

SECURITIES AND EXCHANGE COMMISSION
(Release No. 34-99545; File No. 4-631)

February 15, 2024

Joint Industry Plan; Order Instituting Proceedings to Determine Whether to Approve or Disapprove the Twenty-Third Amendment to the National Market System Plan to Address Extraordinary Market Volatility by Cboe BYX Exchange, Inc., Cboe BZX Exchange, Inc., Cboe EDGA Exchange, Inc., Cboe EDGX Exchange, Inc., The Financial Industry Regulatory Authority, Inc., Investors Exchange LLC, Long-Term Stock Exchange, Inc., MEMX LLC, MIAX Pearl, LLC, NASDAQ BX, Inc., NASDAQ PHLX LLC, The NASDAQ Stock Market LLC, New York Stock Exchange LLC, NYSE American LLC, NYSE Arca, Inc., NYSE Chicago, Inc., and NYSE National, Inc.

I. Introduction

On October 24, 2023, NYSE Group, Inc., on behalf of the Participants¹ to the National Market System Plan to Address Extraordinary Market Volatility (“Plan”),² filed with the

¹ The Participants are: Cboe BYX Exchange, Inc., Cboe BZX Exchange, Inc., Cboe EDGA Exchange, Inc., Cboe EDGX Exchange, Inc., The Financial Industry Regulatory Authority, Inc., Investors Exchange LLC, Long-Term Stock Exchange, Inc., MEMX LLC, MIAX Pearl, LLC, NASDAQ BX, Inc., NASDAQ PHLX LLC, The NASDAQ Stock Market LLC, New York Stock Exchange LLC, NYSE American LLC, NYSE Arca, Inc., NYSE Chicago, Inc., and NYSE National, Inc. (collectively, “Participants”).

² 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) (“Approval Order”). 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 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,

Securities and Exchange Commission (“Commission”), pursuant to section 11A(a)(3) of the Securities Exchange Act of 1934 (“Act” or “Exchange Act”)³ and Rule 608 thereunder,⁴ a proposal (“Proposal” or “Proposed Amendment”) to amend Appendix A to the Plan to provide that all exchange-traded products (“ETPs”) will be assigned to Tier 1 of the Plan, except for single stock ETPs, which will be assigned to the same tier as their underlying stock, and in each case adjusted for any leverage factor. The Proposed Amendment was published for comment in the Federal Register on November 21, 2023.⁵

This order institutes proceedings under Rule 608(b)(2)(i) of Regulation NMS⁶ to determine whether to approve or disapprove the Proposed Amendment or to approve the Proposed Amendment with any changes or subject to any conditions the Commission deems necessary or appropriate after considering public comment.

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). On March 15, 2018, the Commission noticed for immediate effectiveness the Sixteenth Amendment to the Plan. See Securities Exchange Act Release No. 82887, 83 FR 12414 (March 21, 2018) (File No. 4-631). On April 12, 2018, the Commission approved the Seventeenth Amendment to the Plan. See Securities Exchange Act Release No. 83044, 83 FR 17205 (April 18, 2018). On April 11, 2019, the Commission approved the Eighteenth Amendment to the Plan. See Securities Exchange Act Release No. 85623, 84 FR 16086 (April 17, 2019) (“Amendment 18”). On February 5, 2020, the Commission noticed for immediate effectiveness the Nineteenth Amendment to the Plan. See Securities Exchange Act Release No. 88122, 85 FR 7805 (February 11, 2020) (File No. 4-631). On April 21, 2020, the Commission approved the Twentieth Amendment to the Plan. See Securities Exchange Act Release No. 88704, 85 FR 23383 (April 27, 2020). On July 29, 2020, the Commission noticed for immediate effectiveness the Twenty-First Amendment to the Plan. See Securities Exchange Act Release No. 89420, 85 FR 46762 (August 3, 2020) (File No. 4-631). On October 1, 2020, the Commission noticed for immediate effectiveness the Twenty-Second Amendment to the Plan. See Securities Exchange Act Release No. 90068, 85 FR 63322 (October 7, 2020) (File No. 4-631).

³ 15 U.S.C. 78k-1(a)(3).

⁴ 17 CFR 242.608.

⁵ See Securities Exchange Act Release No. 98928 (November 14, 2023), 88 FR 81131 (“Notice”). Comments received in response to the Notice can be found on the Commission’s website at: <https://www.sec.gov/comments/4-631/4-631.htm>.

⁶ 17 CFR 242.608(b)(2)(i).

II. Background

The Participants filed the Plan with the Commission on April 5, 2011⁷ to create a market-wide limit up-limit down mechanism intended to address extraordinary market volatility in NMS Stocks, as defined in Rule 600(b)(47) of Regulation NMS under the Exchange Act.⁸ The Plan sets forth procedures that provide for market-wide limit up-limit down requirements to prevent trades in individual NMS Stocks from occurring outside of the specified Price Bands.⁹ These limit up-limit down requirements are coupled with Trading Pauses, as defined in Section I(Y) of the Plan, to accommodate more fundamental price moves. In particular, the Participants adopted the Plan to address extraordinary volatility in the securities markets, *i.e.*, significant fluctuations in individual securities' prices over a short period of time, such as those experienced during the "Flash Crash" on the afternoon of May 6, 2010.

