the Upper Price Band) as a Limit State Quotation. At this point, the Processor shall cease calculating and disseminating updated Reference Prices and Price

Bands for the NMS Stock until either trading exits the Limit State or trading resumes with an opening or re-opening as provided in Section V.

(3) Trading for an NMS Stock shall exit a Limit State if, within 15 seconds of entering the Limit State, the entire size of all Limit State Quotations are executed or cancelled.

(4) If trading for an NMS Stock exits a Limit State within 15 seconds of entry, the Processor shall immediately calculate and disseminate updated Price Bands based on a Reference Price that equals the arithmetic mean price of Eligible Reported Transactions for the NMS Stock over the immediately preceding five-minute period (including the period of the Limit State).

(5) If trading for an NMS Stock does not exit a Limit State within 15 seconds of entry, the Limit State will terminate when the Primary Listing Exchange declares a Trading Pause pursuant to Section VII of the Plan or at the end of Regular Trading Hours.

VII. Trading Pauses

(A) Declaration of Trading Pauses

(1) If trading for an NMS Stock does not exit a Limit State within 15 seconds of entry during Regular Trading Hours, then the Primary Listing Exchange shall declare a Trading Pause for such NMS Stock and shall notify the Processor.

(2) The Primary Listing Exchange may also declare a Trading Pause for an NMS Stock when an NMS Stock is in a Straddle State, which is when National Best Bid (Offer) is below (above) the Lower (Upper) Price Band and the NMS Stock is not in a Limit State, and trading in that NMS Stock deviates from normal trading characteristics such that declaring a Trading Pause would support the Plan's goal to address extraordinary market volatility. The Primary Listing Exchange shall develop policies and procedures for determining when it would declare a Trading Pause in such circumstances.

If a Trading Pause is declared for an NMS Stock under this provision, the Primary Listing Exchange shall notify the Processor.

(3) The Processor shall disseminate Trading Pause information to the public. No trades in an NMS Stock shall occur during a Trading Pause, but all bids and offers may be displayed.

(B) Reopening of Trading During Regular Trading Hours

(1) Five minutes after declaring a Trading Pause for an NMS Stock, and if the Primary Listing Exchange has not declared a Regulatory Halt, the Primary Listing Exchange shall attempt to reopen trading using its established reopening procedures. The Processor will publish the following information that the Primary Listing Exchange provides to the Processor in connection with such reopening: auction reference price; auction collars; and number of extensions to the reopening auction. The Trading Pause shall end when the Primary Listing Exchange reports a Reopening Price.

(2) The Primary Listing Exchange shall notify the Processor if it is unable to reopen trading in an NMS Stock due to a systems or technology issue and if it has not declared a Regulatory Halt. The Processor shall disseminate this information to the public.

(3) Trading centers may not resume trading in an NMS Stock following a Trading Pause without Price Bands in such NMS Stock.

(4) The Processor shall update the Price Bands as set forth in Section V(C)(1) – (2) of the Plan after receiving notification from the Primary Listing Exchange of a Reopening Price following a Trading Pause (or a resume message in the case of a reopening quote that has a zero bid or zero offer, or both) or that it is unable to reopen trading following a Trading Pause due to a systems or technology issue, provided that if the Primary Listing Exchange is unable to reopen due to a systems or technology issue, the update to the Price Bands will be no earlier than ten minutes after the beginning of the Trading Pause.

(C) Trading Pauses Within Ten Minutes of the End of Regular Trading Hours

(1) If an NMS Stock is in a Trading Pause during the last ten minutes of trading before the end of Regular Trading Hours, the Primary Listing Exchange shall not reopen trading and shall attempt to execute a closing transaction using its established closing procedures. All trading centers may begin trading the NMS Stock when the Primary Listing Exchange executes a closing transaction.

(2) If the Primary Listing Exchange does not execute a closing transaction within five minutes after the end of Regular Trading Hours, all trading centers may begin trading the NMS Stock.

VIII. Implementation

The initial date of Plan operations shall be April 8, 2013.

The Plan shall be implemented on a pilot basis set to end on April 16, 2018.

IX. Withdrawal from Plan

If a Participant obtains SEC approval to withdraw from the Plan, such Participant may withdraw from the Plan at any time on not less than 30 days' prior written notice to each of the other Participants. At such time, the withdrawing Participant shall have no further rights or obligations under the Plan.

X. Counterparts and Signatures

The Plan may be executed in any number of counterparts, no one of which need contain all signatures of all Participants, and as many of such counterparts as shall together contain all such signatures shall constitute one and the same instrument.

IN WITNESS THEREOF, this Plan has been executed as of the 13th day of February 2018 by each of the parties hereto.

[BATS]Cboe BZX EXCHANGE, INC.



BY: _____

[BATS]Cboe BYX EXCHANGE, INC.



BY: _____

[BATS]Cboe EDGA EXCHANGE, INC.



BY: _____

[BATS]Cboe EDGX EXCHANGE, INC.



BY: _____

CHICAGO STOCK EXCHANGE, INC.

BY: _____

FINANCIAL INDUSTRY
REGULATORY AUTHORITY, INC.

BY: _____

INVESTORS EXCHANGE LLC

BY: _____

NASDAQ BX, Inc.

BY: _____

NASDAQ PHLX LLC

BY: _____

THE NASDAQ STOCK MARKET LLC

BY: _____

NYSE NATIONAL, INC.

BY: _____

NEW YORK STOCK EXCHANGE LLC

BY: _____

NYSE American LLC

BY: _____

NYSE ARCA, INC.

BY: _____

Appendix A – Percentage Parameters

I. Tier 1 NMS Stocks

(1) Tier 1 NMS Stocks shall include all NMS Stocks included in the S&P 500 Index, the Russell 1000 Index, and the exchange-traded products (“ETP”) identified as Schedule 1 to this Appendix. Schedule 1 to the Appendix will be reviewed and updated semi-annually based on the fiscal year by the Primary Listing Exchange to add ETPs that meet the criteria, or delete ETPs that are no longer eligible. To determine eligibility for an ETP to be included as a Tier 1 NMS Stock, all ETPs across multiple asset classes and issuers, including domestic equity, international equity, fixed income, currency, and commodities and futures will be identified. Leveraged ETPs will be excluded and the list will be sorted by notional consolidated average daily volume (“CADV”). The period used to measure CADV will be from the first day of the previous fiscal half year up until one week before the beginning of the next fiscal half year. Daily volumes will be multiplied by closing prices and then averaged over the period. ETPs, including inverse ETPs, that trade over \$2,000,000 CADV will be eligible to be included as a Tier 1 NMS Stock. The semi-annual updates to Schedule 1 do not require an amendment to the Plan. The Primary Listing Exchanges will maintain the updated Schedule 1 on their respective websites.

(2) The Percentage Parameters for Tier 1 NMS Stocks with a Reference Price more than \$3.00 shall be 5%.

(3) The Percentage Parameters for Tier 1 NMS Stocks with a Reference Price equal to \$0.75 and up to and including \$3.00 shall be 20%.

(4) The Percentage Parameters for Tier 1 NMS Stocks with a Reference Price less than \$0.75 shall be the lesser of (a) \$0.15 or (b) 75%.

(5) The Reference Price used for determining which Percentage Parameter shall be applicable during a trading day shall be based on the closing price of the NMS Stock on the Primary Listing Exchange on the previous trading day, or if no closing price exists, the last sale on the Primary Listing Exchange reported by the Processor.

II. Tier 2 NMS Stocks

(1) Tier 2 NMS Stocks shall include all NMS Stocks other than those in Tier 1, provided, however, that all rights and warrants are excluded from the Plan.

(2) The Percentage Parameters for Tier 2 NMS Stocks with a Reference Price more than \$3.00 shall be 10%.

(3) The Percentage Parameters for Tier 2 NMS Stocks with a Reference Price equal to \$0.75 and up to and including \$3.00 shall be 20%.

(4) The Percentage Parameters for Tier 2 NMS Stocks with a Reference Price less than \$0.75 shall be the lesser of (a) \$0.15 or (b) 75%.

(5) Notwithstanding the foregoing, the Percentage Parameters for a Tier 2 NMS Stock that is a leveraged ETP shall be the applicable Percentage Parameter set forth in clauses (2), (3), or (4) above, multiplied by the leverage ratio of such product.