As set forth in more detail in the Plan, the single plan processor ("Processor" or "Processors"), which is responsible for consolidation of information for an NMS Stock pursuant to Rule 603(b) of Regulation NMS under the Exchange Act, calculates and disseminates a lower Price Band and upper Price Band for each NMS Stock. As set forth in Section V of the Plan, the Price Bands are 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. The Price Bands for an NMS Stock are calculated by applying the Percentage Parameters, as set out in Appendix A to the Plan,¹⁰ for such NMS Stock to the Reference Price,

⁷ On May 31, 2012, the Commission approved the Plan, as modified by Amendment No. 1. See Approval Order, *supra* note 2.

⁸ 17 CFR 242.600(b)(47).

⁹ See Notice, 88 FR at 81144-45 (setting forth the defined terms as used under the Plan). For purposes of this order, all capitalized terms referenced, but not otherwise defined, herein shall have the meanings as defined under the Plan or as defined in the Notice.

¹⁰ See Notice, 88 FR at 81148 (Appendix A to the Plan).

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.

Appendix A to the Plan sets out the definitions of Tier 1 and Tier 2 NMS Stocks and the Percentage Parameters for each. Appendix A currently provides that Tier 1 includes all NMS Stocks included in the S&P 500 Index and the Russell 1000 Index, as well as “eligible” ETPs. Appendix A specifies:

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 eligible ETPs are then listed in Schedule 1 to Appendix A, and the list is reviewed and updated semi-annually. All ETPs that do not meet the “eligibility” definition are currently assigned to Tier 2.

For Tier 1 NMS Stocks, Appendix A defines the Percentage Parameters as:

- 5% for Tier 1 NMS Stocks with a Reference Price more than \$3.00;
- 20% for Tier 1 NMS Stocks with a Reference Price equal to \$0.75 and up to and including \$3.00; and

- The lesser of \$0.15 or 75% for Tier 1 NMS Stocks with a Reference Prices less than \$0.75.

For Tier 2 NMS Stocks, Appendix A defines the Percentage Parameters as:

- 10% for Tier 2 NMS Stocks with a Reference Price of more than \$3.00;
- 20% for Tier 2 NMS Stocks with a Reference Price equal to \$0.75 and up to and including \$3.00; and
- The lesser of \$0.15 or 75% for Tier 2 NMS Stocks with a Reference Price less than \$0.75.

The Percentage Parameter for a Tier 2 NMS Stock that is a leveraged ETP is the applicable Percentage Parameter set forth above, multiplied by the leverage ratio of such product.

III. Summary of the Proposed Amendment¹¹

The Participants propose to amend Appendix A to delete the definition of ETPs “eligible” for Tier 1, and to specify that all ETPs except for single-stock ETPs would be assigned to Tier 1. The Participants also propose to delete Schedule 1 to Appendix A as obsolete. Under the Proposal, Appendix A, Section I, paragraph (1) would read as follows:

Tier 1 NMS Stocks shall include all NMS Stocks included in the S&P 500 Index and the Russell 1000 Index, and all exchange-traded products (“ETP”), except for single stock ETPs, which will be assigned to the same Tier as their underlying stock, adjusted for any leverage factor.

¹¹ This section summarizes the proposed changes to the Plan and the Participants’ analysis supporting the proposed changes, as described in the Notice. For a full discussion of the Proposed Amendment, including the Participants’ justifications for the Proposed Amendment, see Notice, supra note 5.

Because all leveraged ETPs (except Tier 2 single stock ETPs) would be assigned to Tier 1, the Participants also propose to add text into Section I of Appendix A describing how the Percentage Parameters would be set for leveraged ETPs. The Participants propose to insert the following as paragraph (5) of Section I, and to renumber the paragraphs of Section I accordingly:

Notwithstanding the foregoing, the Percentage Parameters for a Tier 1 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.

A. Study Data

The Participants reviewed trading and quoting in all ETPs during the period from Q4 of 2019 through Q2 of 2021. This time span afforded the Participants the opportunity to study how the Plan performed during certain stressful periods. The ETPs studied covered several asset classes, including domestic equities, international equities, fixed income, currency, commodity, and digital currency ETPs.

At the time the Participants conducted the study, there were not yet any single stock ETPs listed in the U.S. markets. Because a single stock ETP should closely track the price movement and volatility of its underlying security, the Participants assert that it should be assigned to the same tier, adjusted for any leverage factor, to maintain uniform and congruous application of controls.

The Participants also excluded Tier 2 ETPs with a Reference Price of \$3.00 or less, since ETPs with a Reference Price of \$3.00 or less are subject to identical Percentage Parameters under Tier 1 and Tier 2. The Participants also excluded the last 25 minutes of the trading day from the study, since the Percentage Parameters for Tier 1 and Tier 2 NMS Stocks with Reference Prices more than \$3.00 are identical during that period.

B. Study Methodology

The Participants' study consists of three parts. First, the Participants compared the realized volatility and incidence of Limit States and Trading Halts in Tier 2 ETPs against both Tier 1 and Tier 2 non-ETPs, to review the reasonableness of assigning ETPs to Tier 2.

Second, the Participants calculated theoretical Tier 1 (i.e., 5%) Price Bands for all Tier 2 ETPs in the study. For example, normally a Tier 2 ETP with a Reference Price of \$10.00 would have a lower Price Band of \$9.00 and an upper Price Band of \$11.00 (i.e., 10% bands). For purposes of the study, that same ETP would have a theoretical Tier 1 lower Price Band of \$9.50 and an upper Price Band of \$10.50 (i.e., 5% bands). Once the theoretical narrower bands were calculated, the Participants identified all trades that occurred at prices between the theoretical narrower bands and the actual Tier 2 bands. The Participants then calculated the total notional value if all trades beyond the theoretical narrow bands had been prevented, as well as the total notional value if all such trades had occurred at the price of the new bands, to determine the range of potential notional value impact of applying Tier 1 bands to Tier 2 ETPs. The Participants also studied the price movement following these "breaches" of the theoretical narrower bands and the likelihood of reversion to determine the efficacy of tightening the bands.

Third, the Participants compared market quality changes and the frequency of Limit States and Trading Halts for Tier 1 ETPs vs. Tier 2 ETPs by studying the ETPs that shift from one tier to the other as part of the current semi-annual review process.

C. Study Results

1. *Volatility of Tier 2 ETPs vs. Tier 1 and Tier 2 Non-ETPs*

For the first part of the study, the Participants compared the volatility of Tier 2 ETPs during the study period to the volatility of non-ETP securities. If the purpose of Tier 2's wider

bands is to address higher expected volatility in Tier 2 NMS Stocks, but ETPs in Tier 2 are already less volatile than non-ETPs in Tier 1, that would suggest that ETPs do not actually need Tier 2's wider bands.

According to the Participants, except for single-stock, commodity, and foreign exchange-based ETPs, ETPs are, by definition, diversified instruments. Notwithstanding the lower trading volumes associated with the less liquid ETPs included in Tier 2, Tier 2 ETPs exhibit volatilities that are lower than those observed for Tier 1 non-ETPs that already trade with narrower Price Bands today.

The Participants calculated quote volatilities¹² for all securities that were part of the Plan during 2021. Non-leveraged Tier 2 ETPs had an average quote volatility of 0.241 basis points with a 90th percentile of 0.275 basis points. Those figures are lower than for Tier 1 non-ETPs during the same period, which had an average quote volatility of 0.258 basis points with a 90th percentile of 0.446 basis points. Tier 2 non-ETPs had more than four times higher average quote volatility and almost double the average quote volatility at the 90th percentile compared to Tier 2 non-leveraged ETPs. Leveraged Tier 2 ETPs were somewhat higher than non-leveraged Tier 2 ETPs, with an average quote volatility of 0.736 basis points and a 90th percentile of 1.317 basis points. Most leveraged ETPs represent commodities or volatility index products, which would be expected to exhibit higher volatility. However, these products' Price Bands are also multiplied by their leverage factor, which makes their higher volatility relative to other ETPs acceptable.

In comparing the incidence of Trading Pauses and Limit States during 2021 by Tier 1 non-ETPs, Tier 2 ETPs, and Tier 2 non-ETPs priced above \$3.00, the data shows that during

¹² The Participants measured quote volatility as the average basis point change of each second's mid-point during core hours annualized.

2021, Tier 2 non-leveraged ETPs had fewer Trading Pauses and Limit States than Tier 1 non-ETPs, even though the Tier 2 non-leveraged ETPs comprised nearly 50% more securities. In addition, Tier 2 non-ETPs had roughly four times the number of symbols, but 63 times the number of Limit States per day compared to Tier 2 non-leveraged ETPs. Tier 2 ETPs at the 90th percentile did not have any Trading Pauses, while there were 30 Trading Pauses for Tier 2 non-ETPs.

Overall, the comparison between Tier 1 non-ETPs and Tier 2 ETPs shows that quote volatility of Tier 2 ETPs operating under wider Price Bands is lower than Tier 1 non-ETPs, and that the incidence of Limit States and Trading Pauses for Tier 1 non-ETPs is substantially higher than that of Tier 2 ETPs. By contrast, Tier 2 non-ETPs are considerably more volatile than Tier 1 non-ETPs, which substantiates the wider Price Bands applied to these securities, as the higher number of Limit States and Trading Pauses in Tier 2 non-ETPs are occurring under 10% Price Bands. The Participants believe that these data indicate that the Price Bands are not well-calibrated to the realized volatility for Tier 2 ETPs and should not be twice as wide as those for Tier 1 non-ETPs.

2. Analysis of ETP Trades Executing Past Theoretical Tier 1 Bands

For the second part of the study, the Participants sought to identify the range of potential notional value that would have been impacted during the study period if trades in Tier 2 ETPs had been bounded by 5% Price Bands instead of 10% Price Bands. Specifically, the Participants calculated theoretical Tier 1 (i.e., 5%, adjusted for leverage factor) Price Bands for all Tier 2 ETPs in the study (“Theoretical Tier 1 Bands”). Once the theoretical narrower bands were calculated, the Participants identified 101,956 trades that occurred at prices between the Theoretical Tier 1 Bands and the actual Tier 2 bands. The Participants then calculated the upper

and lower ranges of the notional value of the trades that would have been impacted during the study period if Tier 2 ETPs had been subject to the narrower Theoretical Tier 1 Bands instead of the actual Tier 2 bands.