(6) The Reference Price used for determining which Percentage Parameter shall be applicable during a trading day shall be based on the closing price of the NMS Stock on the Primary Listing Exchange on the previous trading day, or if no closing price exists, the last sale on the Primary Listing Exchange reported by the Processor.

**Appendix A – Schedule 1
(as of January 2, 2018)**

| Ticker | ETP Name | Exchange |
|---------------|--|-----------------|
| SPY | SPDR S&P 500® ETF | NYSE Arca |
| QQQ | Powershares QQQ Trust Series 1 | NASDAQ |
| IWM | iShares Russell 2000 ETF | NYSE Arca |
| EEM | iShares MSCI Emerging Markets ETF | NYSE Arca |
| XLF | Financial Select Sector SPDR Fund | NYSE Arca |
| VXX | iPath S&P 500 VIX Short-Term Futures ETN | NYSE Arca |
| EFA | iShares MSCI EAFE ETF | NYSE Arca |
| TLT | iShares 20+ Year Treasury Bond ETF | NASDAQ |
| HYG | iShares iBoxx \$ High Yield Corporate Bond ETF | NYSE Arca |
| GDX | VanEck Vectors Gold Miners ETF | NYSE Arca |
| XIV | VelocityShares Daily Inverse VIX Short Term ETN | NASDAQ |
| IVV | iShares Core S&P 500 ETF | NYSE Arca |
| GLD | SPDR Gold Trust | NYSE Arca |
| XLE | Energy Select Sector SPDR Fund | NYSE Arca |
| LQD | iShares iBoxx \$ Investment Grade Corporate Bond ETF | NYSE Arca |
| EWZ | iShares MSCI Brazil Capped ETF | NYSE Arca |
| XLU | Utilities Select Sector SPDR Fund | NYSE Arca |
| XLI | Industrial Select Sector SPDR Fund | NYSE Arca |
| DIA | SPDR Dow Jones Industrial Average ETF Trust | NYSE Arca |
| XLP | Consumer Staples Select Sector SPDR Fund | NYSE Arca |
| XLK | Technology Select Sector SPDR Fund | NYSE Arca |
| SVXY | ProShares Short VIX Short Term Futures | NYSE Arca |
| FXI | iShares China Large-Cap ETF | NYSE Arca |
| XLV | Health Care Select Sector SPDR Fund | NYSE Arca |
| IYR | iShares U.S. Real Estate ETF | NYSE Arca |
| XOP | SPDR S&P Oil & Gas Exploration & Production ETF | NYSE Arca |
| VWO | Vanguard FTSE Emerging Markets ETF | NYSE Arca |
| VOO | Vanguard S&P 500 ETF | NYSE Arca |
| IEMG | iShares Core MSCI Emerging Markets ETF | NYSE Arca |
| EWJ | iShares MSCI Japan ETF | NYSE Arca |
| GDXJ | VanEck Vectors Junior Gold Miners ETF | NYSE Arca |
| XLY | Consumer Discretionary Select Sector SPDR Fund | NYSE Arca |
| SMH | VanEck Vectors Semiconductor ETF | NYSE Arca |
| JNK | SPDR Bloomberg Barclays High Yield Bond ETF | NYSE Arca |
| KRE | SPDR S&P Regional Banking ETF | NYSE Arca |
| MDY | SPDR S&P MidCap 400® ETF | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|---|-----------------|
| XBI | SPDR S&P Biotech ETF | NYSE Arca |
| VEA | Vanguard FTSE Developed Markets ETF | NYSE Arca |
| IBB | iShares Nasdaq Biotechnology ETF | NASDAQ |
| VNQ | Vanguard REIT ETF | NYSE Arca |
| AGG | iShares Core U.S. Aggregate Bond ETF | NYSE Arca |
| EZU | iShares MSCI Eurozone ETF | Cboe BZX |
| VTI | Vanguard Total Stock Market ETF | NYSE Arca |
| IEFA | iShares Core MSCI EAFE ETF | Cboe BZX |
| XLB | Materials Select Sector SPDR Fund | NYSE Arca |
| EMB | iShares JP Morgan USD Emerging Markets Bond ETF | NASDAQ |
| IWD | iShares Russell 1000 Value ETF | NYSE Arca |
| USO | United States Oil Fund LP | NYSE Arca |
| XRT | SPDR S&P Retail ETF | NYSE Arca |
| IEF | iShares 7-10 Year Treasury Bond ETF | NASDAQ |
| IJR | iShares Core S&P Small-Cap ETF | NYSE Arca |
| IJH | iShares Core S&P Mid-Cap ETF | NYSE Arca |
| IWF | iShares Russell 1000 Growth ETF | NYSE Arca |
| VGK | Vanguard FTSE Europe ETF | NYSE Arca |
| EWY | iShares MSCI South Korea Capped ETF | NYSE Arca |
| BND | Vanguard Total Bond Market ETF | NYSE Arca |
| OIH | VanEck Vectors Oil Services ETF | NYSE Arca |
| DXJ | WisdomTree Japan Hedged Equity Fund | NYSE Arca |
| AMLPL | Alerian MLP ETF | NYSE Arca |
| EWX | iShares MSCI Mexico Capped ETF | NYSE Arca |
| IWB | iShares Russell 1000 ETF | NYSE Arca |
| VTV | Vanguard Value ETF | NYSE Arca |
| RSX | VanEck Vectors Russia ETF | NYSE Arca |
| SLV | iShares Silver Trust | NYSE Arca |
| EWT | iShares MSCI Taiwan Capped ETF | NYSE Arca |
| IAU | iShares Gold Trust | NYSE Arca |
| VCSH | Vanguard Short-Term Corporate Bond ETF | NASDAQ |
| TIP | iShares TIPS Bond ETF | NYSE Arca |
| ACWI | iShares MSCI ACWI ETF | NASDAQ |
| IWO | iShares Russell 2000 Growth ETF | NYSE Arca |
| BSV | Vanguard Short-Term Bond ETF | NYSE Arca |
| MCHI | iShares MSCI China ETF | NASDAQ |
| VCIT | Vanguard Intermediate-Term Corporate Bond ETF | NASDAQ |
| IWN | iShares Russell 2000 Value ETF | NYSE Arca |
| EWG | iShares MSCI Germany ETF | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|---|-----------------|
| INDA | iShares MSCI India ETF | Cboe BZX |
| FEZ | SPDR EURO STOXX 50 ETF | NYSE Arca |
| KBE | SPDR S&P Bank ETF | NYSE Arca |
| IVW | iShares S&P 500 Growth ETF | NYSE Arca |
| VEU | Vanguard FTSE All-World ex-US ETF | NYSE Arca |
| PFF | iShares US Preferred Stock ETF | NASDAQ |
| ITB | iShares U.S. Home Construction ETF | Cboe BZX |
| AAXJ | iShares MSCI All Country Asia ex Japan ETF | NASDAQ |
| EWH | iShares MSCI Hong Kong ETF | NYSE Arca |
| HEDJ | WisdomTree Europe Hedged Equity Fund | NYSE Arca |
| SOXX | iShares PHLX Semiconductor ETF | NASDAQ |
| XME | SPDR S&P Metals & Mining ETF | NYSE Arca |
| IVE | iShares S&P 500 Value ETF | NYSE Arca |
| SHV | iShares Short Treasury Bond ETF | NASDAQ |
| SHY | iShares 1-3 Year Treasury Bond ETF | NASDAQ |
| VB | Vanguard Small-Cap ETF | NYSE Arca |
| VUG | Vanguard Growth ETF | NYSE Arca |
| BKLN | PowerShares Senior Loan Portfolio | NYSE Arca |
| AMJ | JPMorgan Alerian MLP Index ETN | NYSE Arca |
| VGT | Vanguard Information Technology ETF | NYSE Arca |
| SH | ProShares Short S&P500 | NYSE Arca |
| USMV | iShares MSCI USA Minimum Volatility ETF | Cboe BZX |
| EWU | iShares MSCI United Kingdom ETF | NYSE Arca |
| VYM | Vanguard High Dividend Yield Index Fund | NYSE Arca |
| XHB | SPDR S&P Homebuilders ETF | NYSE Arca |
| IEI | iShares 3-7 Year Treasury Bond ETF | NASDAQ |
| FXE | CurrencyShares Euro Trust | NYSE Arca |
| EWC | iShares MSCI Canada ETF | NYSE Arca |
| UNG | United States Natural Gas Fund LP | NYSE Arca |
| MBB | iShares MBS ETF | NASDAQ |
| XLRE | Real Estate Select Sector SPDR Fund | NYSE Arca |
| SPLV | PowerShares S&P 500® Low Volatility Portfolio | NYSE Arca |
| MUB | iShares National Muni Bond ETF | NYSE Arca |
| VT | Vanguard Total World Stock Index Fund | NYSE Arca |
| MINT | PIMCO Enhanced Short Maturity Strategy Exchange-Traded Fund | NYSE Arca |
| DBEF | Xtrackers MSCI EAFE Hedged Equity ETF | NYSE Arca |
| VO | Vanguard Mid-Cap ETF | NYSE Arca |
| OEF | iShares S&P 100 ETF | NYSE Arca |
| VIG | Vanguard Dividend Appreciation ETF | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|---|-----------------|
| EWP | iShares MSCI Spain Capped ETF | NYSE Arca |
| FLOT | iShares Floating Rate Bond ETF | Cboe BZX |
| EPI | WisdomTree India Earnings Fund | NYSE Arca |
| DVY | iShares Select Dividend ETF | NASDAQ |
| CSJ | iShares 1-3 Year Credit Bond ETF | NASDAQ |
| VIXY | ProShares VIX Short-Term Futures ETF | NYSE Arca |
| CWB | SPDR Bloomberg Barclays Convertible Securities ETF | NYSE Arca |
| BIV | Vanguard Intermediate-Term Bond ETF | NYSE Arca |
| SCHF | Schwab International Equity ETF | NYSE Arca |
| ITA | iShares US Aerospace & Defense ETF | Cboe BZX |
| SCZ | iShares MSCI EAFE Small-Cap ETF | NASDAQ |
| RSP | Guggenheim S&P 500 Equal Weight ETF | NYSE Arca |
| SJNK | SPDR Bloomberg Barclays Short Term High Yield Bond ETF | NYSE Arca |
| ITOT | iShares Core S&P Total U.S. Stock Market ETF | NYSE Arca |
| BNDX | Vanguard Total International Bond ETF | NASDAQ |
| EWA | iShares MSCI Australia ETF | NYSE Arca |
| IYT | iShares Transportation Average ETF | Cboe BZX |
| ILF | iShares Latin America 40 ETF | NYSE Arca |
| VFH | Vanguard Financials ETF | NYSE Arca |
| PCY | PowerShares Emerging Markets Sovereign Debt Portfolio | NYSE Arca |
| HYS | PIMCO 0-5 Year High Yield Corporate Bond Index Exchange-Traded Fund | NYSE Arca |
| FDN | First Trust Dow Jones Internet Index Fund | NYSE Arca |
| CIU | iShares Intermediate Credit Bond ETF | NASDAQ |
| MTUM | iShares MSCI USA Momentum Factor ETF | Cboe BZX |
| VBR | Vanguard Small-Cap Value ETF | NYSE Arca |
| VXUS | Vanguard Total International Stock ETF | NASDAQ |
| SDY | SPDR S&P Dividend ETF | NYSE Arca |
| IWR | iShares Russell Mid-Cap ETF | NYSE Arca |
| EMLC | VanEck Vectors Emerging Markets Local Currency Bond ETF | NYSE Arca |
| HEWJ | iShares Currency Hedged MSCI Japan ETF | NYSE Arca |
| EFAV | iShares MSCI EAFE Minimum Volatility ETF | Cboe BZX |
| EUFN | iShares MSCI Europe Financials ETF | NASDAQ |
| IWS | iShares Russell Mid-Cap Value ETF | NYSE Arca |
| SCHX | Schwab U.S. Large-Cap ETF | NYSE Arca |
| NEAR | iShares Short Maturity Bond ETF | Cboe BZX |
| IWP | iShares Russell Mid-Cap Growth ETF | NYSE Arca |
| KWEB | KraneShares CSI China Internet ETF | NYSE Arca |
| HEFA | iShares Currency Hedged MSCI EAFE ETF | Cboe BZX |