The Participants drilled down into the results to determine, on a day-by-day basis, the amount of notional value prevented, and the number of symbols impacted, by the narrower Theoretical Tier 1 Bands. Most of the notional value that would have been prevented by using the narrower Theoretical Tier 1 Bands for Tier 2 ETPs occurred across a handful of trade dates when the markets were very volatile. Together, the 10 days with the highest notional value for trades prevented account for 59% of the trades prevented and 61% of the total notional value overall. More than \$45 million in trades could have been prevented during the pandemic-driven volatility in 2020. In contrast, over the entire study period, the number of Tier 2 ETPs that would have been impacted by using narrower Theoretical Tier 1 Bands was a median of nine ETPs per day.

The Participants conclude that on most days, tighter Price Bands would have had little impact on the trading of Tier 2 ETPs. However, during periods of extreme volatility overall, the narrower bands may prevent unnecessary volatility in Tier 2 ETPs. Using narrower Tier 1 Bands for these ETPs could protect investors from executing trades at inferior prices that may occur due to transitory gaps in liquidity.

The Participants recognize that the positive impacts of using narrower Theoretical Tier 1 Bands would be blunted if the price trend that triggers a Trading Pause continues in the same direction. To study this issue, the Participants computed several statistics to measure the impact of blocking these trades at the narrower Theoretical Tier 1 Bands. The Participants calculated

these statistics as a fraction of simple trade counts, as well as the percentage of shares that were impacted by the theoretical narrower bands. The calculations are as follows:

1. Last mid-quote 5 minutes after the blocked trade compared to the trade execution price.
2. Last mid-quote 10 minutes after the blocked trade compared to the trade execution price.
3. Same as #1, except cases where the stock paused in the next 5 minutes (because there may not be reliable 5-minute mid-quotes).
4. Same as #2, except cases where the stock paused in the next 10 minutes (because there may not be reliable 10-minute mid-quotes).
5. Same as #1-#4, except measured against the theoretical narrower bands. This measures the worst-case situation, where none of the trades would have occurred and the full impact of blocking the trades is shown.

Prices 5 and 10 minutes after a theoretically prevented trade usually reverted away from the offending trade price towards prior prices, and less often moved back to levels inside the new bands. When prices do not revert, the benefit of the tighter bands is less clear, but the tendency toward reversion is further evidence in support of narrowing the bands to Tier 1 levels. After 5 minutes, more than 70% of the trades and nearly 75% of the shares impacted had their last quote return to price levels prior to the move that caused the breach of the Theoretical Tier 1 Band. After 10 minutes, reversion rates improved further (i.e., more than 75% of trades and 78% of shares). When Trading Pauses are excluded, the results appeared even more positive, although the Participants believe that including Trading Pauses is the superior measure, as these situations better reflect the general direction of the market.

The Participants note that during the study period, only 7.1% of the trades that executed beyond the narrower Theoretical Tier 1 Bands (4.6% of shares executed across the entire study period) ultimately resulted in a Trading Pause under the bands currently in place. Prices did ultimately hit a Limit State within 10 minutes in 12.6% of the trades that moved through the bands, accounting for 10.3% of shares traded, but as noted above, less than half of these shares resulted in a Trading Pause.

The Participants note that by narrowing the bands, in all likelihood, there may be an increase in Trading Pauses, even with market makers moving liquidity in front of the revised tighter bands. Because prices may likely revert inside the bands after 10 minutes, these Trading Pauses may be beneficial for investors. Such Trading Pauses may also be beneficial for investors because many Tier 2 ETPs do not trade actively. Their initial Price Bands are often based on the prior day's official closing price, which may not perfectly reflect current market conditions, but their Reference Prices and Price Bands are not reset if there are no trades. In such cases, it may be beneficial to trigger a Trading Pause that will permit a reopening auction, which can more efficiently aggregate liquidity, determine equilibrium prices, reset the Price Bands, and further mitigate volatility.

3. Market Quality Changes When ETPs Change Tier Designation

For the third part of the study, the Participants examined ETPs that have moved between tiers. As background, at launch, each ETP is assigned to Tier 2. Per Appendix A, tiers are recalculated at the end of each June and December and any non-leveraged ETPs that trade over \$2,000,000 CADV during the measurement period move from Tier 2 to Tier 1. It is common for an otherwise-illiquid ETP to have one or two very high-volume days immediately after listing,

causing it to be recategorized into Tier 1, and then ultimately settle back into Tier 2 following its second measurement period.

These tier changes provide the Participants with an opportunity to evaluate and compare the market quality of ETPs under different price band regimes. The Participants understand that, in some cases, changes in the volume of trades are what cause an ETP to change from one tier to another, and the improvements in market quality may be attributable to that increased volume, and not the tier change in and of itself. But as noted above, the Plan initially assigns ETPs into Tier 2 irrespective of their volume of trades, and many are then subsequently reassigned to Tier 1 due to high notional volume on a few days after they are first funded, without experiencing any real change in notional volume overall. As such, the Participants believe that market quality changes after a tier shift are meaningful because they are often not due to developments in the character of the market for the ETPs.

The Participants compared quoted spreads and notional liquidity at the NBBO, comparing changes in these two values from half-year to half-year for ETPs that: stayed in Tier 1; stayed in Tier 2; switched from Tier 1 to Tier 2; and switched from Tier 2 to Tier 1.