| Ticker | ETP Name | Exchange |
|---------------|--|-----------------|
| EWI | iShares MSCI Italy Capped ETF | NYSE Arca |
| IWV | iShares Russell 3000 ETF | NYSE Arca |
| IYF | iShares U.S. Financials ETF | NYSE Arca |
| EZA | iShares MSCI South Africa ETF | NYSE Arca |
| VXF | Vanguard Extended Market Index Fund | NYSE Arca |
| IYW | iShares U.S. Technology ETF | NYSE Arca |
| VHT | Vanguard Health Care ETF | NYSE Arca |
| BIL | SPDR Bloomberg Barclays 1-3 Month T-Bill ETF | NYSE Arca |
| UUP | PowerShares DB US Dollar Index Bullish Fund | NYSE Arca |
| IEUR | iShares Core MSCI Europe ETF | NYSE Arca |
| DBC | PowerShares DB Commodity Index Tracking Fund | NYSE Arca |
| EFV | iShares MSCI EAFE Value ETF | Cboe BZX |
| HEZU | iShares Currency Hedged MSCI Eurozone ETF | NYSE Arca |
| SCHB | Schwab U.S. Broad Market ETF | NYSE Arca |
| IEV | iShares Europe ETF | NYSE Arca |
| SCHD | Schwab U.S. Dividend Equity ETF | NYSE Arca |
| VV | Vanguard Large-Cap ETF | NYSE Arca |
| PGX | PowerShares Preferred Portfolio | NYSE Arca |
| EWL | iShares MSCI Switzerland Capped ETF | NYSE Arca |
| VPL | Vanguard FTSE Pacific ETF | NYSE Arca |
| IJK | iShares S&P Mid-Cap 400 Growth ETF | NYSE Arca |
| BOTZ | Global X Robotics & Artificial Intelligence Thematic ETF | NASDAQ |
| VMBS | Vanguard Mortgage-Backed Securities ETF | NASDAQ |
| IXUS | iShares Core MSCI Total International Stock ETF | NASDAQ |
| VCLT | Vanguard Long-Term Corporate Bond ETF | NASDAQ |
| SCHE | Schwab Emerging Markets Equity ETF | NYSE Arca |
| LIT | Global X Lithium & Battery Tech ETF | NYSE Arca |
| ASHR | Xtrackers Harvest CSI 300 China A-Shares ETF | NYSE Arca |
| ACWX | iShares MSCI ACWI ex US ETF | NASDAQ |
| VOE | Vanguard Mid-Cap Value ETF | NYSE Arca |
| VDE | Vanguard Energy ETF | NYSE Arca |
| HDV | iShares Core High Dividend ETF | NYSE Arca |
| IUSG | iShares Core US Growth ETF | NASDAQ |
| SCHA | Schwab U.S. Small-Cap ETF | NYSE Arca |
| PSQ | ProShares Short QQQ | NYSE Arca |
| GOVT | iShares Core US Treasury Bond ETF | Cboe BZX |
| KBWB | PowerShares KBW Bank Portfolio | NASDAQ |
| EEMV | iShares MSCI Emerging Markets Minimum Volatility ETF/Dup | Cboe BZX |
| VTIP | Vanguard Short-Term Inflation-Protected Securities ETF | NASDAQ |

| Ticker | ETP Name | Exchange |
|---------------|--|-----------------|
| RWX | SPDR Dow Jones International Real Estate ETF | NYSE Arca |
| ROBO | ROBO Global Robotics and Automation Index ETF | NASDAQ |
| DBJP | Xtrackers MSCI Japan Hedged Equity ETF | NYSE Arca |
| VNQI | Vanguard Global ex-U.S. Real Estate ETF | NASDAQ |
| SHYG | iShares 0-5 Year High Yield Corporate Bond ETF | NYSE Arca |
| QUAL | iShares MSCI USA Quality Factor ETF | Cboe BZX |
| IGV | iShares North American Tech-Software ETF | Cboe BZX |
| EPP | iShares MSCI Pacific ex Japan ETF | NYSE Arca |
| EWQ | iShares MSCI France ETF | NYSE Arca |
| VLUE | iShares MSCI USA Value Factor ETF | Cboe BZX |
| VSS | Vanguard FTSE All-World Ex-US Small-Cap Index Fund | NYSE Arca |
| ECH | iShares MSCI Chile Capped ETF | Cboe BZX |
| SCHZ | Schwab U.S. Aggregate Bond ETF | NYSE Arca |
| IDV | iShares International Select Dividend ETF | Cboe BZX |
| IJS | iShares S&P Small-Cap 600 Value ETF | NYSE Arca |
| DBEU | Xtrackers MSCI Europe Hedged Equity ETF | NYSE Arca |
| SPIB | SPDR Bloomberg Barclays Intermediate Term Corporate Bond ETF | NYSE Arca |
| IHI | iShares U.S. Medical Devices ETF | NYSE Arca |
| HYD | VanEck Vectors High Yield Municipal Index ETF | NYSE Arca |
| SCHO | Schwab Short-Term U.S. Treasury ETF | NYSE Arca |
| SCHH | Schwab U.S. REIT ETF | NYSE Arca |
| IUSV | iShares Core US Value ETF | NASDAQ |
| SCHG | Schwab U.S. Large-Cap Growth ETF | NYSE Arca |
| SHM | SPDR Nuveen Bloomberg Barclays Short Term Municipal Bond ETF | NYSE Arca |
| FPE | First Trust Preferred Securities and Income ETF | NYSE Arca |
| SPSB | SPDR Bloomberg Barclays Short Term Corporate Bond ETF | NYSE Arca |
| VBK | Vanguard Small-Cap Growth ETF | NYSE Arca |
| ACWV | iShares MSCI All Country World Minimum Volatility ETF | Cboe BZX |
| TOTL | SPDR DoubleLine Total Return Tactical ETF | NYSE Arca |
| VTEB | Vanguard Tax-Exempt Bond Index Fund | NYSE Arca |
| FXU | First Trust Utilities AlphaDEX Fund | NYSE Arca |
| IJT | iShares S&P Small-Cap 600 Growth ETF | NASDAQ |
| IYM | iShares U.S. Basic Materials ETF | NYSE Arca |
| MLPI | ETRACS Alerian MLP Infrastructure ETN | NYSE Arca |
| VPU | Vanguard Utilities Index Fund | NYSE Arca |
| SRLN | SPDR Blackstone / GSO Senior Loan ETF | NYSE Arca |
| FXL | First Trust Technology AlphaDEX Fund | NYSE Arca |
| BLV | Vanguard Long-Term Bond ETF | NYSE Arca |
| SPHD | PowerShares S&P 500 High Dividend Low Volatility Portfolio | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|---|-----------------|
| IYH | iShares U.S. Healthcare ETF | NYSE Arca |
| TFI | SPDR Nuveen Bloomberg Barclays Municipal Bond ETF | NYSE Arca |
| ICF | iShares Cohen & Steers REIT ETF | Cboe BZX |
| VDC | Vanguard Consumer Staples ETF | NYSE Arca |
| EWM | iShares MSCI Malaysia ETF | NYSE Arca |
| VOX | Vanguard Telecommunication Services ETF | NYSE Arca |
| IJJ | iShares S&P Mid-Cap 400 Value ETF | NYSE Arca |
| SCHP | Schwab U.S. TIPS ETF | NYSE Arca |
| DBA | PowerShares DB Agriculture Fund | NYSE Arca |
| THD | iShares MSCI Thailand Capped ETF | NYSE Arca |
| VIS | Vanguard Industrials ETF | NYSE Arca |
| EIDO | iShares MSCI Indonesia ETF | NYSE Arca |
| IYG | iShares U.S. Financial Services ETF | NYSE Arca |
| ANGL | VanEck Vectors Fallen Angel High Yield Bond ETF | NYSE Arca |
| RWM | ProShares Short Russell2000 | NYSE Arca |
| FTSM | First Trust Enhanced Short Maturity ETF | NASDAQ |
| EWS | iShares MSCI Singapore Capped ETF | NYSE Arca |
| FVD | First Trust Value Line Dividend Index Fund | NYSE Arca |
| BWX | SPDR Bloomberg Barclays International Treasury Bond ETF | NYSE Arca |
| OIL | iPath S&P GSCI Crude Oil Total Return Index ETNs | NYSE Arca |
| IYE | iShares U.S. Energy ETF | NYSE Arca |
| QTEC | First Trust NASDAQ-100 Technology Index Fund | NASDAQ |
| DGRO | iShares Core Dividend Growth ETF | NYSE Arca |
| TUR | iShares MSCI Turkey ETF | NASDAQ |
| VOT | Vanguard Mid-Cap Growth ETF | NYSE Arca |
| IYZ | iShares US Telecommunications ETF | Cboe BZX |
| PHB | PowerShares High Yield Corporate Bond Portfolio | NYSE Arca |
| SCHV | Schwab U.S. Large-Cap Value ETF | NYSE Arca |
| KIE | SPDR S&P Insurance ETF | NYSE Arca |
| IDU | iShares U.S. Utilities ETF | NYSE Arca |
| EMLP | First Trust North American Energy Infrastructure Fund | NYSE Arca |
| REM | iShares Mortgage Real Estate Capped ETF | Cboe BZX |
| RWR | SPDR Dow Jones REIT ETF | NYSE Arca |
| ERUS | iShares MSCI Russia Capped ETF | NYSE Arca |
| MGK | Vanguard Mega Cap Growth ETF | NYSE Arca |
| VGSH | Vanguard Short-Term Government Bond ETF | NASDAQ |
| FXB | CurrencyShares British Pound Sterling Trust | NYSE Arca |
| NOBL | ProShares S&P 500 Dividend Aristocrats ETF | Cboe BZX |
| GBIL | Goldman Sachs TreasuryAccess® 0-1 Year ETF | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|--|-----------------|
| PRF | PowerShares FTSE RAFI U.S. 1000 Portfolio | NYSE Arca |
| EFG | iShares MSCI EAFE Growth ETF | Cboe BZX |
| AMZA | InfraCap MLP ETF | NYSE Arca |
| GVI | iShares Intermediate Government/Credit Bond ETF | Cboe BZX |
| GUNR | FlexShares Global Upstream Natural Resources Index Fund | NYSE Arca |
| VAW | Vanguard Materials ETF | NYSE Arca |
| XAR | SPDR S&P Aerospace & Defense ETF | NYSE Arca |
| BOND | PIMCO Active Bond Exchange-Traded Fund | NYSE Arca |
| VTWO | Vanguard Russell 2000 | NASDAQ |
| IGF | iShares Global Infrastructure ETF | NASDAQ |
| FLRN | SPDR Bloomberg Barclays Investment Grade Floating Rate ETF | NYSE Arca |
| SCHM | Schwab U.S. Mid-Cap ETF | NYSE Arca |
| FNDX | Schwab Fundamental U.S. Large Company Index ETF | NYSE Arca |
| RWO | SPDR Dow Jones Global Real Estate ETF | NYSE Arca |
| EWD | iShares MSCI Sweden Capped ETF | NYSE Arca |
| CQQQ | Guggenheim China Technology ETF | NYSE Arca |
| VRP | PowerShares Variable Rate Preferred Portfolio | NYSE Arca |
| FTEC | Fidelity MSCI Information Technology Index ETF | NYSE Arca |
| ZIV | VelocityShares Daily Inverse VIX Medium Term ETN | NASDAQ |
| IYJ | iShares U.S. Industrials ETF | Cboe BZX |
| DEM | WisdomTree Emerging Markets High Dividend Fund | NYSE Arca |
| USMC | Principal U.S. Mega-Cap Multi-Factor ETF | NASDAQ |
| GSY | Guggenheim Ultra Short Duration ETF | NYSE Arca |
| XES | SPDR S&P Oil & Gas Equipment & Services ETF | NYSE Arca |
| VGIT | Vanguard Intermediate-Term Government Bond ETF | NASDAQ |
| VCR | Vanguard Consumer Discretionary ETF | NYSE Arca |
| FNDF | Schwab Fundamental International Large Company Index ETF | NYSE Arca |
| FXY | CurrencyShares Japanese Yen Trust | NYSE Arca |
| FNDA | Schwab Fundamental U.S. Small Company Index ETF | NYSE Arca |
| IDEV | iShares Core MSCI International Developed Markets ETF | NYSE Arca |
| DON | WisdomTree U.S. MidCap Dividend Fund | NYSE Arca |
| ITM | VanEck Vectors AMT-Free Intermediate Municipal Index ETF | NYSE Arca |
| HACK | ETFMG Prime Cyber Security ETF | NYSE Arca |
| CRED | iShares Core US Credit Bond ETF | NASDAQ |
| FNCL | Fidelity MSCI Financials Index ETF | NYSE Arca |
| IXN | iShares Global Tech ETF | NYSE Arca |
| ONEQ | Fidelity NASDAQ Composite Index Tracking Stock ETF | NASDAQ |
| SPDW | SPDR S&P World ex-US ETF | NYSE Arca |
| HEWG | iShares Currency Hedged MSCI Germany ETF | NASDAQ |