ETPs that were in Tier 1 in the second half of 2019 and stayed in Tier 1 during the first half of 2020 had their consolidated quoted spread increase by 102.0%, while those that shifted to Tier 2 saw their consolidated quoted spread widen by 152.3%. Tier 2 ETPs that moved to Tier 1 in the first half of 2020 had their spreads rise 96.6% – less than those that stayed in Tier 1 for both periods. ETPs that stayed in Tier 2 performed the worst, with their spreads increasing by 175.7%. The pattern is similar regarding ETPs that changed tier in the second half of 2020. ETPs that stayed in Tier 1 had their spreads narrow by 34.2% while those that moved to Tier 2 performed worse, with their spreads tightening by 26.7%. Tier 2 ETPs that remained in Tier 2

performed similarly to those that stayed in Tier 1, with their spreads narrowing by 35.7%. The best performing category was ETPs that moved to Tier 1 from Tier 2, as their spreads narrowed by 43.6%.

The Participants note that narrower spreads can lead to less available liquidity, but the tier changes studied above do not appear to have caused a negative impact on liquidity. For ETPs that changed tiers between the second half of 2019 and the first half of 2020, the amount of available liquidity dropped a similar amount for Tier 1 ETPs that stayed in Tier 1 or moved to Tier 2. Tier 2 ETPs in general lost fewer dollars at the inside, but those Tier 2 ETPs that transferred to Tier 1 did lose slightly more – 12.2% versus 10.1%. For ETPs that changed tiers between the first half and second half of 2020, Tier 2 ETPs again saw the largest increase in liquidity, with those that moved to Tier 1 gaining 51.0% versus just 38.0% for those that stayed in Tier 2. Tier 1 ETPs that moved to Tier 2 saw a drop in liquidity inside of 4.2%. Finally, for those ETPs that changed tiers between the second half of 2020 and the first half of 2021, Tier 2 ETPs that moved to Tier 1 saw the smallest gains in liquidity at the inside, increasing just 32.1% compared to Tier 2 ETPs that remained in Tier 2, which gained 42.7%. Tier 1 ETPs, whether they stayed in Tier 1 or moved to Tier 2, garnered larger gains of liquidity at the inside.

In sum, for two of the three half-year changes the Participants studied, spreads improved and there was a neutral to positive effect on inside liquidity for ETPs shifting from Tier 2 to Tier 1. The opposite was true for Tier 2 ETPs that changed tier from the second half of 2020 to the first half of 2021. These results show that, on balance, market quality statistics improved for Tier 2 ETPs that moved to Tier 1.

The Participants note that even if market quality statistics improved for Tier 2 ETPs that moved to Tier 1, the efficacy of such a move might be questioned if the move created notably

more Limit States or Trading Pauses. To study this issue, the Participants examined three statistics for ETPs that had a tier change in either direction from one period to the next:

- the average number of Trading Pauses per symbol during the next half-year;
- the average number of Limit States per symbol during the next half-year; and
- the average number of seconds in a Limit State per symbol during the next half-year.

Narrowing the Price Bands for ETPs that moved from Tier 2 into Tier 1 did not increase the incidence of Trading Pauses, Limit States, or the amount of time spent in Limit States. The Participants assert that this is likely because market participants adjust their behavior and provide more liquidity to ETPs once their bands are tightened. The Participants acknowledge that the number of ETPs that move between Tiers, especially into Tier 1 after being in Tier 2, is relatively small and may not provide a significant enough population to offer strong support for that statistic. The Participants note, however, that Amendment 18 removed double-wide bands at the open for all stocks and at the close for Tier 2 stocks, market participants adjusted to the tighter bands without a large increase in Trading Pauses.

D. Study Conclusions

In sum, the Participants' study shows the following:

- Tier 1 non-ETPs are far more likely than Tier 2 ETPs to enter into Limit States and Trading Pauses due to the underlying volatility of these securities. This finding suggests that the Price Band width for Tier 2 ETPs is poorly calibrated relative to their actual trading behavior.
- During the study period, the notional value of trades that would have been prevented if Tier 2 ETPs had used tighter Tier 1 bands would have been substantial for such thinly

traded products, bounded on the lower end at \$36.8 million and the upper end at \$711.1 million.

- In the majority of cases where a trade would have been prevented by the narrower Theoretical Tier 1 Bands, prices reverted by the end of the following 5- and 10- minute periods, suggesting that having these thinly-traded ETPs in Tier 1 would protect investors from executing trades at inferior prices that may occur due to transitory gaps in liquidity rather than fundamental valuation changes.
- In most cases where ETPs have been reclassified from Tier 2 to Tier 1, market quality improved as evidenced by the lower quote volatility, tighter spreads, and increased liquidity for ETPs that moved from Tier 2 to Tier 1.
- Using tighter Tier 1 bands for all ETPs would provide greater investor protection from temporary liquidity gaps, which are facilitated by the wider price bands in Tier 2.
- The number of Limit States and Trading Pauses decreased when Tier 2 ETPs moved to Tier 1 and increased when Tier 1 ETPs moved to Tier 2.

From this evidence, the Participants conclude that moving Tier 2 ETPs to Tier 1 would improve market quality, more effectively dampen volatility, provide greater investor protection, and decrease the number of unnecessary Limit States and Trading Pauses.