| Ticker | ETP Name | Exchange |
|---------------|---|-----------------|
| TBF | ProShares Short 20+ Year Treasury | NYSE Arca |
| RPG | Guggenheim S&P 500 Pure Growth ETF | NYSE Arca |
| DOG | ProShares Short Dow30 | NYSE Arca |
| RYT | Guggenheim S&P Equal Weight Technology ETF | NYSE Arca |
| LMBS | First Trust Low Duration Opportunities ETF | NASDAQ |
| GXC | SPDR S&P China ETF | NYSE Arca |
| SPHB | PowerShares S&P 500® High Beta Portfolio | NYSE Arca |
| INDY | iShares India 50 ETF | NASDAQ |
| IYC | iShares U.S. Consumer Services ETF | NYSE Arca |
| RING | iShares MSCI Global Gold Miners ETF | NASDAQ |
| MDYG | SPDR S&P 400 Mid Cap Growth ETF | NYSE Arca |
| DFE | WisdomTree Europe SmallCap Dividend Fund | NYSE Arca |
| DGRW | WisdomTree U.S. Quality Dividend Growth Fund | NASDAQ |
| SPEM | SPDR S&P Emerging Markets ETF | NYSE Arca |
| FNDE | Schwab Fundamental Emerging Markets Large Company Index ETF | NYSE Arca |
| IXC | iShares Global Energy ETF | NYSE Arca |
| EPHE | iShares MSCI Philippines ETF | NYSE Arca |
| DGS | WisdomTree Emerging Markets SmallCap Dividend Fund | NYSE Arca |
| FXC | CurrencyShares Canadian Dollar Trust | NYSE Arca |
| EPOL | iShares MSCI Poland Capped ETF | NYSE Arca |
| GSLC | Goldman Sachs ActiveBeta U.S. Large Cap Equity ETF | NYSE Arca |
| ISTB | iShares Core 1-5 Year USD Bond ETF | NASDAQ |
| VWOB | Vanguard Emerging Markets Government Bond ETF | NASDAQ |
| STIP | iShares 0-5 Year TIPS Bond ETF | NYSE Arca |
| SUB | iShares Short-Term National Muni Bond ETF | NYSE Arca |
| TLH | iShares 10-20 Year Treasury Bond ETF | NYSE Arca |
| EMHY | iShares Emerging Markets High Yield Bond ETF | Cboe BZX |
| FXO | First Trust Financial AlphaDEX Fund | NYSE Arca |
| LDRS | Innovator IBD® ETF Leaders ETF | NYSE Arca |
| SPAB | SPDR Bloomberg Barclays Aggregate Bond ETF | NYSE Arca |
| SLYV | SPDR S&P 600 Small Cap Value ETF | NYSE Arca |
| DJP | iPath Bloomberg Commodity Index Total Return ETN | NYSE Arca |
| SDOG | ALPS Sector Dividend Dogs ETF | NYSE Arca |
| MLPA | Global X MLP ETF | NYSE Arca |
| FBT | First Trust NYSE Arca Biotechnology Index Fund | NYSE Arca |
| FV | First Trust Dorsey Wright Focus 5 ETF | NASDAQ |
| SCHR | Schwab Intermediate-Term U.S. Treasury ETF | NYSE Arca |
| MDYV | SPDR S&P 400 Mid Cap Value ETF | NYSE Arca |
| TAN | Guggenheim Solar ETF | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|---|-----------------|
| FTSL | First Trust Senior Loan ETF | NASDAQ |
| PZA | PowerShares National AMT-Free Municipal Bond Portfolio | NYSE Arca |
| VOOG | Vanguard S&P 500 Growth ETF | NYSE Arca |
| FEX | First Trust Large Cap Core AlphaDEX Fund | NASDAQ |
| SKYY | First Trust ISE Cloud Computing Index Fund | NASDAQ |
| SDIV | Global X SuperDividend ETF | NYSE Arca |
| IAT | iShares U.S. Regional Banks ETF | NYSE Arca |
| SLYG | SPDR S&P 600 Small Cap Growth ETF | NYSE Arca |
| IYK | iShares U.S. Consumer Goods ETF | NYSE Arca |
| IUSB | iShares Core Total USD Bond Market ETF | NASDAQ |
| VGLT | Vanguard Long-Term Government Bond ETF | NASDAQ |
| XSD | SPDR S&P Semiconductor ETF | NYSE Arca |
| EDV | Vanguard Extended Duration Treasury ETF | NYSE Arca |
| HYLS | First Trust Exchange-Traded Fund IV First Trust Tactical High Yield ETF | NASDAQ |
| CWI | SPDR MSCI ACWI ex-US ETF | NYSE Arca |
| GREK | Global X MSCI Greece ETF | NYSE Arca |
| XT | iShares Exponential Technologies ETF | NASDAQ |
| SPTM | SPDR Portfolio Total Stock Market ETF | NYSE Arca |
| PPLT | ETFS Physical Platinum Shares | NYSE Arca |
| XMLV | PowerShares S&P MidCap Low Volatility Portfolio | NYSE Arca |
| VIGI | Vanguard International Dividend Appreciation ETF | NASDAQ |
| SCHK | Schwab 1000 Index® ETF | NYSE Arca |
| SPYG | SPDR Portfolio S&P 500 Growth ETF | NYSE Arca |
| IGM | iShares North American Tech ETF | NYSE Arca |
| ARKK | ARK Innovation ETF | NYSE Arca |
| XSLV | PowerShares S&P SmallCap Low Volatility Portfolio | NYSE Arca |
| FXH | First Trust Health Care AlphaDEX Fund | NYSE Arca |
| IWY | iShares Russell Top 200 Growth ETF | NYSE Arca |
| VONG | Vanguard Russell 1000 Growth ETF | NASDAQ |
| EWN | iShares MSCI Netherlands ETF | NYSE Arca |
| CLRG | IQ Chaikin U.S. Large Cap ETF | NASDAQ |
| PICK | iShares MSCI Global Metals & Mining Producers ETF | Cboe BZX |
| DES | WisdomTree U.S. SmallCap Dividend Fund | NYSE Arca |
| SCHC | Schwab International Small-Cap Equity ETF | NYSE Arca |
| IGOV | iShares International Treasury Bond ETF | NASDAQ |
| GNR | SPDR S&P Global Natural Resources ETF | NYSE Arca |
| CLY | iShares 10+ Year Credit Bond ETF | NYSE Arca |
| IPAC | iShares Core MSCI Pacific ETF | NYSE Arca |
| EMQQ | EMQQ The Emerging Markets Internet & Ecommerce ETF | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|---|-----------------|
| FFTY | Innovator IBD® 50 ETF | NYSE Arca |
| AIEQ | AI Powered Equity ETF | NYSE Arca |
| FEP | First Trust Europe AlphaDEX Fund | NASDAQ |
| DLS | WisdomTree International SmallCap Dividend Fund | NYSE Arca |
| IXJ | iShares Global Healthcare ETF | NYSE Arca |
| AOM | iShares Core Moderate Allocation Fund | NYSE Arca |
| PGF | PowerShares Financial Preferred Portfolio | NYSE Arca |
| FXR | First Trust Industrials/Producer Durables AlphaDEX Fund | NYSE Arca |
| JO | iPath Bloomberg Coffee Subindex Total Return ETN | NYSE Arca |
| FDL | First Trust Morningstar Dividend Leaders Index Fund | NYSE Arca |
| FHLC | Fidelity MSCI Health Care Index ETF | NYSE Arca |
| VXZ | iPATH S&P 500 VIX Mid-Term Futures ETN | NYSE Arca |
| SIL | Global X Silver Miners ETF | NYSE Arca |
| LRGF | iShares Edge MSCI Multifactor USA ETF | NYSE Arca |
| SPLG | SPDR Portfolio Large Cap ETF | NYSE Arca |
| DFJ | WisdomTree Japan SmallCap Dividend Fund | NYSE Arca |
| PHYS | Sprott Physical Gold Trust | NYSE Arca |
| SPTL | SPDR Bloomberg Barclays Long Term Treasury ETF | NYSE Arca |
| URA | Global X Uranium ETF | NYSE Arca |
| JPIN | JPMorgan Diversified Return International Equity ETF | NYSE Arca |
| PDBC | PowerShares DB Optimum Yield Diversified Commodity Strategy Portfolio | NASDAQ |
| HYMB | SPDR Nuveen S&P High Yield Municipal Bond ETF | NYSE Arca |
| FNDC | Schwab Fundamental International Small Company Index ETF | NYSE Arca |
| HYLB | Xtrackers USD High Yield Corporate Bond ETF | NYSE Arca |
| PXH | PowerShares FTSE RAFI Emerging Markets Portfolio | NYSE Arca |
| DBO | PowerShares DB Oil Fund | NYSE Arca |
| PRFZ | PowerShares FTSE RAFI US 1500 Small-Mid Portfolio | NASDAQ |
| AIA | iShares Asia 50 ETF | NASDAQ |
| DWX | SPDR S&P International Dividend ETF | NYSE Arca |
| MOAT | VanEck Vectors Morningstar Wide Moat ETF | NYSE Arca |
| XPH | SPDR S&P Pharmaceuticals ETF | NYSE Arca |
| RPV | Guggenheim S&P 500 Pure Value ETF | NYSE Arca |
| AOR | iShares Core Growth Allocation Fund | NYSE Arca |
| ITE | SPDR Bloomberg Barclays Intermediate Term Treasury ETF | NYSE Arca |
| PSI | PowerShares Dynamic Semiconductors Portfolio | NYSE Arca |
| VYMI | Vanguard International High Dividend Yield ETF | NASDAQ |
| PPA | PowerShares Aerospace & Defense Portfolio | NYSE Arca |
| JPMF | JPMorgan Managed Futures Strategy ETF | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|--|-----------------|
| SCIF | VanEck Vectors India Small-Cap Index ETF | NYSE Arca |
| FM | iShares MSCI Frontier 100 ETF | NYSE Arca |
| FDT | First Trust Developed Markets ex-US AlphaDEX Fund | NASDAQ |
| DSI | iShares MSCI KLD 400 Social ETF | NYSE Arca |
| GWX | SPDR S&P International Small Cap ETF | NYSE Arca |
| SLQD | iShares 0-5 Year Investment Grade Corporate Bond ETF | NASDAQ |
| ARKW | ARK Web x.0 ETF | NYSE Arca |
| STPZ | PIMCO 1-5 Year U.S. TIPS Index Exchange-Traded Fund | NYSE Arca |
| SPSM | SPDR Portfolio Small Cap ETF | NYSE Arca |
| IEO | iShares U.S. Oil & Gas Exploration & Production ETF | Cboe BZX |
| SPHQ | PowerShares S&P 500 Quality Portfolio | NYSE Arca |
| PNQI | PowerShares NASDAQ Internet Portfolio | NASDAQ |
| IWC | iShares Micro-Cap ETF | NYSE Arca |
| VIOO | Vanguard S&P Small-Cap 600 ETF | NYSE Arca |
| RYH | Guggenheim S&P Equal Weight Health Care ETF | NYSE Arca |
| SGOL | ETFS Physical Swiss Gold Shares | NYSE Arca |
| REMX | VanEck Vectors Rare Earth/Strategic Metals ETF | NYSE Arca |
| REET | iShares Global REIT ETF | NYSE Arca |
| VONV | Vanguard Russell 1000 Value | NASDAQ |
| IHF | iShares U.S. Healthcare Providers ETF | NYSE Arca |
| BSCI | Guggenheim BulletShares 2018 Corporate Bond ETF | NYSE Arca |
| MGV | Vanguard Mega Cap Value ETF | NYSE Arca |
| BSJJ | Guggenheim BulletShares 2019 High Yield Corporate Bond ETF | NYSE Arca |
| BBH | VanEck Vectors Biotech ETF | NASDAQ |
| IGE | iShares North American Natural Resources ETF | Cboe BZX |
| BSJK | Guggenheim BulletShares 2020 High Yield Corporate Bond ETF | NYSE Arca |
| PDP | PowerShares DWA Momentum Portfolio | NASDAQ |
| FXA | CurrencyShares Australian Dollar Trust | NYSE Arca |
| BSJI | Guggenheim BulletShares 2018 High Yield Corporate Bond ETF | NYSE Arca |
| RFDI | First Trust RiverFront Dynamic Developed International ETF | NASDAQ |
| CORP | PIMCO Investment Grade Corporate Bond Index Exchange-Traded Fund | NYSE Arca |
| FPX | First Trust US IPO Index Fund | NYSE Arca |
| GEM | Goldman Sachs ActiveBeta Emerging Markets Equity ETF | NYSE Arca |
| PWV | PowerShares Dynamic Large Cap Value Portfolio | NYSE Arca |
| BSCK | Guggenheim BulletShares 2020 Corporate Bond ETF | NYSE Arca |
| TDTT | FlexShares iBoxx 3-Year Target Duration TIPS Index Fund | NYSE Arca |
| AMU | ETRACS Alerian MLP Index ETN | NYSE Arca |
| IXG | iShares Global Financials ETF | NYSE Arca |
| FXD | First Trust Consumer Discretionary AlphaDEX Fund | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|--|-----------------|
| DLN | WisdomTree U.S. LargeCap Dividend Fund | NYSE Arca |
| ILTB | iShares Core Long-Term USD Bond ETF | NYSE Arca |
| FREL | Fidelity MSCI Real Estate Index ETF | NYSE Arca |
| SCJ | iShares MSCI Japan Small-Cap ETF | NYSE Arca |
| SPMD | SPDR S&P 1000 ETF | NYSE Arca |
| GSG | iShares S&P GSCI Commodity-Indexed Trust | NYSE Arca |
| FENY | Fidelity MSCI Energy Index ETF | NYSE Arca |
| BSCJ | Guggenheim BulletShares 2019 Corporate Bond ETF | NYSE Arca |
| FXG | First Trust Consumer Staples AlphaDEX Fund | NYSE Arca |
| BAB | PowerShares Taxable Municipal Bond Portfolio | NYSE Arca |
| QAI | IQ Hedge Multi-Strategy Tracker ETF | NYSE Arca |
| SPYV | SPDR Portfolio S&P 500 Value ETF | NYSE Arca |
| PPH | VanEck Vectors Pharmaceutical ETF | NASDAQ |
| SMIN | iShares MSCI India Small-Cap ETF | Cboe BZX |
| DBB | PowerShares DB Base Metals Fund | NYSE Arca |
| TOK | iShares MSCI Kokusai ETF | NYSE Arca |
| SECT | Main Sector Rotation ETF | Cboe BZX |
| FCG | First Trust Natural Gas ETF | NYSE Arca |
| IVOG | Vanguard S&P Mid-Cap 400 Growth ETF | NYSE Arca |
| EXI | iShares Global Industrials ETF | NYSE Arca |
| EWO | iShares MSCI Austria Capped ETF | NYSE Arca |
| SGG | iPath Bloomberg Sugar Subindex Total Return ETN | NYSE Arca |
| IDLV | PowerShares S&P International Developed Low Volatility Portfolio | NYSE Arca |
| SIZE | iShares Edge MSCI USA Size Factor ETF | NYSE Arca |
| FTA | First Trust Large Cap Value AlphaDEX Fund | NASDAQ |
| FLEE | Franklin FTSE Europe ETF | NYSE Arca |
| PJP | PowerShares Dynamic Pharmaceuticals Portfolio | NYSE Arca |
| ECON | EGShares Emerging Markets Consumer ETF | NYSE Arca |
| FEM | First Trust Emerging Markets AlphaDEX Fund | NASDAQ |
| HFXI | IQ 50 Percent Hedged FTSE International ETF | NYSE Arca |
| EBND | SPDR Bloomberg Barclays Emerging Markets Local Bond ETF | NYSE Arca |
| INTF | iShares Edge MSCI Multifactor Intl ETF | NYSE Arca |
| EUM | ProShares Short MSCI Emerging Markets | NYSE Arca |
| IFV | First Trust Dorsey Wright International Focus 5 ETF | NASDAQ |
| LEMB | iShares J.P. Morgan EM Local Currency Bond ETF | NYSE Arca |
| IPE | SPDR Bloomberg Barclays TIPS ETF | NYSE Arca |
| BSCL | Guggenheim BulletShares 2021 Corporate Bond ETF | NYSE Arca |
| AOK | iShares Core Conservative Allocation Fund | NYSE Arca |
| IHE | iShares U.S. Pharmaceuticals ETF | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|---|-----------------|
| FXZ | First Trust Materials AlphaDEX Fund | NYSE Arca |
| IYY | iShares Dow Jones U.S. ETF | NYSE Arca |
| PXF | PowerShares FTSE RAFI Developed Markets ex-U.S. Portfolio | NYSE Arca |
| QDF | FlexShares Quality Dividend Index Fund | NYSE Arca |
| HYEM | VanEck Vectors Emerging Markets High Yield Bond ETF | NYSE Arca |
| AOA | iShares Core Aggressive Allocation Fund | NYSE Arca |
| RYF | Guggenheim S&P Equal Weight Financial ETF | NYSE Arca |
| PSLV | Sprott Physical Silver Trust | NYSE Arca |
| FXN | First Trust Energy AlphaDEX Fund | NYSE Arca |
| SPYD | SPDR Portfolio S&P 500 High Dividend ETF | NYSE Arca |
| MOO | VanEck Vectors Agribusiness ETF | NYSE Arca |
| ULVM | USAA MSCI USA Value Momentum Blend Index ETF | NYSE Arca |
| PKW | PowerShares Buyback Achievers Portfolio | NASDAQ |
| PWS | Pacer WealthShield ETF | Cboe BZX |
| QQEW | First Trust NASDAQ-100 Equal Weighted Index Fund | NASDAQ |
| DHS | WisdomTree U.S. High Dividend Fund | NYSE Arca |
| IVOO | Vanguard S&P Mid-Cap 400 ETF | NYSE Arca |
| CMF | iShares California Muni Bond ETF | NYSE Arca |
| IGHG | ProShares Investment Grade-Interest Rate Hedged ETF | Cboe BZX |
| SPLB | SPDR Bloomberg Barclays Long Term Corporate Bond ET | NYSE Arca |
| PID | PowerShares International Dividend Achievers Portfolio | NASDAQ |
| VONE | Vanguard Russell 1000 | NASDAQ |
| IAGG | iShares International Aggregate Bond Fund | Cboe BZX |
| EPU | iShares MSCI All Peru Capped ETF | NYSE Arca |
| RWL | Oppenheimer Large Cap Revenue ETF | NYSE Arca |
| RHS | Guggenheim S&P 500 Equal Weight Consumer Staples ETF | NYSE Arca |
| USRT | iShares U.S. Core REIT ETF | NYSE Arca |
| MGC | Vanguard Mega Cap 300 Index Fund | NYSE Arca |
| PTLC | Pacer Trendpilot 750 ETF | Cboe BZX |
| IQDF | FlexShares International Quality Dividend Index Fund | NYSE Arca |
| EWX | SPDR S&P Emerging Markets Small Cap ETF | NYSE Arca |
| JKD | iShares Morningstar Large-Cap ETF | NYSE Arca |
| FXF | CurrencyShares Swiss Franc Trust | NYSE Arca |
| PFXF | VanEck Vectors Preferred Securities ex Financials ETF | NYSE Arca |
| LVHD | Legg Mason Low Volatility High Dividend ETF | NASDAQ |
| KBWY | PowerShares KBW Premium Yield Equity REIT Portfolio | NASDAQ |
| FEMS | First Trust Emerging Markets Small Cap AlphaDEX Fund | NASDAQ |
| CFO | Victory CEMP US 500 Enhanced Volatility Wtd Index ETF | NASDAQ |
| PSCT | PowerShares S&P SmallCap Information Technology Portfolio | NASDAQ |