The Participants also state that the Proposed Amendment does not impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Exchange Act. The Participants assert that the Proposed Amendment to the Plan would apply to all market participants equally and would not impose a competitive burden on one category of market participants in favor of another category of market participant. The Proposed Amendment would apply to trading on all Trading Centers and all NMS Stocks would be subject to the amended

Plan’s requirements. The Participants do not believe that the Proposed Amendment introduces terms that are unreasonably discriminatory for the purposes of Section 11A(c)(1)(D) of the Exchange Act because it would apply to all market participants equally.

IV. Summary of Comments

In response to the Notice, the Commission received several comments on the Proposed Amendment.¹³ A few commenters generally oppose the Plan and Proposed Amendment,¹⁴ and one commenter representing a consortium of market participants support the Proposal.¹⁵

Several commenters believe that the Proposed Amendment poses a significant threat to the foundational principles of a free and open markets.¹⁶ Some commenters state that the proposed tighter price bands would effectively limit the natural price discovery process, which would infringe upon free market principles.¹⁷ One commenter states that these tighter controls may lead to increased volatility.¹⁸ The commenter further states that leveraged derivatives, such as options and futures, allow significant positions to be taken with relatively less capital. In the hands of large market participants, according to this commenter, these instruments could potentially be used in conjunction with the predictable price range boundaries to manipulate market conditions, highlighting the need for a thorough evaluation of the rule’s implications on

¹³ See supra note 5.

¹⁴ See Letters from Alexander Kuchta dated November 27, 2023 (“Kuchta Letter”); Anonymous dated November 27, 2023 (“Anonymous Letter”); Subhra Mazumdar dated November 27, 2023 (“Mazumdar Letter”); Joe Edwards dated November 27, 2023 (“Edwards Letter”); Rax Nahali dated November 27, 2023 (“Nahali Letter”); and Rene Wright dated November 27, 2023 (“Wright Letter”).

¹⁵ See Letter to Vanessa Countryman, Secretary, Commission, from Samara Cohen, Chief Investment Officer of ETF and Index Investments, BlackRock, et al. dated December 18, 2023 (“BlackRock Letter”).

¹⁶ See, e.g., Kuchta Letter; Nahali Letter; Wright Letter.

¹⁷ See Kuchta Letter; Edwards Letter; Nahali Letter (noting that volatility is a part of the market).

¹⁸ See Kuchta Letter (stating that “as trades accumulate at the band limits, the resumption of trading could trigger sudden and sharp price movements, contrary to the proposal’s intent to reduce volatility”).

market dynamics and fairness.¹⁹ The same commenter concludes that the Proposal caters to the interests of larger, institutional investors who may benefit from reduced volatility and more predictable price movements at the expense of smaller, retail investors.²⁰ Some commenters state that the Proposal enables the Participants to control the price of a security inappropriately.²¹

Separately, one commenter in support of the Proposal concludes that using Tier 1 Percentage Parameters for all ETPs would better protect investors during temporary liquidity gaps, which may be exacerbated by the wider price bands for Tier 2 NMS Stocks.²² The commenter asserts that ETP liquidity gaps can occur for reasons that may not reflect the ETP's fundamental value.²³ The commenter states that in these instances, the risk of an inefficient execution away from the fair value of the ETP's holdings (as far as 10% away from a Tier 2 ETP's reference price) rises, and the application of Tier 1 Percentage Parameters would improve transparency and efficiency, particularly during periods of extreme volatility.²⁴ In addition, the commenter states that, in instances of sustained order imbalances and/or gaps in liquidity in the market for an ETP, a trading pause would help attract liquidity from diverse market participants and promote price discovery through the reopening mechanism, helping to keep ETP prices in line with the value of underlying holdings.²⁵ The commenter agrees that ETPs were assigned to tiers based on an assumption that lower-volume ETPs were more suited for wider price

¹⁹ See id.

²⁰ See id.

²¹ See Mazundar Letter; Nahali Letter

²² See BlackRock Letter at 1.

²³ See id. at 2 (noting that outsized or aggressive orders, temporary uncertainty about any inputs into the calculation of the ETP's fair value, or lower levels of market participation, which is more common in newly listed ETPs, can cause these ETP prices not to reflect fundamental value).

²⁴ See id.

²⁵ See id.

parameters, and states that the data presented in the Proposed Amendment suggests that assumption was wrong.²⁶ The commenter states that the analysis demonstrated that on average, Tier 2 ETPs across asset classes exhibit lower quote volatility than Tier 1 non-ETP stocks.²⁷ In light of the findings derived from the study, the imposed semi-annual migration of ETPs from one tier to the other appears to be overly complex, arbitrary, and unnecessary.²⁸

V. Proceedings to Determine Whether to Approve or Disapprove the Proposed Amendment

The Commission is instituting proceedings pursuant to Rule 608(b)(2)(i) of Regulation NMS,²⁹ and Rules 700 and 701 of the Commission’s Rules of Practice,³⁰ to determine whether to approve or disapprove the Proposed Amendment or to approve the Proposed Amendment with any changes or subject to any conditions the Commission deems necessary or appropriate. The Commission is instituting proceedings to have sufficient time to consider the complex issues raised by Proposed Amendment, including comments received. Institution of proceedings does not indicate that the Commission has reached any conclusions with respect to any of the issues involved. Rather, the Commission seeks and encourages interested persons to provide additional comment on the Proposed Amendment to inform the Commission’s analysis.