| Ticker | ETP Name | Exchange |
|---------------|---|-----------------|
| NIB | iPath Bloomberg Cocoa Subindex Total Return ETN | NYSE Arca |
| CSML | IQ Chaikin U.S. Small Cap ETF | NASDAQ |
| BSCM | Guggenheim BulletShares 2022 Corporate Bond ETF | NYSE Arca |
| IEZ | iShares U.S. Oil Equipment & Services ETF | NYSE Arca |
| FUTY | Fidelity MSCI Utilities Index ETF | NYSE Arca |
| FTCS | First Trust Capital Strength ETF | NASDAQ |
| PALL | ETFS Physical Palladium Shares | NYSE Arca |
| XLG | Guggenheim S&P 500 ® Top 50 ETF | NYSE Arca |
| BSJL | Guggenheim BulletShares 2021 High Yield Corporate Bond ETF | NYSE Arca |
| RDIV | Oppenheimer Ultra Dividend Revenue ETF | NYSE Arca |
| CGW | Guggenheim S&P Global Water Index ETF | NYSE Arca |
| BSCH | Guggenheim BulletShares 2017 Corporate Bond ETF | NYSE Arca |
| FSTA | Fidelity MSCI Consumer Staples Index ETF | NYSE Arca |
| FDD | First Trust STOXX European Select Dividend Income Fund | NYSE Arca |
| PSP | PowerShares Global Listed Private Equity Portfolio | NYSE Arca |
| FIDU | Fidelity MSCI Industrials Index ETF | NYSE Arca |
| VNM | VanEck Vectors Vietnam ETF | NYSE Arca |
| PSK | SPDR Wells Fargo Preferred Stock ETF | NYSE Arca |
| MDIV | First Trust Multi-Asset Diversified Income Index Fund | NASDAQ |
| ARGT | Global X MSCI Argentina ETF | NYSE Arca |
| EEMA | iShares MSCI Emerging Markets Asia ETF | NASDAQ |
| EZM | WisdomTree U.S. MidCap Earnings Fund | NYSE Arca |
| IFGL | iShares International Developed Real Estate ETF | NASDAQ |
| RWJ | Oppenheimer Small Cap Revenue ETF | NYSE Arca |
| TDTF | FlexShares iBoxx 5-Year Target Duration TIPS Index Fund | NYSE Arca |
| PEY | PowerShares High Yield Equity Dividend Achievers Portfolio | NASDAQ |
| ATMP | Barclays ETN+ Select MLP ETN | NYSE Arca |
| PTH | PowerShares DWA Healthcare Momentum Portfolio | NASDAQ |
| IOO | iShares Global 100 ETF | NYSE Arca |
| GBF | iShares Government/Credit Bond ETF | NYSE Arca |
| FTXO | First Trust Nasdaq Bank ETF | NASDAQ |
| FIXD | First Trust TCW Opportunistic Fixed Income ETF | NASDAQ |
| HEEM | iShares Currency Hedged MSCI Emerging Markets ETF | Cboe BZX |
| PIN | PowerShares India Portfolio | NYSE Arca |
| PCEF | PowerShares CEF Income Composite Portfolio | NYSE Arca |
| CHIQ | Global X China Consumer ETF | NYSE Arca |
| DWM | WisdomTree International Equity Fund | NYSE Arca |
| CXSE | WisdomTree Trust WisdomTree China ex-State-Owned Enterprises Fund | NASDAQ |
| VOOV | Vanguard S&P 500 Value ETF | NYSE Arca |