Rule 608(b)(2) of Regulation NMS provides that the Commission “shall approve a national market system plan or proposed amendment to an effective national market system plan, with such changes or subject to such conditions as the Commission may deem necessary or appropriate, if it finds that such plan or amendment is necessary or appropriate in the public

²⁶ See id.

²⁷ See id.

²⁸ See id.

²⁹ 17 CFR 242.608.

³⁰ 17 CFR 201.700; 17 CFR 201.701.

interest, for the protection of investors and the maintenance of fair and orderly markets, to remove impediments to, and perfect the mechanisms of, a national market system, or otherwise in furtherance of the purposes of the Exchange Act.”³¹ Rule 608(b)(2) further provides that the Commission shall disapprove a national market system plan or proposed amendment if it does not make such a finding.³² In the Notice, the Commission sought comment on the Proposed Amendment, including whether the Proposed Amendment is consistent with the Exchange Act.³³ In this order, pursuant to Rule 608(b)(2)(i) of Regulation NMS,³⁴ the Commission is providing notice of the grounds for disapproval under consideration:

- Whether, consistent with Rule 608 of Regulation NMS, the Participants have demonstrated how the Proposed Amendment is necessary or appropriate in the public interest, for the protection of investors and the maintenance of fair and orderly markets, to remove impediments to, and perfect the mechanisms of, a national market system, or otherwise in furtherance of the purposes of the Exchange Act.³⁵

Under the Commission’s Rules of Practice, the “burden to demonstrate that a NMS plan filing is consistent with the Exchange Act and the rules and regulations issued thereunder... is on the plan participants that filed the NMS plan filing.”³⁶ The description of the NMS plan filing, its purpose and operation, its effect, and a legal analysis of its consistency with applicable requirements must all be sufficiently detailed and specific to support an affirmative Commission

³¹ 17 CFR 242.608(b)(2).

³² Id.

³³ See Notice, supra note 5.

³⁴ 17 CFR 242.608(b)(2)(i).

³⁵ 17 CFR 242.608(b)(2).

³⁶ 17 CFR 201.701(b)(3)(ii).

finding.³⁷ Any failure of the plan participants that filed the NMS plan filing to provide such detail and specificity may result in the Commission not having a sufficient basis to make an affirmative finding that the NMS plan filing is consistent with the Exchange Act and the applicable rules and regulations thereunder.³⁸

VI. Commission's Solicitation of Comments

The Commission requests that interested persons provide written submissions of their views, data, and arguments with respect to the issues identified above, as well as any other concerns they may have with the Proposal. In particular, the Commission invites the written views of interested persons concerning whether the Proposal is consistent with Section 6(b)(5), Section 6(b)(8), or any other provision of the Act, or the rules and regulations thereunder. Although there do not appear to be any issues relevant to approval or disapproval that would be facilitated by an oral presentation of views, data, and arguments, the Commission will consider, pursuant to Rule 608(b)(2)(i) of Regulation NMS,³⁹ any request for an opportunity to make an oral presentation.⁴⁰ The Commission asks that commenters address the sufficiency and merit of the Participants' statements in support of the Proposed Amendment,⁴¹ in addition to any other comments they may wish to submit about the Proposed Amendment. In particular, the Commission seeks comment on the following:

³⁷ Id.

³⁸ Id.

³⁹ 17 CFR 242.608(b)(2)(i).

⁴⁰ Rule 700(c)(ii) of the Commission's Rules of Practice provides that "[t]he Commission, in its sole discretion, may determine whether any issues relevant to approval or disapproval would be facilitated by the opportunity for an oral presentation of views." 17 CFR 201.700(c)(ii).

⁴¹ See Notice, supra note 5.

1. The Participants propose to amend Appendix A of the Plan by deleting the definition of ETPs “eligible” for Tier 1 and to specify that all ETPs, except for single stock ETPs, would be assigned to Tier 1. What are commenters’ views on whether the Proposal is consistent with the Exchange Act?
2. Because all leveraged ETPs (except Tier 2 single stock ETPs) would be assigned to Tier 1, the Participants also propose to add text into Section I of Appendix A describing how the Percentage Parameters would be set for leveraged ETPs. What are commenters’ views on whether this Proposal regarding leveraged ETPs to the Plan is consistent with the Exchange Act?
3. The Proposal acknowledges that the ETPs studied covered several asset classes, including domestic equities, international equities, fixed income, currency, commodity, and digital currency ETPs. For example, the Participants’ analysis provides aggregate statistical information with respect to Tier 2 ETPs as a whole. In addition, the Proposal states that, except for single-stock, commodity, and foreign exchange-based ETPs, ETPs are by definition diversified instruments and that the analysis in the Proposal supports the modern portfolio theory that portfolios of securities exhibit lower volatility than individual securities, unless those products are perfectly correlated. The Proposed Amendment to the Plan, which would assign all ETPs to Tier 1, only excludes single stock ETPs, but does not propose to exclude other ETPs based on other single reference assets, such as ETPs based on single commodities or single digital currency-related assets. Do commenters agree that the methodology and results of the analysis support the conclusions drawn by the Participants? Please explain. Does this aggregated

approach to evaluating Tier 2 ETPs as a whole support the conclusions drawn by the Participants with respect to different segments of Tier 2 ETPs? For example, what are commenters' views on whether the Proposal's study explains why such other ETPs, such as those based on a single asset (other than stocks) or those that might not otherwise reflect the volatility characteristics described in the Proposal, should be assigned to Tier 1?

4. The Proposal provides analysis concerning the potential impacts that the Proposal could have on the market. Among other things, the analysis states that the proposed narrower bands may have caused minimal disruption during periods of less volatility, amounting usually to a few dozen trades per day. In contrast, the analysis shows that the Proposal could have had a much larger impact on trading during periods of greater volatility. Table 4, Panel A, for example, shows that during the first half of 2020, the Proposal could have impacted approximately \$147 million of trading in Tier 2 ETPs on a single day; approximately \$577 million of trading in Tier 2 ETPs could have been impacted over these six months. Chart 1 of the Proposal⁴² also shows that over 500 Tier 2 ETPs would have been affected daily during March 2020, a significant percentage of the total number of Tier 2 ETPs. In the Proposal, the Participants also provide analysis that supports the view that the potential impact on trading likely would not be as significant as suggested in Table 4, Panel A. For example, in Table 4, Panel B, the Proposal provides analysis that assumes that all impacted trading would execute

⁴² According to the Participants, Chart 1 describes the amount of notional value prevented, and the number of symbols impacted, by the narrower Theoretical Tier 1 Bands on a day-to-day basis. See Notice, 88 FR at 81136.

at the proposed price bands; under this more conservative assumption, notional volume in Tier 2 ETPs would only change by \$8 million on any given day in the first half of 2020, while total notional volume in Tier 2 ETPs over these six months would only change by \$30 million. The Proposal states that it is not likely that the Proposal's impact would be as significant as suggested by the analysis in Table 4, Panel A, because there could be significant additional volume executed at or near the proposed price bands. What are commenters' views on the Proposal's analysis of the potential impact on trading? Are commenters concerned that the Proposal's impact on trading during periods of significant volatility would further contribute to that market stress?

5. One of the Proposal's conclusions is that, in a majority of cases where a trade would have been prevented by the proposed narrower bands (Theoretical Blocked Trades), prices reverted back to within the proposed narrower bands. To support this conclusion, the Proposal provides an analysis that trades in Tier 2 ETPs that executed outside the proposed narrower bands are generally followed by mid-point prices within the narrower bands. According to the Proposal, this analysis suggests that the Proposal would protect investors from trading at inferior prices that may occur because of transitory gaps in liquidity instead of fundamental valuation changes. Do commenters agree that the analysis appropriately measures price reversion and that the Theoretical Blocked Trades often executed during temporary liquidity gaps? If not, how do commenters suggest the analysis could examine the extent to which Theoretical Blocked Trades executed during temporary liquidity gaps? Please explain.

6. The Proposal compares the quote volatility of Tier 2 ETPs to that of Tier 1 non-ETPs, where quote volatility is measured using the mid-point at each second. With this measure of volatility, the Proposal concludes that Tier 2 ETPs have lower quote volatility than Tier 1 non-ETPs, suggesting that Tier 2 ETPs are not too volatile for the Tier 1 price bands. In addition, the Proposal acknowledges that Tier 2 ETPs are often thinly traded. What are commenters' views on whether the comparative analysis has adequately captured Tier 2 ETP volatility in support of the conclusion that they are not too volatile for the Tier 1 price bands? For example, would infrequent trading interest bias the analysis due to infrequent updates of the mid-point? Are there other measures of volatility that would be more appropriate? Please explain.
7. The Participants state that the Plan does not impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Exchange Act. Do commenters believe that the Plan, as proposed to be amended, imposes any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Exchange Act?
8. Further, would the Proposal have a positive, negative, or neutral impact on competition? Please explain. How would the Proposal impact competition across ETP issuers or ETPs on similar baskets of securities currently in different tiers? Please explain. How would any impact on competition from the Proposal benefit or harm the national market system or the various market participants? Please describe and explain how, if at all, aspects of the national market system or

different market participants would be affected. Please support any response with data, if possible.

9. More generally, to the extent possible please provide specific data, analyses, or studies for support regarding any impacts of the Proposal on competition.

The Commission requests that commenters provide analysis to support their views, if possible.

Interested persons are invited to submit written data, views, and arguments regarding whether the Proposed Amendment should be approved or disapproved by [insert date 21 days after publication in the Federal Register]. Any person who wishes to file a rebuttal to any other person's submission must file that rebuttal by [insert date 35 days after publication in the Federal Register]. 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 email to rule-comments@sec.gov. Please include file number 4-631 on the subject line.

Paper Comments:

- Send paper comments in triplicate to: 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 email 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 (<https://www.sec.gov/rules/sro.shtml>). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule

change 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 a.m. and 3 p.m. Copies of the filing also will be available for inspection and copying at the Participants' principal offices. Do not include personal identifiable information in submissions; you should submit only information that you wish to make available publicly. We may redact in part or withhold entirely from publication submitted material that is obscene or subject to copyright protection. All submissions should refer to file number 4-631 and should be submitted on or before [INSERT DATE 21 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.⁴³

Sherry R. Haywood,

Assistant Secretary.

⁴³ 17 CFR 200.30-3(a)(85).