| Ticker | ETP Name | Exchange |
|---------------|--|-----------------|
| RYE | Guggenheim S&P 500 Equal Weight Energy ETF | NYSE Arca |
| PKB | PowerShares Dynamic Building & Construction Portfolio | NYSE Arca |
| GMF | SPDR S&P Emerging Asia Pacific ETF | NYSE Arca |
| MNA | IQ Merger Arbitrage ETF | NYSE Arca |
| FMAT | Fidelity MSCI Materials Index ETF | NYSE Arca |
| OUSA | O'Shares FTSE U.S. Quality Dividend ETF | NYSE Arca |
| RZV | Guggenheim S&P Smallcap 600 Pure Value ETF | NYSE Arca |
| IBDM | iShares iBonds Dec 2021 Term Corporate ETF | NYSE Arca |
| FLTR | VanEck Vectors Investment Grade Floating Rate ETF | NYSE Arca |
| BNO | United States Brent Oil Fund, LP | NYSE Arca |
| QABA | First Trust NASDAQ ABA Community Bank Index Fund | NASDAQ |
| FDIS | Fidelity MSCI Consumer Discretionary Index ETF | NYSE Arca |
| SLY | SPDR S&P 600 Small Cap ETF | NYSE Arca |
| CDC | Victory CEMP US EQ Income Enhanced Volatility Wtd Index ETF | NASDAQ |
| FYX | First Trust Small Cap Core AlphaDEX Fund | NASDAQ |
| SUSA | iShares MSCI USA ESG Select ETF | NYSE Arca |
| REZ | iShares Residential Real Estate Capped ETF | NYSE Arca |
| IBDL | iShares iBonds Dec 2020 Term Corporate ETF | NYSE Arca |
| BSJH | Guggenheim BulletShares 2017 High Yield Corporate Bond ETF | NYSE Arca |
| UIVM | USAA MSCI International Value Momentum Blend Index ETF | NYSE Arca |
| GSIE | Goldman Sachs ActiveBeta International Equity ETF | NYSE Arca |
| AGGY | WisdomTree Barclays Yield Enhanced U.S. Aggregate Bond Fund | NYSE Arca |
| JPUS | JPMorgan Diversified Return US Equity ETF | NYSE Arca |
| RGI | Guggenheim S&P 500 Equal Weight Industrials ETF | NYSE Arca |
| IHDG | WisdomTree International Hedged Quality Dividend Growth Fund | NYSE Arca |
| URTH | iShares MSCI World ETF | NYSE Arca |
| DGL | PowerShares DB Gold Fund | NYSE Arca |
| CIBR | First Trust NASDAQ Cybersecurity ETF | NASDAQ |
| FMB | First Trust Managed Municipal ETF | NASDAQ |
| FTC | First Trust Large Cap Growth AlphaDEX Fund | NASDAQ |
| RDVY | First Trust NASDAQ Rising Dividend Achievers ETF | NASDAQ |
| KBA | KraneShares Bosera MSCI China A Share ETF | NYSE Arca |
| DXJS | WisdomTree Japan Hedged SmallCap Equity Fund | NASDAQ |
| TDIV | First Trust NASDAQ Technology Dividend Index Fund | NASDAQ |
| IXP | iShares Global Telecom ETF | NYSE Arca |
| SLX | VanEck Vectors Steel ETF | NYSE Arca |

Appendix B – Data

Unless otherwise specified, the following data shall be collected and transmitted to the SEC in an agreed-upon format on a monthly basis, to be provided 30 calendar days following month end. Unless otherwise specified, the Primary Listing Exchanges shall be responsible for collecting and transmitting the data to the SEC. Data collected in connection with Sections II(E) – (G) below shall be transmitted to the SEC with a request for confidential treatment under the Freedom of Information Act, 5 U.S.C. § 552, and the SEC’s rules and regulations thereunder.

I. Summary Statistics

- A. Frequency with which NMS Stocks enter a Limit State. Such summary data shall be broken down as follows:
 1. Partition stocks by category
 - a. Tier 1 non-ETP issues > \$3.00
 - b. Tier 1 non-ETP issues \geq \$0.75 and \leq \$3.00
 - c. Tier 1 non-ETP issues < \$0.75
 - d. Tier 1 non-leveraged ETPs in each of above categories
 - e. Tier 1 leveraged ETPs in each of above categories
 - f. Tier 2 non-ETPs in each of above categories
 - g. Tier 2 non-leveraged ETPs in each of above categories
 - h. Tier 2 leveraged ETPs in each of above categories
 2. Partition by time of day
 - a. Opening (prior to 9:45 am ET)
 - b. Regular (between 9:45 am ET and 3:35 pm ET)
 - c. Closing (after 3:35 pm ET)
 - d. Within five minutes of a Trading Pause re-open or IPO open
 3. Track reasons for entering a Limit State, such as:

- a. Liquidity gap –price reverts from a Limit State Quotation and returns to trading within the Price Bands
 - b. Broken trades
 - c. Primary Listing Exchange manually declares a Trading Pause pursuant to Section (VII)(2) of the Plan
 - d. Other
 - B. Determine (1), (2) and (3) for when a Trading Pause has been declared for an NMS Stock pursuant to the Plan.
- II. **Raw Data** (*all Participants, except A-E, which are for the Primary Listing Exchanges only*)
- A. Record of every Straddle State.
 - 1. Ticker, date, time entered, time exited, flag for ending with Limit State, flag for ending with manual override.
 - 2. Pipe delimited with field names as first record.
 - B. Record of every Price Band
 - 1. Ticker, date, time at beginning of Price Band, Upper Price Band, Lower Price Band
 - 2. Pipe delimited with field names as first record
 - C. Record of every Limit State
 - 1. Ticker, date, time entered, time exited, flag for halt
 - 2. Pipe delimited with field names as first record
 - D. Record of every Trading Pause or halt
 - 1. Ticker, date, time entered, time exited, type of halt (i.e., regulatory halt, non-regulatory halt, Trading Pause pursuant to the Plan, other)
 - 2. Pipe delimited with field names as first record
 - E. Data set or orders entered into reopening auctions during halts or Trading Pauses
 - 1. Arrivals, Changes, Cancels, # shares, limit/market, side, Limit State side
 - 2. Pipe delimited with field name as first record
 - F. Data set of order events received during Limit States

G. Summary data on order flow of arrivals and cancellations for each 15-second period for discrete time periods and sample stocks to be determined by the SEC in subsequent data requests. Must indicate side(s) of Limit State.

1. Market/marketable sell orders arrivals and executions
 - a. Count
 - b. Shares
 - c. Shares executed
2. Market/marketable buy orders arrivals and executions
 - a. Count
 - b. Shares
 - c. Shares executed
3. Count arriving, volume arriving and shares executing in limit sell orders above NBBO mid-point
4. Count arriving, volume arriving and shares executing in limit sell orders at or below NBBO mid-point (non-marketable)
5. Count arriving, volume arriving and shares executing in limit buy orders at or above NBBO mid-point (non-marketable)
6. Count arriving, volume arriving and shares executing in limit buy orders below NBBO mid-point
7. Count and volume arriving of limit sell orders priced at or above NBBO mid-point plus \$0.05
8. Count and volume arriving of limit buy orders priced at or below NBBO mid-point minus \$0.05
9. Count and volume of (3-8) for cancels
10. Include: ticker, date, time at start, time of Limit State, all data item fields in 1, last sale prior to 15-second period (null if no trades today), range during 15-second period, last trade during 15-second period

III. **On May 28, 2015, Participants provided to the SEC a supplemental joint assessment relating to the impact of the Plan and calibration of the Percentage Parameters as follows:**

- A. Assess the statistical and economic impact on liquidity of approaching Price Bands.

- B. Assess the statistical and economic impact of the Price Bands on erroneous trades.
- C. Assess the statistical and economic impact of the appropriateness of the Percentage Parameters used for the Price Bands.
- D. Assess whether the Limit State is the appropriate length to allow for liquidity replenishment when a Limit State is reached because of a temporary liquidity gap.
- E. Evaluate concerns from the options markets regarding the statistical and economic impact of Limit States on liquidity and market quality in the options markets. (Participants that operate options exchange should also prepare such assessment reports.)
- F. Assess whether the process for entering a Limit State should be adjusted and whether Straddle States are problematic.
- G. Assess whether the process for exiting a Limit State should be adjusted.
- H. Assess whether the Trading Pauses are too long or short and whether the reopening procedures should be adjusted.